



भारत सरकार  
GOVERNMENT OF INDIA



केंद्रीय लोक निर्माण विभाग  
CENTRAL PUBLIC WORKS DEPARTMENT

दिल्ली दर अनुसूची  
(भाग-2)

DELHI SCHEDULE OF RATES  
(Vol-2)

2018

महानिदेशक, कें.लो.नि.वि., नई दिल्ली  
Director General, CPWD, New Delhi



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**(Vol. 2)**

**2018**



महानिदेशक, के.लो.नि.वि., नई दिल्ली के प्राधिकार के अधीन प्रकाशित  
Published under the Authority of Director General, CPWD, New Delhi

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### **A GOVERNMENT OF INDIA PUBLICATION**

Published by

#### **DIRECTOR GENERAL**

CPWD, Nirman Bhawan, New Delhi - 110011

&

Printed & Marketed by

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**PRABHAKAR SINGH**  
Director General



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## FOREWORD

Delhi Schedule of Rates, being published by Central Public Works Department from time to time, is a comprehensive and useful Technical Document in execution of Civil Construction Works. Apart from CPWD, this Schedule of Rates is used as a guide by many Departments, Institutions, Public Sector Undertakings, Architects, Builders and Contractors etc.

CPWD Schedule of Rates was first published in the year 1931, followed by a number of revisions/publications from time to time in order to bring it in line with the prevailing materials, technologies and market rates. Delhi Schedule of Rates were revised and issued in subsequent years viz 1977, 1981, 1985, 1989, 1993, 1997, 2002, 2007, 2010 (Reprint), 2012, 2013, 2014 & 2016.

Last Delhi Schedule of Rates was published in the year 2016. Revision of this DSR has become necessary due to change in wages of labour & price of materials, adoption of new construction technologies & materials as well as implementation of GST. These components have been incorporated in the DSR 2018 by revising DSR 2016.

I wish to place on record the technical input and effective coordination on the part of Shri A.S. Arora, ADG (S&P), Dr K M Soni ADG (TD), Shri Manu Amitabh CE (CSQ) (Civil) and the efforts put in by Shri Divakar Agrawal SE (TAS), Shri D.S.Panwar EE(TAS-I), Shri M L Prasad EE(TAS-II), Shri D.S. Adhikari AE (QA), Shri Naveenkumar P JE (TAS) and team of officers in CSQ unit in finalizing the DSR-2018 in a short time.

I am sure that Delhi Schedule of Rates 2018 will be quite useful to all concerned Engineers & Architects in Building Construction Industry in general and CPWD in particular.

Place: New Delhi  
Date: December 14, 2018

  
(PRABHAKAR SINGH)  
Director General



**DR K.M. SONI**  
Addl. Director General (TD)



भारत सरकार  
Government of India



केन्द्रीय लोक निर्माण विभाग  
निर्माण भवन, नई दिल्ली 110011  
Central Public Works Department  
Nirman Bhawan, New Delhi- 110011

## PREFACE

1. DSR i.e. Delhi Schedule of Rates-2018 includes the existing items of DSR 2016 with deletion of few items not in practice, merger of similar items and addition of new items in line with emerging trends in construction Industry.
2. DSR-2018 is based on the prevailing market rates of materials in Delhi as on 01.10.2018. The labour rates adopted are as per minimum wages applicable w.e.f 01.10.2018 issued by Govt. of Delhi/ Govt. of India, whichever is higher.
3. The cost index for DSR 2018 is **118** with reference to CPWD Plinth Area Rates 2012, having base 100 as on 01.10.2012.
4. **The technical sanctioning authority may decide rates of non-schedule items judiciously based on market rates without adding cost index.**
5. This DSR - 2018 shall be read along with CPWD specifications 2009 Vol.-I & II with up to date Correction Slips.
6. Following are the Salient Features of DSR- 2018:
  - 6.1 DSR-2018 is bilingual and in two volumes.
    - 6.1.1 The rates of basic materials incorporated in this DSR - 2018 are considered for the materials available in the market conforming to BIS Standards/ CPWD Specifications.
    - 6.1.2 The effect of GST on works contracts has been incorporated in all the items.

### Salient Modifications and Changes in Sub Heads:

- 7.1 **Earth work:** Item No. 2.25(a) Excavating, supplying and filling of local earth by mechanical transport up to a lead of 5km has been added.
- 7.2 **Reinforced Cement Concrete:** Item No. 5.22B & 5.22C Steel Reinforcement for R.C.C work ready to use “Cut bend” rebars have been added. Nomenclature of item no.5.9 modified. Item no.5.50 to 5.57 shifted to sub head 26 i.e. New Technologies & Materials (26.73 to 26.80).



- 7.3 Brick Work:** Sub head 6- Brick work has been renamed as Masonry work.
- 7.4 Marble & Granite work:** Sub head 8- Marble & Granite work has been renamed as Cladding work and all the cladding items have been shifted in this sub head from other Sub heads i.e. 7.0, 9.0, 11.0 & 25.0.
- 7.5 Wood and PVC Work:** The amendments have been made in nomenclature of Item Nos. 9.138, 9.163 & 9.164.
- 7.6 Roofing:** The amendments have been made in nomenclatures of item Nos. 12.8 to 12.10 and 12.12 to 12.13.
- 7.7 Finishing:** Item No.13.48A for finishing walls with 100% Premium Acrylic Emulsion paint having VOC less than 50gm/litre and UV resistance as IS: 15489:2004 has been added.
- 7.8 Road Work:** The nomenclature of Item No.16.81 'Providing and erecting 2.00 metre temporary barricading at site' has been modified.
- 7.9 Water Supply:** Items Nos. 18.4, 18.5, 18.6 & 18.6A for Polypropylene Random Copolymer (PP-R-C) pipes have been added.
- 7.10 Structural Glazing Aluminum Panel:** The nomenclature of item No. 25.3 has been modified.
- 7.11 Item No. 26.20 & 26.21** have been shifted to sub head 14.0

## **8.0 New Technologies and Materials**

With a view to give boost to make in India initiative of the Government, new technology items have been added in New Technologies and Materials sub Head. These new items are included for a period of two years and then performance shall be reviewed. Following are the items added under this sub head:

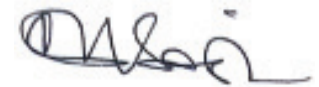
- 8.1 Bamboo mat corrugated sheet (BMCS), Bamboo mat ridge cap (BMRC), false ceiling of Phenol Bamboo mat board, wall paneling with Phenol bonded Bamboo mat board (item no.26.6 a to e).
- 8.2 EPS cement sandwich light weight solid core panels (item no.26.49).
- 8.3 Non Asbestos fibre reinforced aerated sandwich wall/roof/floor light weight solid core panels (item no.26.50).
- 8.4 GFRG items (item no.26.51 to 26.61)
- 8.5 Speed floor system (Item no.26.62 to 26.64).
- 8.6 Factory made fast track modular system (Item no.26.65 to 26.66)

- 8.7 External thermal insulation in composite system (Item no.26.67)
- 8.8 Precast solid cement concrete blocks and paver blocks made of C & D waste (Item no.26.68 to 26.72)
- 8.9 Prefab/Precast technology (Item no.26.73 to 26.80)
- 8.10 Scaffolding net (Item no. 26.81)
- 9.0 Lot of efforts has gone into the preparation of this Delhi Schedule of Rates. I convey my deep appreciation and sincere thanks to:

Shri Manu Amitabh CE, (CSQ) ; Shri Divakar Agrawal SE, (TAS) ; Shri Sudhir Kumar Dak SE, (C&M) ; Shri D.S Panwar EE-(TAS-I) ; Shri M.L Prasad EE-(TAS-II) ; Shri P. Goyal EE-(TAD) ; Shri A K Sikka EE, (QA) ; Shri M.C. Singal EE, (QA) ; Shri S N Jaiswal EE, (HQ) ; Shri Shivani Kaushal EE, (M) ; Shri Sajal Mitra EE, (CON) ; Shri Kunwar Chandresh EE, (TLC) ; Shri D.S. Adhikari AE, (QA) ; Shri D. K. Malhotra AE, (TAS) ; Shri Patta Madhukumar AE, (TAS) ; Shri Prabhat Kumar Srivastav AE, (TAS) ; Shri Gurmeet Singh AE, (TAD) ; Shri H. K. Gupta AE, (M) ; Shri Mohammad Tarik AE, (QA) ; Shri S.K. Sharma AE, (QA) ; Shri Gopal Warshney AE, (QA) ; Shri K R Meena AE, (CON) ; Shri Ved Khurana AE, (TLC) ; Shri Jai Bhagwan AE, (M) ; Shri Chalapaka Ramaraju JE, (TAD) ; Shri Naveenkumar P. JE, (TAS); Shri Jay Prakash Chief Estimator (TAS); Shri Bhim Singh Sr. D/man (TAS) ; Shri Sanjay Singh AD, (OL) and his team for hindi translation of DSR- 2018, Shri Yogendra Pal Singh Yadav, Dy. Architect, O/o ADG (Arch.), Shri Gaurav Sarswat Asstt. Architect, O/o ADG (Arch.) for Graphic designing of DSR 2018 and other officers and staff of CSQ unit whose names are not mentioned here, for their sincere efforts made in the preparation of this document in such a short time. Various Committees and field units, who contributed field inputs, also deserve appreciation for their timely help.

- 10.0 Although due care has been taken to print the DSR- 2018 as correctly as possible, there is possibility that some errors might have crept in inadvertently. In case, any error or omission is noticed, it may be brought to the notice of Superintending Engineer (TAS), CPWD, Room no. 418, ' A', Nirman Bhawan, New Delhi – 110011 (Tele fax. 011-23062339 ).

And suggestions for improvement are always welcome.



(Dr K M SONI)  
ADG (TD) CPWD

**Note: - In case of any discrepancy between English and Hindi versions, the English version shall be held valid.**

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**Note: For Sub Heads 1 to 12 refer to Vol. 1**

# **DELHI SCHEDULE OF RATES**

**(Vol. 2)**

**दिल्ली दर अनुसूची**

**(भाग - 2)**

**2018**

**SUB HEAD : 13.0**

**FINISHING**

### BASIC RATES (SH: 13.0 FINISHING)

Code No.	Description	Unit	Rate ₹
0006	Hire charges of spraying machines including electric charges	day	250.00
0101	Bhisti	day	617.00
0112	Carpenter 2nd class	day	679.00
0114	Beldar	day	558.00
0115	Coolie	day	558.00
0117	Assistant Fitter or 2nd class Fitter	day	679.00
0122	Mason (for plaster of paris work) 1st class	day	738.00
0123	Mason (brick layer) 1st class	day	738.00
0131	Painter	day	679.00
0141	White Washer	day	617.00
0155	Mason (average)	day	709.00
0156	Carpenter (average)	day	709.00
0324	Coal Tar	litre	30.00
0367	Portland Cement (OPC-43 Grade)	tonne	4940.00
0368	White Cement	tonne	11200.00
0763	Glue	kg	75.00
0771	Kerosene oil	litre	50.00
0772	White cement based polymer modified self curing compound in powder form	kg	15.00
0775	Dehradun white lime	quintal	600.00
0776	Satna lime	quintal	370.00
0777	Dry hydrated lime (factory made)	quintal	290.00
0801	Silicon and acrylic emulsion	litre	130.00
0802	Acrylic distemper 1st quality , having VOC content less than 50 grams/ litre	Kg	36.00
0803	Acrylic emulsion, having VOC content less than 50 grams/ litre	litre	94.00
0804	Premium acrylic emulsion of interior grade, having VOC content less than 50 grams/ litre	litre	220.00
0806	Ready mixed pink or grey primer on wood work (hard and soft wood) having VOC content less than 50 grams/ litre	litre	105.00
0808	Water thinnable cement primer for interior wall surface, having VOC content less than 50 grams/ litre	litre	50.00
0809	Exterior primer	kg	140.00
0815	Dry distemper	kg	30.00
0816	1st quality Acrylic distemper(Ready mix) having VOC content less than 50 grams/ litre	kg	50.00
0818	Linseed oil (double boiled)	litre	200.00
0820	Cement primer	litre	80.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
0821	Distemper primer	litre	70.00
0823	Pink primer (for wood)	litre	105.00
0824	White cement based putty	kg	13.00
0826	Aluminium paint	litre	150.00
0827	Acid proof paint (chocolate or black)	litre	225.00
0828	Anticorrosive bituminous paint (black)	litre	100.00
0829	Black Japan paint	litre	90.00
0830	Enamel paint	litre	165.00
0831	Floor enamel paint in all shades except green	litre	250.00
0833	Synthetic enamel paint in black or chocolate shade	litre	170.00
0834	Synthetic enamel paint in all shades except black or chocolate shade	litre	160.00
0835	Plastic acrylic emulsion paint	litre	200.00
0836	100% Premium acrylic dirt resistance, Silicone additives exterior paint	litre	270.00
0837	Acrylic Exterior Primer	litre	100.00
0850	White lead	kg	170.00
0851	Water proofing cement paint	kg	38.00
0855	Wax polish (ready made)	kg	230.00
0856	Ordinary varnish	litre	100.00
0857	Superior copal varnish	litre	115.00
0858	Superior spar varnish	litre	115.00
0859	Oil type wood preservative	litre	130.00
0868	Premixed super white gypsum plaster	kg	6.00
0869	Plaster of Paris	kg	5.00
0982	Coarse sand (zone III)	cum	1350.00
0999	Shellac	kg	300.00
1000	Spirit	litre	48.00
1179	Crushed stone 2.36 mm to 12.5 mm size	cum	900.00
1198	Second class kail wood in planks	10 cudm	260.00
1213	Water proofing materials	kilogram	35.00
1216	Whiting	quintal	600.00
1315	C.P. Brass chain with 40mm dia rubber plug	each	40.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	103.77
2203	Carriage of Coarse sand	cum	103.77
2209	Carriage of Cement	tonne	92.24
2911	Stone chippings/ screenings 10/ 11.2 mm nominal size	cum	1150.00
4201	Aluminium primer	litre	110.00
4202	Red oxide Zinc chromate primer	litre	110.00
4203	Copper acetate	kg	285.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
4204	Hydrochloric acid	kg	33.00
4205	Copper chloride	kg	270.00
4206	Copper nitrate	kg	210.00
4207	Ammonium chloride	kg	20.00
7239	Epoxy paint	litre	230.00
7240	Fire retardant paint	litre	260.00
7241	Melamine Polish	litre	280.00
7306	Aluminium T or L sections	kg	190.00
8504	Multi surface paint	litre	255.00
8505	Acrylic exterior paint	litre	170.00
8506	Premium Acrylic exterior paint	litre	180.00
8507	Textured exterior paint	litre	240.00
8508	Primer for cement paint	litre	79.00
8509	Special Primer (C.W.)	litre	140.00
8510	Metal Primer (U.G.)	litre	90.00
8733	Synthetic ployster triangular fibre of length 6 mm, effective diameter 10-40 microns and specific gravity of 1.34 to 1.40	kg	400.00
9977	Carriage	L.S.	2.00
9988	Carriage and sundries	L.S.	2.00
9999	Sundries	L.S.	2.00



## 13.0 FINISHING

Code No.	Description	Unit	Rate ₹
<b>Note :- Rates for external plastic are for height upto 10m from ground level in less otherwise stated.</b>			
<b>CEMENT PLASTER (IN FINE SAND)</b>			
13.1	12 mm cement plaster of mix :		
13.1.1	1:4 (1 cement: 4 fine sand)	sqm	266.85
13.1.2	1:6 (1 cement: 6 fine sand)	sqm	254.25
13.2	15 mm cement plaster on the rough side of single or half brick wall of mix :		
13.2.1	1:4 (1 cement: 4 fine sand)	sqm	307.90
13.2.2	1:6 (1 cement: 6 fine sand)	sqm	292.85
13.3	20 mm cement plaster of mix :		
13.3.1	1:4 (1 cement: 4 fine sand)	sqm	365.25
13.3.2	1:6 (1 cement: 6 fine sand)	sqm	345.65
<b>CEMENT PLASTER (IN COARSE SAND)</b>			
13.4	12 mm cement plaster of mix :		
13.4.1	1:4 (1 cement: 4 coarse sand)	sqm	276.15
13.4.2	1:6 (1 cement: 6 coarse sand)	sqm	263.55
13.5	15 mm cement plaster on rough side of single or half brick wall of mix:		
13.5.1	1:4 (1 cement: 4 coarse sand)	sqm	318.95
13.5.2	1:6 (1 cement: 6 coarse sand)	sqm	303.90
13.6	20 mm cement plaster of mix :		
13.6.1	1:4 (1 cement: 4 coarse sand)	sqm	379.70
13.6.2	1:6 (1 cement: 6 coarse sand)	sqm	360.10
<b>CEMENT PLASTER WITH A FLOATING COAT OF NEAT CEMENT</b>			
13.7	12 mm cement plaster finished with a floating coat of neat cement of mix :		
13.7.1	1:3 (1 cement: 3 fine sand)	sqm	340.85
13.7.2	1:4 (1 cement: 4 fine sand)	sqm	328.25
13.8	15 mm cement plaster on rough side of single or half brick wall finished with a floating coat of neat cement of mix :		
13.8.1	1:3 (1 cement: 3 fine sand)	sqm	384.35
13.8.2	1:4 (1 cement: 4 fine sand)	sqm	369.30
13.9	Cement plaster 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement.		
13.9.1	12 mm cement plaster	sqm	350.15
13.9.2	20 mm cement plaster	sqm	460.70

Code No.	Description	Unit	Rate ₹
13.10	15 mm cement plaster 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement on the rough side of single or half brick wall.	sqm	395.40
	<b>CEMENT PLASTER IN TWO COATS</b>		
13.11	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement : 5 coarse sand) finished with a top layer 6 mm thick cement plaster 1:6 (1 cement : 6 fine sand).	sqm	399.30
13.12	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement : 5 coarse sand) and a top layer 6 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished rough with sponge.	sqm	416.55
13.13	12 mm cement plaster 1:2 (1 cement : 2 stone dust).	sqm	297.30
13.14	15 mm cement plaster 1:2 (1 cement : 2 stone dust) on the rough side of single or half brick wall.	sqm	344.25
13.15	20 mm cement plaster 1:2 (1 cement : 2 stone dust).	sqm	412.60
	<b>6MM CEMENT PLASTER</b>		
13.16	6 mm cement plaster of mix :		
13.16.1	1:3 (1 cement : 3 fine sand)	sqm	227.35
13.17	6 mm cement plaster 1:3 (1 cement : 3 fine sand) finished with a floating coat of neat cement and thick coat of Lime wash on top of walls when dry for bearing of R.C.C. slabs and beams.	sqm	301.65
13.18	Neat cement punning.	sqm	62.75
	<b>ROUGH CAST PLASTER</b>		
13.19	Rough cast plaster upto 10 m height above ground level with a mixture of sand and gravel or crushed stone from 6 mm to 10 mm nominal size, dashed over and including the fresh plaster in two layers, under layer 12 mm cement plaster 1:4 (1 cement : 4 coarse sand) and top layer 10 mm cement plaster 1:3 (1 cement : 3 fine sand) mixed with 10% finely grounded hydrated lime by volume of cement.		
13.19.1	Ordinary cement finish using ordinary cement	sqm	681.10
	<b>PEBBLE DASH PLASTER</b>		
13.20	Pebble dash plaster upto 10 m height above ground level with a mixture of washed pebble or crushed stone 6 mm to 12.5 mm nominal size, dashed over and including fresh plaster in two layers under layer 12 mm cement plaster 1:4 (1 cement : 4 coarse sand) and top layer 10 mm cement plaster with cement mortar 1:3 (1 cement : 3 fine sand) mixed with 10% finely grounded hydrated lime by volume of cement.	sqm	638.95
13.21	Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturers.	per bag of 50kg cement used in the mix	59.75
13.22	Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.	sqm	65.95

Code No.	Description	Unit	Rate ₹
13.23	Extra for plastering on circular work not exceeding 6 m in radius:		
13.23.1	In one coat	sqm	35.80
13.23.2	In two coats	sqm	54.45
13.24	Extra for plastering done on moulding, cornices or architraves including neat finish to line and level:		
13.24.1	In one coat	sqm	532.75
13.24.2	In two coats	sqm	878.40
13.25	Extra for plastering:		
13.25.1	Spherical ceiling	sqm	133.60
13.25.2	Groined ceiling	sqm	144.75
13.25.3	Flewing soffits	sqm	88.35
13.26	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.	sqm	196.70
	<b>ARTIFICIAL STONE PLASTER</b>		
13.27	Extra for lining out plaster to imitate stone or concrete blocks walling.	sqm	85.25
	<b>PLAIN CEMENT MORTAR BANDS</b>		
13.28	12 mm thick plain cement mortar bands in cement mortar 1:4 (1 cement : 4 fine sand):		
13.28.1	Flush Band	cm per metre	5.70
13.28.2	Sunk Band	cm per metre	6.20
13.28.3	Raised Band	cm per metre	7.10
13.28.4	Moulded Band	cm per metre	12.15
13.29	18 mm thick plain cement mortar band in cement mortar 1:4 (1 cement : 4 fine sand):		
13.29.1	Flush Band	cm per metre	6.90
13.29.2	Sunk Band	cm per metre	7.60
13.29.3	Raised Band	cm per metre	8.70
13.29.4	Moulded Band	cm per metre	16.25
13.30	18 mm thick moulded cement mortar band in two coats under layer 12 mm thick with cement mortar 1:5 (1 cement : 5 coarse sand) top layer 6 mm thick with cement mortar 1:4 (1 cement : 4 fine sand).	cm per metre	16.20
	<b>POINTING ON BRICK WORK</b>		
13.31	Pointing on brick work or brick flooring with cement mortar 1:3 (1 cement : 3 fine sand):		
13.31.1	Flush / Ruled/ Struck or weathered pointing	sqm	191.55
13.31.2	Raised and cut pointing	sqm	313.80
	<b>POINTING ON TILE BRICK WORK</b>		
13.32	Pointing on tile brick work with cement mortar 1:3 (1 cement : 3 fine sand):		
13.32.1	Flush/ Ruled/ Struck or weathered pointing	sqm	260.90

Code No.	Description	Unit	Rate ₹
<b>POINTING ON STONE WORK</b>			
13.33	Pointing on stone work with cement mortar 1:3 (1 cement : 3 fine sand) :		
13.33.1	Flush/ Ruled pointing	sqm	285.40
13.33.2	Raised and cut pointing	sqm	520.75
13.34	Raised and cut pointing on stone work in white cement mortar 1:3 (1 white cement : 3 marble dust).	sqm	538.25
13.35	Pointing on stone slab ceiling with cement mortar 1:2 (1 cement : 2 fine sand):		
13.35.1	Flush/ Ruled pointing	sqm	159.00
13.36	Extra for pointing on walls on the outside at height more than 10 m from ground level for every additional height of 3 m or part there of.	sqm	7.15
<b>INTERIOR FINISHING</b>			
13.37	White washing with lime to give an even shade :		
13.37.1	New work (three or more coats)	sqm	28.55
13.38	Satna lime wash on walls with one coat.	sqm	11.50
13.39	Colour washing such as green, blue or buff to give an even shade :		
13.39.1	New work (two or more coats) with a base coat of white washing with lime	sqm	38.95
13.39.2	New work (two or more coats) with a base coat of whiting	sqm	38.50
13.40	Distempering with dry distemper of approved brand and manufacture (two or more coats) of required shade on new work, over and including water thinnable priming coat to give an even shade.	sqm	117.75
13.41	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade :		
13.41.1	New work (two or more coats) over and including water thinnable priming coat with cement primer	sqm	153.45
13.42	Distempering with <b>1st quality acrylic distemper (ready mixed) having VOC content less than 50 gms/litre</b> , of approved manufacturer, of required shade and colour complete, as per manufacturer's specification.		
13.42.1	Two or more coats on new work	sqm	87.15
13.43	Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface :		
13.43.1	Water thinnable cement primer	sqm	60.00
<b>EXTERIOR FINISHING</b>			
13.44	Finishing walls with water proofing cement paint of required shade :		
13.44.1	New work (Two or more coats applied @ 3.84 kg/10 sqm)	sqm	91.25
13.45	Finishing walls with textured exterior paint of required shade :		
13.45.1	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	sqm	232.00

Code No.	Description	Unit	Rate ₹
13.46	Finishing walls with Acrylic Smooth exterior paint of required shade :		
13.46.1	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	sqm	164.70
13.47	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade:		
13.47.1	New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	sqm	161.15
13.48	Finishing with Deluxe Multi surface paint system for interiors and exteriors using Primer as per manufacturers specifications :		
13.48.1	Two or more coats applied on walls @ 1.25 ltr/10 sqm over and including one coat of Special primer applied @ 0.75 ltr /10 sqm	sqm	142.20
13.48.2	Painting wood work with Deluxe Multi Surface Paint of required shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @0.75 ltr/10 sqm of approved brand and manufacture	sqm	130.25
13.48.3	Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @ 0.90 ltr/ 10 sqm over an under coat of primer applied @ 0.80 ltr/ 10 sqm of approved brand and manufacture	sqm	125.80
<b>13.48A</b>	<b>Finishing walls with 100% Premium acrylic emulsion paint having VOC less than 50 gm/litre and UV resistance as per IS 15489:2004, Alkali &amp; fungal resistance, dirt resistance exterior paint of required shade (Company Depot Tinted) with silicon additives.</b>		
<b>13.48A.1</b>	<b>New work (Two or more coats applied @ 1.43 litre/ 10 sqm. Over and including priming coat of exterior primer applied @ 0.90 litre/10 sqm.</b>	<b>sqm</b>	<b>146.20</b>
13.50	Applying priming coat:		
13.50.1	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	sqm	57.05
13.50.2	With ready mixed aluminium primer of approved brand and manufacture on resinous wood and plywood	sqm	57.55
13.50.3	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works	sqm	50.70
13.50.4	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel work (second coat)	sqm	27.20
13.51	Painting with silicon & acrylic emulsion based water thinnable sealer of approved brand and manufacture on wet or patchy portion of plastered surfaces :		
13.51.1	One coat	sqm	81.20
13.51.2	Two coats	sqm	129.05

Code No.	Description	Unit	Rate ₹
13.52	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.		
13.52.1	On steel work	sqm	189.75
13.52.2	On concrete work	sqm	189.40
13.53	Painting on G.S. sheet with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :		
13.53.1	New work (two or more coats) including a coat of approved steel primer but excluding a coat of mordant solution	sqm	138.00
13.54	Applying a coat of mordant solution on G.S. sheet:		
13.54.1	With a solution of 38 gms of copper acetate in a litre of soft water	sqm	48.25
13.54.2	With a solution made of 13 gms of hydrochloric acid in a solution of 13 gms each of copper chloride, copper nitrate and ammonium chloride dissolved in a litre of soft water	sqm	48.05
13.55	Painting (two or more coats) on rain water, soil waste and vent pipes and fittings with black anticorrosive bitumastic paint of approved brand and manufacture, over and including a priming of ready mixed zinc chromate yellow primer on new work:		
13.55.1	100 mm diameter pipes	metre	58.15
13.55.2	150 mm diameter pipes	metre	86.70
13.56	Painting (two or more coats) on rain water, soil waste and vent pipes and fittings with synthetic enamel paint of approved brand and manufacture and required colour over a priming coat of approved steel primer on new work.		
13.56.1	100 mm diameter pipes	metre	63.70
13.56.2	150 mm diameter pipes	metre	94.85
13.57	Painting with oil type wood preservative of approved brand and manufacture :		
13.57.1	New work (two or more coats)	sqm	44.50
13.58	Providing and applying two coats of fire retardant paint on cleaned wood / ply surface @ 3.5 sqm per litre per coat including preparation of base surface as per recommendations of manufacturer to make the surface fire retardant.	sqm	292.00
13.59	Coal tarring two coats on new work using 0.16 Litre and 0.12 litre coal tar per sqm in the first coat and second coat respectively.	sqm	50.30
13.60	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade :		
13.60.1	Two or more coats on new work	sqm	128.65
13.61	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :		
13.61.1	Two or more coats on new work	sqm	121.55



Code No.	Description	Unit	Rate ₹
13.62	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :		
13.62.1	Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	sqm	177.15
13.63	Painting with aluminium paint of approved brand and manufacture to give an even shade .		
13.63.1	Two or more coats on new work	sqm	112.25
13.64	Painting with acid proof paint of approved brand and manufacture of required colour to give an even shade :		
13.64.1	Two or more coats on new work	sqm	130.05
13.65	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade :		
13.65.1	Two or more coats on new work	sqm	106.05
13.66	Floor painting with floor enamel paint of approved brand and manufacture of required colour to give an even shade :		
13.66.1	Two or more coats on new work	sqm	144.65
13.67	Varnishing with varnish of approved brand and manufacture :		
13.67.1	Two or more coats of glue sizing with copal varnish over an under coat of flatting varnish	sqm	182.40
13.67.2	Two or more coats glue sizing with spar varnish or an under coat of flatting varnish	sqm	183.25
13.68	French spirit polishing :		
13.68.1	Two or more coats on new works including a coat of wood filler	sqm	351.15
13.69	Polishing on wood work with ready mixed wax polish of approved brand and manufacture :		
13.69.1	New work	sqm	150.90
13.70	Floor polishing on masonry or concrete floors with wax polish of approved brand and manufacture.	sqm	72.85
13.71	Lettering with black Japan paint of approved brand and manufacture	per letter per cm height	4.70
13.72	Washed stone grit plaster on exterior walls height upto 10 metre above ground level, in two layers, under layer 12 mm cement plaster 1:4 (1 cement : 4 coarse sand ), furrowing the under layer with scratching tool, applying cement slurry on the under layer @ 2 Kg of cement per square metre, top layer 15 mm cement plaster 1:1/ 2:2 (1 cement: 1/2 coarse sand : 2 stone chipping 10 mm nominal size), in panels with groove all around as per approved pattern, including scrubbing and washing the top layer with brushes and water to expose the stone chippings ,complete as per specification and direction of Engineer-in-charge (payment for providing grooves shall be made separately).	sqm	896.75

Code No.	Description	Unit	Rate ₹
13.73	Forming groove of uniform size in the top layer of washed stone grit plaster as per approved pattern using wooden battens, nailed to the under layer, including removal of wooden battens, repair to the edges of panels and finishing the groove complete as per specifications and direction of the Engineer-in-charge :		
13.73.1	15 mm wide and 15 mm deep groove	metre	57.15
13.73.2	20 mm wide and 15 mm deep groove	metre	57.75
13.74	Extra for washed grit plaster on exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.	sqm	129.65
13.75	Extra for washed stone grit plaster on circular work not exceeding 6 m in radius (in two coats).	sqm	101.10
13.76	Forming groove of uniform size from 12x12 mm and upto 25x15 mm in the top layer of washed stone grit plastered surface as per approved pattern, including providing and fixing aluminum channels of appropriate size and thickness (not less than 2 mm), nailed to the under layer with rust proof screws and nails and finishing the groove complete as per specifications and direction of the Engineer-in-Charge.	metre	86.75
13.77	Extra for using white cement in place of ordinary cement in the top layer of the item of washed stone grit plaster.	sqm	83.75
13.78	Providing and applying 12 mm thick (average) premixed formulated one coat gypsum lightweight plaster having additives and light weight aggregates as vermiculite/ perlite respectively conforming to IS: 2547 (Part - 1 & II) 1976, applied on hacked / uneven background such as bare brick/ block/ RCC work on walls & ceiling at all floors and locations, finished in smooth line and level etc. complete.	sqm	342.85
13.79	Extra for addition of synthetic Polyester triangular fibre of length 6 mm, effective diameter 10-40 microns and specific gravity of 1.34 to 1.40 in cement plaster/mortar by using 125 gms. of synthetic Polyester triangular fibre for 50 Kgs. cement used in cement mortar as per directions of Engineer-in-Charge.	per bag of 50kg of cement	66.90
13.80	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	sqm	115.15
13.81	Distempering with 1st quality acrylic distemper, having VOC (Volatile Organic Compound ) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.		
13.81.1	One coat	sqm	50.60
13.81.2	Two coats	sqm	81.90

Code No.	Description	Unit	Rate ₹
13.82	Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound ) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.		
13.82.1	One coat	sqm	71.80
13.82.2	Two coats	sqm	106.80
13.83	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound ) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.		
13.83.1	One coat	sqm	75.10
13.83.2	Two coats	sqm	113.90
13.84	DELETED		
13.84.1	DELETED		
13.84.2	DELETED		
13.85	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound ) content.		
13.85.1	With ready mixed pink or grey primer on wood work (hard and soft wood) having VOC content less than 50 grams/ litre	sqm	57.05
13.85.2	DELETED		
13.85.3	With water thinnable cement primer on wall surface having VOC content less than 50 grams/litre	sqm	60.00
13.86	6 mm plaster on cement concrete or reinforced cement concrete work with white cement based polymer modified self curing mortar of approved make as per the direction of Engineer-In-Charge.	sqm	205.50
13.87	White washing with lime to give an even shade :		
13.87.1	Old work (two or more coats)	sqm	16.75
13.87.2	Old work (one or more coats)	sqm	10.25
13.88	Removing white or colour wash by scrapping and sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete	sqm	14.20
13.89	Distempering with dry distemper of approved brand and manufacture (one or more coats) and of required shade on old work to give an even shade.	sqm	49.55
13.90	Distempering with <b>1st quality acrylic distemper (Ready mix) having VOC content less than 50 grams/ litre</b> of approved brand and manufacture to give an even shade :		
13.90.1	Old work (one or more coats)	sqm	54.30
13.91	Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete.	sqm	18.25

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
13.92	Painting on G.S. sheet with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :		
13.92.1	Old work (one or more coats)	sqm	71.05
13.93	Painting (two or more coats) on rain water, soil, waste and vent pipes and fittings with black anticorrosive bitumastic paint of approved brand and manufacture over and including a priming coat of ready mixed zinc chromate yellow primer on new work :		
13.93.1	75 mm diameter pipes	metre	43.60
13.94	Painting (one or more coats) on rain water, soil waste and vent pipes and fittings with black anticorrosive bitumastic paint of approved brand and manufacture on old work :		
13.94.1	75 mm diameter pipes	metre	20.55
13.94.2	100 mm diameter pipes	metre	27.15
13.94.3	150 mm diameter pipes	metre	39.10
13.95	Painting (two or more coats) on rain water, soil waste and vent pipes and fittings with aluminium paint of approved brand and manufacture over a priming coat of ready mixed zinc chromate yellow primer on new work :		
13.95.1	75 mm diameter pipes	metre	45.15
13.95.2	100 mm diameter pipes	metre	62.65
13.95.3	150 mm diameter pipes	metre	93.35
13.96	Painting (one or more coats) on rain water, soil waste and vent pipes and fittings with synthetic enamel paint of approved brand and manufacture and required colour on old work :		
13.96.1	75 mm diameter pipes	metre	21.75
13.96.2	100 mm diameter pipes	metre	27.95
13.96.3	150 mm diameter pipes	metre	40.20
13.97	Painting with oil type wood preservative of approved brand and manufacture:		
13.97.1	Old work (one or more coats)	sqm	33.90
13.98	Wall painting with plastic emulsion paint of approved brand and manufacture to give an even shade:		
13.98.1	One or more coats on old work	sqm	84.65
13.99	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :		
13.99.1	One or more coats on old work	sqm	79.95
13.100	Painting with aluminium paint of approved brand and manufacture to give an even shade:		
13.100.1	One or more coats on old work	sqm	73.25

Code No.	Description	Unit	Rate ₹
13.101	Painting with acid proof paint of approved brand and manufacture of required colour to give an even shade :		
13.101.1	One or more coats on old work	sqm	85.10
13.102	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade :		
13.102.1	One or more coats on old work	sqm	70.95
13.103	French spirit polishing :		
13.103.1	One or more coats on old work	sqm	176.85
13.104	Polishing on wood work with ready made wax polish of approved brand and manufacture :		
13.104.1	Old work	sqm	76.30
13.105	Re-lettering with black Japan paint of approved brand and manufacture.	per letter per cm height	3.00
13.106	Painting (one or more coats) with black Japan paint of approved brand and manufacture to give an even shade.	sqm	72.45
13.107	Providing and fixing C.P. brass chain and rubber plug complete for sink or wash basin:		
13.107.1	32 mm dia	each	75.10
13.107.2	40 mm dia	each	75.10
13.108	Distemping with 1st quality acrylic distemper (ready made) <b>having VOC content less than 50 gm per ltr.</b> of approved manufacturer and of required shade and colour complete. as per manufacturer's specification.		
13.108.1	One or more coats on old work	sqm	48.05
13.109	Finishing walls with water proofing cement paint of required shade :		
13.109.1	Old work (one or more coats applied @ 2.20 kg/10 sqm) over priming coat of primer applied @ 0.80 ltrs/10 sqm complete including cost of Priming coat.	sqm	87.20
13.109.2	Old work (one or more coats @ 2.20 kg/10 sqm) complete.	sqm	59.35
13.110	Finishing walls with textured exterior paint of required shade :		
13.110.1	Old work (Two or more coats on existing cement paint surface applied @ 3.28 ltr/10 sqm.	sqm	168.75
13.110.2	Old work (One or more coats) applied @ 1.82 ltr/10 sqm.	sqm	105.30
13.111	Finishing walls with Acrylic Smooth exterior paint of required shade :		
13.111.1	Old work (Two or more coat applied @ 1.67 ltr/ 10 sqm) on existing cement paint surface	sqm	99.90
13.111.2	Old work (One or more coat applied @ 0.90 ltr/10 sqm).	sqm	67.35

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
13.112	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade		
13.112.1	Old work (Two or more coats applied @ 1.43 ltr/ 10 sqm) over existing cement paint surface	sqm	97.75
13.112.2	Old work (one or more coats applied @ 0.83 ltr/10 sqm).	sqm	66.95
13.113	Varnishing with varnish of approved brand and manufacture:		
13.113.1	One or more coats with copal varnish	sqm	73.40
13.113.2	One or more coats with spar varnish	sqm	73.85
13.114	Melamine polishing on wood work (one or more coat).	sqm	110.75
13.115	Varnishing with flattening varnish of approved brand and manufacture one or more coats on old work.	sqm	76.65

**Note: Item no 13.87 to 13.115 are brought from Sub Head 14 i.e. Repairs to Building Item no 14.42 to 14.71**



**SUB HEAD : 14.0**

**REPAIRS TO BUILDING**

## BASIC RATES (SH: 14.0 REPAIRS TO BUILDING)

Code No.	Description	Unit	Rate ₹
0006	Hire charges of Spraying machine including electric charges	day	250.00
0011	Hire charges of Pump set of capacity 4000 litres/hour	day	700.00
0058	Air compressor	hour	200.00
0085	Using cost of Ultra Violet Radiation tube	Hour	189.00
0086	Compressor, gun, rubber pipes & other accessories- hire charge of plant & machinery i/c necessary fuel	day	4000.00
0087	Hire Charges of Suction Jeting machine 2200 PSI machine i/c POL and operator	day	36000.00
0100	Bandhani	day	617.00
0101	Bhisti	day	617.00
0102	Blacksmith 1st class	day	738.00
0103	Blacksmith 2nd class	day	679.00
0111	Carpenter 1st class	day	738.00
0112	Carpenter 2nd class	day	679.00
0114	Beldar	day	558.00
0115	Coolie	day	558.00
0116	Fitter (grade 1)	day	738.00
0117	Assistant Fitter or 2nd class Fitter	day	679.00
0119	Glazier	day	679.00
0123	Mason (brick layer) 1st class	day	738.00
0124	Mason (brick layer) 2nd class	day	679.00
0126	Mason (for ornamental stone work) 1st class	day	738.00
0128	Mate	day	617.00
0129	Sewer man	day	558.00
0130	Mistry	day	738.00
0131	Painter	day	679.00
0138	Sprayer (for bitumen, tar etc.)	day	617.00
0139	Skilled Beldar (for floor rubbing etc.)	day	617.00
0141	White Washer	day	617.00
0155	Mason (average)	day	709.00
0156	Carpenter (average)	day	709.00
0159	Skilled torch operator for laying tack	day	738.00
0160	Technician	day	775.00
0164	Security guard without gun (8 hours shift duty per day)	day	617.00
0165	Security guard with gun (8 hours shift duty per day)	day	679.00
0295	Stone Aggregate (Single size) : 20 mm nominal size	cum	1350.00
0297	Stone Aggregate (Single size) : 10 mm nominal size	cum	1350.00
0302	Safeda ballies 125 mm diameter	metre	40.00
0308	Bhusa	quintal	500.00

Code No.	Description	Unit	Rate ₹
0313	Blown type petroleum bitumen of penetration 85/25 of approved quality	tonne	34000.00
0316	Bitumen solution primer of approved quality	litre	45.00
0367	Portland Cement (OPC-43 Grade)	tonne	4940.00
0370	Coal (stream)	quintal	440.00
0389	Brass single acting spring hinges 150 mm	each	425.00
0390	Brass single acting spring hinges 125 mm	each	285.00
0391	Brass single acting spring hinges 100 mm	each	250.00
0392	Brass double acting spring hinges 150 mm	each	480.00
0393	Brass double acting spring hinges 125 mm	each	400.00
0394	Brass double acting spring hinges 100 mm	each	390.00
0404	Brass flush bolt 250 mm	each	150.00
0405	Brass flush bolt 150 mm	each	130.00
0406	Brass flush bolt 100 mm	each	90.00
0417	Brass 150 mm floor door stopper weighing not less than 0.357kg	each	160.00
0418	Brass hard drawn hooks and eyes 300 mm	10 Nos	600.00
0419	Brass hard drawn hooks and eyes 250 mm	10 Nos	574.00
0420	Brass hard drawn hooks and eyes 200 mm	10 Nos	510.00
0421	Brass hard drawn hooks and eyes 150 mm	10 Nos	400.00
0422	Brass hard drawn hooks and eyes 100 mm	10 Nos	345.00
0423	Brass casement window fastener	each	45.00
0427	Brass quadrant stays 300 mm	each	110.00
0428	Brass fanlight catch	10 Nos	170.00
0429	Brass fanlight pivot	10 Nos	168.00
0430	Brass chain with hook for fan light catch	each	36.00
0442	Brass helical spring 150 mm	each	290.00
0444	Brass curtain rod 20 mm dia 1.25 mm thick	metre	140.00
0445	Brass curtain rod 25 mm dia 1.25 mm thick	metre	190.00
0446	Brass brackets (curtain rods) 20 mm	each	45.00
0449	Brass screws 50 mm	100 Nos	220.00
0450	Brass screws 40 mm	100 Nos	170.00
0452	Brass screws 25 mm	100 Nos	100.00
0524	Chromium plated Brass butt hinges (heavy) type 75x65x 4 mm weighing not less than 200gms	10 Nos	905.00
0525	Chromium plated Brass butt hinges (light/ordinary) type 125x70x4mm	10 Nos	805.00
0526	Chromium plated Brass butt hinges (light/ordinary) type 100x70x4 mm	10 Nos	690.00
0527	Chromium plated Brass butt hinges (light/ordinary) type 75x40x2.5 mm	10 Nos	421.00
0528	Chromium plated Brass butt hinges (light/ordinary) type 50x40x2.5 mm	10 Nos	180.00

Code No.	Description	Unit	Rate ₹
0585	Chromium plated Brass screws 50 mm	100 Nos	300.00
0586	Chromium plated Brass screws 40 mm	100 Nos	290.00
0587	Chromium plated Brass screws 30 mm	100 Nos	240.00
0589	Chromium plated Brass screws 20 mm	100 Nos	160.00
0595	Bright finished or black enameled mild steel butt hinges 100x58x 1.90 mm	10 Nos	80.00
0597	Bright finished or black enameled mild steel butt hinges 50x37x 1.50 mm	10 Nos	49.00
0608	Nickel plated bright finished mild steel piano hinges 1 mm thick 25 mm wide	metre	39.00
0637	Bright finished or black enameled mild steel screws 40 mm	100 Nos	60.00
0639	Bright finished or black enameled mild steel screws 25 mm	100 Nos	36.00
0640	Bright finished or black enameled mild steel screws 20 mm	100 Nos	30.00
0761	Fuel wood	quintal	500.00
0771	Kerosene oil	litre	50.00
0772	White cement based polymer modified self curing compound in powder form	kg	15.00
0775	Dehradun white lime	quintal	600.00
0811	Mud (dry)	cum	165.00
0815	Dry distemper	kg	30.00
0816	1st quality Acrylic distemper(Ready mix) having VOC content less than 50 grams/ litre	kg	50.00
0826	Aluminium paint	litre	150.00
0827	Acid proof paint (chocolate or black)	litre	225.00
0828	Anticorrosive bituminous paint (black)	litre	100.00
0829	Black Japan paint	litre	90.00
0833	Synthetic enamel paint in black or chocolate shade	litre	170.00
0835	Plastic acrylic emulsion paint	litre	200.00
0845	Roofing paint for iron sheets in red colour	litre	120.00
0851	Water proofing cement paint	kg	38.00
0855	Wax polish (ready made)	kg	230.00
0856	Ordinary varnish	litre	100.00
0857	Superior copal varnish	litre	115.00
0858	Superior spar varnish	litre	115.00
0859	Oil type wood preservative	litre	130.00
0863	Putty for wood work	kg	30.00
0982	Coarse sand (zone III)	cum	1350.00
0999	Shellac	kg	300.00
1000	Spirit	litre	48.00

Code No.	Description	Unit	Rate ₹
1003	Mild steel round bar above 12 mm dia	quintal	4400.00
1007	Structural steel such as tees, angles channels and R.S. joists	quintal	4600.00
1008	Flats up to 10 mm in thickness	quintal	4500.00
1023	Galvanised steel J or L hooks 8 mm dia	10 Nos	120.00
1034	Bolts and nuts up to 300 mm in length	quintal	4800.00
1174	Red sand stone slab 45 mm to 50 mm thick (un-dressed)	sqm	225.00
1186	Superior class teak wood such as Dandeli, Balarshah or Malabar in planks	10 cudm	1100.00
1188	First class teak wood in planks	10 cudm	850.00
1189	Second class teak wood in scantling	10 cudm	776.00
1190	Second class teak wood in planks	10 cudm	791.00
1194	Second class deodar wood in planks	10 cudm	500.00
1196	First class kail wood in planks	10 cudm	300.00
1199	Sal wood in scantling	10 cudm	600.00
1208	Bitumen washer	100 Nos	30.00
1209	G.I. plain washer thick	100 Nos	35.00
1213	Water proofing materials	kilogram	35.00
1215	Welding by electric plant	cm	2.00
1241	Commercial LPG in Cylinder	kg	82.00
1301	Bleaching powder	quintal	1800.00
1314	C.P.brass chain with 32 mm dia rubber plug	each	40.00
1315	C.P.brass chain with 40 mm dia rubber plug	each	40.00
1880	Dismenteled P or S trap scrap (approx wt 2kg)	kg	22.00
1890	Centrifugally SCI(spun) S & S P or S trap	each	300.00
1953	Vitreous china Indian type W.C. pan of size 580 mm	each	450.00
1954	Vitreous china orrisa type W.C. pan of size 580 mm	each	1200.00
1970	Vitreous china foot rests 250x125x25 mm	pair	100.00
2200	Carriage of steam coal	tonne	120.00
2201	Carriage of Bricks	1000 Nos	276.72
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	103.77
2203	Carriage of Coarse sand	cum	103.77
2204	Carriage of Timber	cum	118.59
2205	Carriage of Steel	tonne	92.24
2209	Carriage of Cement	tonne	92.24
2211	Carriage of Tar/ Bitumen	tonne	103.77
2216	Carriage of Stone blocks white & red sand stone & kota stone slab	tonne	92.24
2264	Carriage of Rubbish	cum	103.77
2406	Float glass panes of nominal thickness 4 mm (weight not less than 10 kg/sqm)	sqm	300.00
2407	Float glass panes of nominal thickness 5 mm (weight not less than 12.50 kg/sqm)	sqm	500.00

Code No.	Description	Unit	Rate ₹
2466	Hollock wood in scantling	10 cudm	350.00
2467	Chromium plated Brass pull bolt lock (locking bolt) of size 85 mm x 42 mm with screws, bolts, nuts and washers complete	each	165.00
2602	Common burnt clay F.P.S. (non modular) bricks class designation	1000 Nos	4500.00
4009	Mild steel tubes hot finished welded type	kg	57.00
4202	Red oxide Zinc chromate primer	litre	110.00
4203	Copper acetate	kg	285.00
7019	Dash fastener / Chemical fastener	each	14.00
7241	Melamine polish	litre	280.00
7346	Double coupler	each	46.00
7387	Spigot for standard jointing	kg	43.00
7397	Base Jack	each	145.00
7398	Challies	each	765.00
7399	Cup locks	each	48.00
7442	Wheel 75 mm dia. 40 mm wide	each	62.00
7752	PVC slotted pipe 200 mm dia as per IS: 12818	metre	840.00
8200	A.P.P. modified polymeric felt (two layers) 1.5mm thick	sqm	80.00
8201	A.P.P. modified polymeric felt (two layers) 2mm thick	sqm	100.00
8203	A.P.P. modified 2 mm thick membrane reinforced with glass fibre malt	sqm	126.67
8204	A.P.P. modified 3 mm thick membrane reinforced with glass fibre matt	sqm	190.00
8205	A.P.P. modified 3 mm thick membrane with polyester matt	sqm	205.00
8206	Bitumen primer for bitumen membrane	litre	80.00
8207	Geotextile 120 grams per sqm membrane	sqm	45.00
8500	Water for jetting / blowback	1000 litre	1500.00
8505	Acrylic exterior paint	litre	170.00
8506	Premium Acrylic exterior paint	litre	180.00
8507	Textured exterior paint	litre	240.00
8508	Primer for cement paint	litre	79.00
9977	Carriage	L.S.	2.00
9988	Carriage and sundries	L.S.	2.00
9999	Sundries	L.S.	2.00

## 14.0 REPAIRS TO BUILDING

Code No.	Description	Unit	Rate ₹
14.1	Repairs to plaster of thickness 12 mm to 20 mm in patches of area 2.5 sq.meters and under, including cutting the patch in proper shape, raking out joints and preparing and plastering the surface of the walls complete, including disposal of rubbish to the dumping ground, all complete as per direction of Engineer-in-Charge.		
14.1.1	With cement mortar 1:4 (1 cement : 4 fine sand)	sqm	417.80
14.1.2	With cement mortar 1:4 (1cement: 4 coarse sand)	sqm	429.60
14.2	Fixing chowkhats in existing opening including embedding chowkhats in floors or walls cutting masonry for holdfasts, embedding hold fasts in cement concrete blocks of size 15 x 10 x 10 cm with cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size), painting two coats of approved wood preservative to sides of chowkhats and making good the damages to walls and floors as required complete, including disposal of rubbish to the dumping ground, all complete as per direction of Engineer-in-Charge.		
14.2.1	Door chowkhats	each	1366.85
14.2.2	Window chowkhats	each	858.90
14.2.3	Clerestory window chowkhats	each	637.85
14.3	Fixing chowkhat in existing opening in brick/ RCC wall with dash fasteners/Chemical fasteners of appropriate size (3 nos on each vertical member of door chowkhat and 2 nos on each vertical member of window chowkhats), including Cost of dash fasteners/ chemical fastener.	each	193.95
14.4	Making the opening in brick masonry including dismantling in floor or walls by cutting masonry and making good the damages to walls, flooring and jambs complete, to match existing surface i/c disposal of mulba/ rubbish to the nearest municipal dumping ground, all complete as per direction of Engineer-in-Charge.		
14.4.1	For door/ window/ clerestory window	sqm	932.45
14.5	Renewing glass panes, with putty and nails wherever necessary including racking out the old putty:		
14.5.1	Float glass panes of <b>nominal</b> thickness 4 mm ( <b>weight not less than 10kg/sqm</b> )	sqm	890.50
14.5.2	Float glass panes of <b>nominal</b> thickness 5 mm ( <b>weight not less than 12.5kg/sqm</b> )	sqm	1184.85
14.6	Renewing glass panes, with wooden fillets wherever necessary:		
14.6.1	Float glass panes of <b>nominal</b> thickness 4 mm ( <b>weight not less than 10kg/sqm</b> )	sqm	1263.00
14.6.2	Float glass panes of <b>nominal</b> thickness 5 mm ( <b>weight not less than 12.5kg/sqm</b> )	sqm	1557.35
14.7	Renewing glass panes and refixing existing wooden fillets:		
14.7.1	Float glass panes of <b>nominal</b> thickness 4 mm ( <b>weight not less than 10kg/sqm</b> )	sqm	989.85
14.7.2	Float glass panes of <b>nominal</b> thickness 5 mm ( <b>weight not less than 12.5kg/sqm</b> )	sqm	1284.20

Code No.	Description	Unit	Rate ₹
14.8	Supplying and fixing new wooden fillets wherever necessary:		
14.8.1	2nd class teak wood fillets	metre	61.50
14.8.2	Hollock wood fillets	metre	54.70
14.9	Renewal of old putty of glass panes (length)	metre	42.60
14.10	Refixing old glass panes with putty and nails	sqm	554.05
14.11	Fixing old glass panes with wooden fillets (excluding cost of fillets)	sqm	510.75
14.12	Providing and fixing 16 mm M.S. Fan clamps of standard shape and size in existing R.C.C. slab, including cutting chase, anchoring clamp to reinforcement bar, including cleaning, refilling, making good the chase with matching concrete, plastering and painting the exposed portion of the clamps complete.	each	425.10
14.13	Regrading terracing of mud phaska covered with tiles or brick, in cement mortar by dismantling tiles or bricks, removing mud plaster, preparing the surface of mud phaska to proper slope, relaying mud plaster gobri leaping and tiles or bricks, grouted in cement mortar 1:3 (1 cement : 3 fine sand), including replacing unserviceable tiles or bricks with new ones and disposal of unserviceable material to the dumping ground (the cost of the new tiles or brick excluded), all complete as per direction of Engineer-in-Charge.	sqm	521.60
14.14	Replacing sand stone slabs in roofing, laid in cement mortar 1:4 (1 cement : 4 coarse sand), including necessary repairs and cement pointing with same mortar complete, including disposal of rubbish to dumping ground, all complete as per direction of Engineer-in-Charge.		
14.14.1	Red/ white sand stone slabs 30 to 50 mm thick	sqm	957.70
14.15	Renewing wooden battens in roofs, including making good the holes in wall and painting with oil type wood preservative of approved brand and manufacture complete, including removal of rubbish to the dumping ground, all complete as per direction of Engineer-in-Charge.		
14.15.1	Sal wood battens	cum	91114.45
14.16	Renewing wooden beams in roofs including making good the holes in walls and painting with oil type wood preservative of approved brand and manufacture complete, including removal of rubbish to the dumping ground, all complete as per direction of Engineer-in-Charge.		
14.16.1	Not exceeding 4.00 metres in length.		
14.16.1.1	Sal wood beams	cum	95325.80
14.16.1.2	Hollock wood beams	cum	60859.95
14.16.2	Above 4.00 metres and upto 5.00 metres length.		
14.16.2.1	Sal wood beams	cum	97267.00
14.16.2.2	Hollock wood beams	cum	62765.35
14.17	Raking out joints in lime or cement mortar and preparing the surface for re-pointing or replastering, including disposal of rubbish to the dumping ground, all complete as per direction of Engineer-in-Charge.	sqm	51.70



Code No.	Description	Unit	Rate ₹
14.18	Flush pointing with cement mortar 1:3 (1 cement : 3 fine sand) mixed with 2% of integral water proofing compound by weight of cement for flat tile bricks on top of mud phaska :		
14.18.1	With F.P.S. brick tiles	sqm	103.45
14.18.2	With modular brick tiles	sqm	104.65
14.19	Taking out wind ties from roof including cutting out rusted bolts, nuts etc. and removing materials to any distance within compound and stacking.	kg	4.00
14.20	Fixing of old wind tie with new fittings including painting two or more coats with anticorrosive bitumastic paint of approved brand & manufacturer over and including priming coat of ready mixed zinc chromate yellow primer of approved brand.	metre	102.60
14.21	Renewing bottom rail and/or top runner of collapsible gate including making good all damages and applying priming coat of zinc chromate yellow primer of approved brand and manufacturer.	kg	224.60
14.22	Renewing Wrought iron or M.S. Wheel or roller of steel door or gate and fitting and fixing the same with necessary clamps, nuts and bolts/welding and erection etc. complete.		
14.22.1	Wheel 50 mm dia and below	per wheel	146.75
14.22.2	Wheel above 50 mm dia	per wheel	240.45
<b>EARTH WORK</b>			
14.23	Pumping out water caused by springs, tidal or river seepage, broken water mains or drains and the like.	kilo litre	169.05
14.24	Mud mortar made with local clay good earth.	cum	737.00
<b>BRICK WORK</b>			
14.25	Brick work with common burnt clay bricks of class designation 7.5 in mud mortar	cum	5281.35
<b>WOOD WORK</b>			
14.26	Providing and fixing 25 mm thick shutters for cup board etc. :		
14.26.1	Panelled or panelled & glazed shutters :		
14.26.1.1	Superior class teak wood including nickel plated bright finished M.S. piano hinges with necessary screws.	sqm	4456.60
14.26.1.2	1st class teak wood including nickel plated bright finished M.S. piano hinges with necessary screws.	sqm	3852.70
14.26.2	Glazed shutters :		
14.26.2.1	Superior class teak wood including nickel plated bright finished M.S. piano hinges with necessary screws.	sqm	4448.45
14.26.2.2	1st class teak wood including nickel plated bright finished M.S. piano hinges with necessary screws.	sqm	3798.05

Code No.	Description	Unit	Rate ₹
14.27	Providing and fixing plain jaffri door and window shutters including bright or/and black enamelled M.S. butt hinges with necessary screws 35x10 mm laths placed 35 mm apart (frames to be paid separately), including fixing 50x12 mm beading complete with :		
14.27.1	Second class teak wood	sqm	4069.70
14.28	Providing and fixing brass curtain rods of wall thickness 1.25 mm with two brass brackets fixed with brass screws and wooden plugs etc. wherever necessary complete.		
14.28.1	20 mm diameter.	metre	292.90
14.28.2	25 mm diameter.	metre	359.80
14.29	Providing and fixing M.S. round or square bars with M.S. flats at required spacing in wooden frames of windows and clerestory windows.	kg	92.05
14.30	Providing joists (karries) including hoisting, fixing in position and applying wood preservative on unexposed surface etc. complete with :		
14.30.1	Sal wood	cum	90056.65
14.30.2	Hollock wood	cum	55939.25
14.31	Providing and fixing bright finished brass single acting spring hinges with necessary brass screws etc. complete :		
14.31.1	150 mm	each	647.55
14.31.2	125 mm	each	460.25
14.31.3	100 mm	each	408.10
14.32	Providing and fixing bright finished brass double acting spring hinges with necessary brass screws etc. complete :		
14.32.1	150 mm	each	721.15
14.32.2	125 mm	each	614.10
14.32.3	100 mm	each	595.40
14.33	Providing and fixing bright finished brass flush bolts with necessary brass screws etc. complete :		
14.33.1	250 mm	each	229.45
14.33.2	150 mm	each	199.50
14.33.3	100 mm	each	145.95
14.34	Providing and fixing 150 mm bright finished floor brass door stopper with rubber cushion, necessary brass screws etc. to suit shutter thickness complete	each	232.50
14.35	Providing and fixing bright finished brass hard drawn hooks and eyes :		
14.35.1	300 mm	each	86.45
14.35.2	250 mm	each	82.95
14.35.3	200 mm	each	74.40
14.35.4	150 mm	each	59.70
14.35.5	100 mm	each	52.35

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
14.36	Providing and fixing bright finished brass fan light pivot with necessary brass screws etc. complete.	each	39.70
14.37	Providing and fixing 300 mm long bright finished brass chain with hook for fan light including necessary brass screws etc. complete.	each	63.65
14.38	Providing and fixing bright finished brass quadrant stay 300 mm long with necessary brass screws etc. complete.	each	162.65
14.39	Providing and fixing bright finished brass helical door spring (superior quality).	each	457.90
14.40	Providing and fixing chromium plated brass butt hinges with necessary chromium plated brass screws etc. complete.		
14.40.1	125x70x4 mm (ordinary type)	each	170.10
14.40.2	100x70x4 mm (ordinary type)	each	145.60
14.40.3	75x65x4 mm (heavy type)	each	162.15
14.40.4	75x40x2.5 mm (ordinary type)	each	97.35
14.40.5	50x40x2.5 mm (ordinary type)	each	40.80
14.41	Providing and fixing 85x42 mm chromium plated brass pull bolt lock with necessary chromium plated brass screws, nuts, bolts and washers etc. complete.	each	245.20
	<b>FINISHING</b>		
14.42	<b>Item Shifted to Sub Head 13 as item 13.87</b>		
14.43	<b>Item Shifted to Sub Head 13 as item 13.88</b>		
14.44	<b>Item Shifted to Sub Head 13 as item 13.89</b>		
14.45	<b>Item Shifted to Sub Head 13 as item 13.90</b>		
14.46	<b>Item Shifted to Sub Head 13 as item 13.91</b>		
14.47	<b>Item Shifted to Sub Head 13 as item 13.92</b>		
14.48	<b>Item Shifted to Sub Head 13 as item 13.93</b>		
14.49	<b>Item Shifted to Sub Head 13 as item 13.94</b>		
14.50	<b>Item Shifted to Sub Head 13 as item 13.95</b>		
14.51	<b>Item Shifted to Sub Head 13 as item 13.96</b>		
14.52	<b>Item Shifted to Sub Head 13 as item 13.97</b>		
14.53	<b>Item Shifted to Sub Head 13 as item 13.98</b>		
14.54	<b>Item Shifted to Sub Head 13 as item 13.99</b>		
14.55	<b>Item Shifted to Sub Head 13 as item 13.100</b>		
14.56	<b>Item Shifted to Sub Head 13 as item 13.101</b>		
14.57	<b>Item Shifted to Sub Head 13 as item 13.102</b>		
14.58	<b>Item Shifted to Sub Head 13 as item 13.103</b>		
14.59	<b>Item Shifted to Sub Head 13 as item 13.104</b>		
14.60	<b>Item Shifted to Sub Head 13 as item 13.105</b>		
14.61	<b>Item Shifted to Sub Head 13 as item 13.106</b>		

Code No.	Description	Unit	Rate ₹
14.62	Item Shifted to Sub Head 13 as item 13.107		
14.63	Item Shifted to Sub Head 13 as item 13.108		
14.64	Item Shifted to Sub Head 13 as item 13.109		
14.65	Item Shifted to Sub Head 13 as item 13.110		
14.66	Item Shifted to Sub Head 13 as item 13.111		
14.67	Item Shifted to Sub Head 13 as item 13.112		
14.69	Item Shifted to Sub Head 13 as item 13.113		
14.70	Item Shifted to Sub Head 13 as item 13.114		
14.71	Item Shifted to Sub Head 13 as item 13.115		
14.72	<p>Providing and fixing double scaffolding system (cup lock type) on the exterior side, up to seven story height made with 40 mm dia M.S. tube 1.5 m centre to centre, horizontal &amp; vertical tubes joining with cup &amp; lock system with M.S. tubes, M.S. tube challies, M.S. clamps and M.S. staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after .The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineer-in-charge .The elevational area of the scaffolding shall be measured for payment purpose .The payment will be made once irrespective of duration of scaffolding.</p> <p><b>Note:</b> - This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done.</p>	sqm	257.95
14.73	Providing and fixing bright finished brass casement window fasteners or peg stays to windows/ ventilators with necessary welding and machine screws etc. complete.	kg	473.90
14.74	Providing and fixing 14 mm bright finished brass spring catch to steel centre hung ventilators with necessary welding and machine screws etc. complete.	each	57.30
14.75	Repair to plaster of thickness 12mm to 20 mm in patches of area 2.5 sqm and under, including cutting the patch in proper shape, raking out joints and preparing plastering the wall surface with white cement based polymer modified self curing mortar, including disposal of rubbish, all complete as per the direction of Engineer-In-Charge.	sqm	512.00
<b>ROUTINE MAINTENANCE WORK</b>			
14.75A	Cleaning of terrace/loft water storage tank (inside surface area) upto 2000 litre capacity at all heights with coconut brushes, duster etc., removal of silt, rubbish from the tank and cleaning the tank with fresh water disinfecting with bleaching powder @ 0.5gm per litre capacity of tank including marking the date of cleaning on the side of tank body with the help of stencil and paint and disposing of malba all complete as per direction of Engineer-in-Charge. (The old date already written on tank should be removed with paint remover or black paint		

Code No.	Description	Unit	Rate ₹
	and if date is not written with the stencil or old date is not removed deduction will be made @ Rs. 0.10 per litre) (if during cleaning any GI fittings or ball cock is damaged that is to be repaired by contractor at his own cost and nothing extra will be paid on this account)	litre	0.35
14.76	Cleaning and desilting of gully trap chamber, including removal of rubbish mixed with earth etc. and disposal of same, all as per the direction of Engineer-in-charge.	each	77.65
14.77	Cleaning of chocked sewer line by diesel running vehicle mounting hydraulic operated high pressure suction cum jetting sewer cleaning machine fitted with pump having 4000 litres suction capacity and 6000 litres water jetting tank capacity including skilled operator, supervising engineer etc. for cleaning and partial desilting of manholes and dechocking of sewer lines. Dechocking and flushing of sewer line from one manhole to another by high pressure jetting system of 2200 PSI for sewer line from 150mm dia upto 300mm	metre	256.90
14.78	Cleaning of under ground sump, Over Head R.C.C. Tank ( independent staging) including disposal of slit and rubbish, all as per direction of Engineer-in-Charge. The cleaning shall consist following operations:- (i) Tank shall be emptied of water by pumping & bottom shall be cleaned of silt and other deposits. (ii) Entire surface area of the sump shall then scrubbed thoroughly with wire brush etc. and pressure washed with water. (iii) Chlorination of RCC internal surface by liquid chlorine. (iv) The treated surface shall be dried using air jetting and all loose particles shall be removal from the surface. (v) Finally the surface shall be treated with ultraviolet radiation etc. as per direction of Engineer-in-Charge.	sqm	63.70
14.79	Disconnecting damaged overhead/terrace PVC water storage tank of any size from water supply line and removing from the terrace including shifting at ground level as per direction of Engineer-in- charge.	each	317.75
14.80	Providing & fixing White vitreous china water closet squatting pan (Indian type) along with "S" or "P" trap including dismantling of old WC seat and "S" or "P" trap at site complete with all operations including all necessary materials, labour and disposal of dismantled material i/c malba, all complete as per the direction of Engineer-in charge.		
	14.80.1 Long pattern W.C Pan of size 580x440 mm	each	2724.10
	14.80.2 Orissa pattern W.C Pan of size 580x440 mm	each	3537.80
14.81	Cutting holes of required size in brick masonry wall for fixing of exhaust fan including providing and fixing 300 mm dia PVC pipe conforming BIS-12818 and making good the same etc. complete as per direction of Engineer-in-charge.	each	220.40
14.82	Dismantling W.C. Pan of all sizes including disposal of dismantled materials i/c malba all complete as per directions of Engineer-in-Charge.	each	96.00

Code No.	Description	Unit	Rate ₹
14.83	Hacking of CC flooring including cleaning for surface etc. complete as per direction of the Engineer-in-Charge.	sqm	2.50
14.84	Dismantling 15 to 40 mm dia G.I. pipe including stacking of dismantled pipes (within 50 metres lead) as per direction of Engineer-in-Charge.		
	(a) Internal Work- Exposed on wall	metre	2.70
14.85	Taking out existing wooden door shutter, repair by cutting, painting etc. and refixing of repaired door shutters to existing door frames, including replacement of hinges with screws, etc. as required, all complete as per the direction of the Engineer-in-charge.	each	297.85
14.86	Providing and laying in situ seven course water proofing treatment with APP (Atactic poly-propylene) modified Polymeric memberane over roof consisting of first coat of bitumen primer @ 0.40 litre per sqm, 2nd, 4th & 6th courses of bonding material @ 1.20 Kg/sqm, which shall consist of blown type bitumen of grade 85/25 conforming to IS : 702, 3rd and 5th layers of roofing membrane APP modified Polymeric membrane 1.5 mm thick of 2.25 Kg/sqm weight consisting of five layers prefabricated with centre core as 20 micron HMHDPE film sandwiched on both sides with polymeric mix and the polymeric mix is protected on both side with 20 micron HMHDPE film. 7th, the top most layer shall be finished with brick tiles of class designation 10 grouted with cement mortar 1:3 (1 cement : 3 fine sand) mixed with 2% integral water proofing compound by weight of cement over a 12 mm layer of cement mortar 1:3 (1 cement : 3 fine sand) and finished neat (item of laying brick tiles shall be paid for separately).	sqm	592.65
14.87	Providing and laying in situ five course water proofing treatment with APP (Atactic Polypropylene) modified Polymeric memberane over roof consisting of first coat of bitumen primer @ 0.40 litre per sqm, 2nd & 4th courses of bonding material @ 1.20 kg/sqm, which shall consist of blown type bitumen of grade 85/25 conforming to IS : 702, 3rd layer of roofing membrane APP modified Polymeric membrane 2.0 mm thick of 3.00 Kg/ sqm weight consisting of five layers prefabricated with centre core as 100 micron HMHDPE film sandwiched on both sides with polymeric mix and the polymeric mix is protected on both side with 20 micron HMHDPE film. 5th, the top most layer shall be finished with brick tiles of class designation 10 grouted with cement mortar 1:3 (1 cement : 3 fine sand) mixed with 2% integral water proofing compound by weight of cement over a 12 mm layer of cement mortar 1:3 (1 cement : 3 fine sand) and finished neat (item of laying brick tiles shall be paid for separately).	sqm	408.75
14.88	Providing and laying in situ seven course water proofing treatment with APP (Atactic Polypropylene) modified Polymeric memberane over roof consisting of first coat of bitumen primer @ 0.40 litre per sqm, 2nd, 4th & 6th courses of bonding material @ 1.20 kg/sqm, which shall consist of blown type bitumen of grade 85/25 conforming to IS : 702, 3rd and 5th layers of roofing membrane APP modified Polymeric membrane 2.0 mm thick of 3.00 Kg/sqm weight consisting of five layers prefabricated with centre core as 100 micron HMHDPE film sandwiched on both sides with polymeric mix and the polymeric		

Code No.	Description	Unit	Rate ₹
	mix is protected on both side with 20 micron HMHDPE film. 7th, the top most layer shall be finished with brick tiles of class designation 10 grouted with cement mortar 1:3 (1 cement : 3 fine sand) mixed with 2% integral water proofing compound by weight of cement over a 12 mm layer of cement mortar 1:3 ( 1 cement : 3 fine sand) and finished neat (item of laying brick tiles shall be paid for separately).	sqm	651.50
14.89	Providing and fixing APP (Atactic Polypropylene Polymer) modified prefabricated five layer 2 mm thick water proofing membrane , black finished reinforced with glass fibre matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufacture of density at 25°C, 0.87 - 0.89 kg/ litre and viscosity 70 - 160 cps. Over the primer coat the layer of membrane shall be laid using Butane torch and sealing all joints etc., and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 350/300 N/ 5 cm. Tear strength in longitudinal and transverse direction as 60/80N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacture of membrane.		
	14.89.1 2mm (for corrugated roof sheets)	sqm	419.75
14.90	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer, 3 mm thick water proofing membrane, black finished reinforced with glass fibre matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufactured of density at 25°C, 0.87 - 0.89 kg/litre and viscosity 70 - 160 cps. Over the primer coat the layer of membrane shall be laid using butane torch and sealing all joints etc., and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 350/300 N/5 cm. Tear strength in longitudinal and transverse direction as 60/80N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane :		
	14.90.1 3 mm thick	sqm	512.95
14.91	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer 3 mm thick water proofing membrane, black finished reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufacture of density at 25°C, 0.87-0.89 kg/ litre and viscosity 70-160 cps. Over the primer coat the layer of membrane shall be laid using Butane Torch and sealing all joints etc, and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 650/ 450N/ 5cm. Tear strength in longitudinal and transverse direction as 300/		



Code No.	Description	Unit	Rate ₹
	250N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane :		
	14.91.1 3 mm thick	sqm	535.00
14.92	Extra for covering top of membrane with Geotextile, 120 gsm non woven, 100% polyester of thickness 1 to 1.25 mm bonded to the membrane with intermittent touch by heating the membrane by Butane Torch as per manufactures recommendation.	sqm	99.75
	<b>Note: Item no 14.86 to 14.92 are brought from Sub Head 22 i.e. Water Proofing, Item no 22.15 to 22.21</b>		
14.93	Providing round the clock security guard without gun for watch & ward of Government premises and its all belongings by deploying neatly dressed security guards in 8 hour's shift including necessary T&P like torch, lathi and uniform etc.complete,as per the direction of Engineer-in-charge.(One job means 8 hour's duty).	each job	732.55
14.94	Providing round the clock security guard with gun for watch & ward of Government premises and its all belongings by deploying neatly dressed security guards in 8 hour's shift including necessary T&P like torch, lathi and uniform etc.complete, as per the direction of Engineer-in-charge.(One job means 8 hour's duty).	each job	803.85
	<b>Note: Item no 14.93 &amp; 14.94 are brought from Sub Head 26 i.e. New Technologies and Materials, Item no 26.20 &amp; 26.21</b>		



**SUB HEAD : 15.0**

**DISMANTLING  
AND  
DEMOLISHING**

**BASIC RATES (SH:15.0 DISMANTLING AND DEMOLISHING)**

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
0038	Tractor with ripper attachment	day	1200.00
0039	Tractor with trolley	day	1350.00
0040	Air compressor 250 cfm with two leads for pneumatic cutters / hammers	day	1600.00
0041	Joint cutting machine with 2-3 blades	day	800.00
0100	Bandhani	day	617.00
0101	Bhisti	day	617.00
0103	Blacksmith 2nd class	day	679.00
0112	Carpenter 2nd class	day	679.00
0114	Beldar	day	558.00
0115	Coolie	day	558.00
0116	Fitter (grade 1)	day	738.00
0117	Assistant Fitter or 2nd class Fitter	day	679.00
0123	Mason (brick layer) 1st class	day	738.00
0124	Mason (brick layer) 2nd class	day	679.00
0128	Mate	day	617.00
0130	Mistry	day	738.00
0139	Skilled Beldar (for floor rubbing etc.)	day	617.00
0761	Fuel wood	quintal	500.00
0771	Kerosene oil	litre	50.00
2264	Carriage of Rubbish	cum	103.77
9977	Carriage	L.S.	2.00
9988	Carriage and sundries	L.S.	2.00
9999	Sundries	L.S.	2.00

## 15.0 DISMANTLING AND DEMOLISHING

Code No.	Description	Unit	Rate ₹
15.1	Demolishing lime concrete manually/ by mechanical means and disposal of material within 50 metres lead as per direction of Engineer-in-charge.	cum	607.50
15.2	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.		
15.2.1	Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	cum	1737.45
15.2.2	Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix)	cum	1072.80
15.3	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in - charge.	cum	2534.70
15.4	Demolishing R.B. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in- charge.	cum	2267.15
15.5	Extra for cutting reinforcement bars manually/ by mechanical means in R.C.C. or R.B. work (Payment shall be made on the cross sectional area of R.C.C. or R.B. work) as per direction of Engineer-in-charge.	sqm	863.35
15.6	Extra for scrapping, cleaning and straightening reinforcement from R.C.C. or R.B. work.	kg	6.70
15.7	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.		
15.7.1	In mud mortar	cum	503.00
15.7.2	In lime mortar with old mughal bricks	cum	1271.95
15.7.3	In lime mortar	cum	607.50
15.7.4	In cement mortar	cum	1469.90
15.8	Removing mortar from bricks and cleaning bricks including stacking within a lead of 50 m (stacks of cleaned bricks shall be measured):		
15.8.1	From brick work in mud mortar	1000 Nos	3354.55
15.8.2	From brick work in lime mortar	1000 Nos	3886.35
15.8.3	From brick work in cement mortar	1000 Nos	4880.90
15.9	Demolishing stone rubble masonry manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge :		
15.9.1	In lime mortar	cum	826.45
15.9.2	In cement mortar	cum	1754.30

Code No.	Description	Unit	Rate ₹
15.10	Dismantling dressed stone work ashlar face stone work, marble work or precast concrete work manually/ by mechanical means including stacking of serviceable and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge :		
	15.10.1 In lime mortar	cum	1045.05
	15.10.2 In cement mortar	cum	2052.90
15.11	Removing mortar from and cleaning stones and concrete articles (net quantity of stacks of cleaned materials will be measured):		
	15.11.1 In lime mortar	cum	345.45
	15.11.2 In cement mortar	cum	495.80
15.12	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :		
	15.12.1 Of area 3 sq. metres and below	each	274.50
	15.12.2 Of area beyond 3 sq. metres	each	375.65
15.13	Taking out doors, windows and clerestory window shutters (steel or wood) including stacking within 50 metres lead :		
	15.13.1 Of area 3 sq. metres and below	each	106.55
	15.13.2 Of area beyond 3 sq. metres	each	140.70
15.14	Dismantling wood work in frames, trusses, purlins and rafters up to 10 metres span and 5 metres height including stacking the material within 50 metres lead :		
	15.14.1 Of sectional area 40 square centimetres and above	cum	3345.90
	15.14.2 Of sectional area below 40 square centimetres	metre	13.40
15.15	Extra for dismantling trusses, rafters, purlins etc. of wood work for every additional span of one metre or part thereof beyond 10 metres :		
	15.15.1 Of sectional area 40 square centimetres and above	cum per metre span	441.50
	15.15.2 Of sectional area below 40 square centimetres	metre per metre span	1.25
15.16	Extra for dismantling trusses, rafters, purlins etc. of wood work for every additional height of one metre or part thereof beyond 5 metres :		
	15.16.1 Of sectional area 40 square centimetres and above	cum per metre span	636.25
	15.16.2 Of sectional area below 40 square centimetres	metre per metre span	2.50
15.17	Dismantling steel work in single sections including dismembering and stacking within 50 metres lead in:		
	15.17.1 R.S. Joists	kg	2.45
	15.17.2 Channels, angles, tees and flats	kg	1.70

Code No.	Description	Unit	Rate ₹
15.18	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking within 50 metres lead.	kg	4.15
15.19	Dismantling steel work manually/ by mechanical means in built up sections without dismembering and stacking within 50 metres lead as per direction of Engineer-in-charge.	kg	2.75
15.20	Extra for dismantling trusses, rafters, purlins etc. of steel work for every additional span of one metre or part thereof beyond 10 metres	kg per metre span	0.60
15.21	Extra for dismantling trusses, rafters, purlins etc. of steel work for every additional height of one metre or part thereof beyond 5 metres.	kg per metre height	0.60
15.22	Extra for marking of structural steel work required to be re-erected.	kg	3.45
15.23	Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead.		
	15.23.1 For thickness of tiles 10 mm to 25 mm	sqm	54.85
	15.23.2 For thickness of tiles above 25 mm and up to 40 mm	sqm	85.70
15.24	Demolishing dry brick pitching in floors, drains etc. including stacking of serviceable material and disposal of unserviceable material within 50 metres lead :	cum	940.50
15.25	Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	sqm	190.30
15.26	Demolishing brick tile covering in terracing including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	sqm	79.60
15.27	Demolishing mud phaska in terracing and disposal of material within 50 metres lead.	cum	652.30
15.28	Dismantling roofing including ridges, hips, valleys and gutters etc., and stacking the material within 50 metres lead of:		
	15.28.1 G.S. Sheet	sqm	121.90
	15.28.2 Asbestos cement sheet	sqm	56.90
15.29	Dismantling stone slab roofing over wooden karries or R.C.C. battens (dismantling karries and battens to be paid for separately), including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	cum	1902.90
15.30	Dismantling jack arch roofing and floors including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	sqm	181.35
15.31	Dismantling tiled roofing with battens, boarding etc. complete including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	sqm	150.00
15.32	Demolishing thatch roofing including mats, bamboo, jaffari etc. complete including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	sqm	41.30

Code No.	Description	Unit	Rate ₹
15.33	Dismantling wooden ballies in posts and struts including stacking within 50metres lead.	metre	14.95
15.34	Dismantling and stacking within 50 metres lead, fencing posts or struts including all earth work and dismantling of concrete etc. in base of:		
15.34.1	T' or 'L' iron or pipe	each	170.25
15.34.2	R.C.C.	each	182.60
15.35	Cutting ballies or wooden posts of fencing at the point of projection above the concrete or ground and stacking the same within 50 metres lead.	each	11.15
15.36	Dismantling barbed wire or flexible wire rope in fencing including making rolls and stacking within 50 metres lead.	kg	26.25
15.37	Dismantling wooden trellis work excluding frames but including stacking the serviceable material within 50 metres lead.	sqm	47.15
15.38	Dismantling expanded metal or I.R.C. fabrics with necessary battens and beading including stacking the serviceable material within 50 metres lead.	sqm	55.00
15.39	Dismantling wooden boardings in lining of walls and partitions, excluding supporting members but including stacking within 50 metres lead :		
15.39.1	Up to 10 mm thick	sqm	44.90
15.39.2	Thickness above 10 mm up to 25 mm	sqm	57.30
15.39.3	Thickness above 25 mm up to 40 mm	sqm	66.55
15.40	Dismantling precast concrete or stone slabs in walls, partition walls etc. including stacking within 50 metres lead :		
15.40.1	Thickness up to 40 mm	sqm	208.40
15.40.2	Thickness above 40 mm up to 75 mm	sqm	312.25
15.41	Dismantling cement asbestos or other hard board ceiling or partition walls including stacking of serviceable materials and disposal of unserviceable materials within 50 metres lead.	sqm	42.00
15.42	Dismantling C.I. or asbestos rain water pipe with fittings and clamps including stacking the material within 50 metres lead :		
15.42.1	75 to 80 mm dia pipe	metre	54.00
15.42.2	100 mm dia pipe	metre	55.65
15.42.3	150 mm dia pipe	metre	57.30
15.43	Dismantling manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge :		
15.43.1	Water bound macadam road	sqm	156.00
15.43.2	bituminous road	sqm	306.65

Code No.	Description	Unit	Rate ₹
15.44	Dismantling G.I. pipes (external work) including excavation and refilling trenches after taking out the pipes, manually/ by mechanical means including stacking of pipes within 50 metres lead as per direction of Engineer-in-charge :		
	15.44.1 15 mm to 40 mm nominal bore	metre	108.15
	15.44.2 Above 40 mm nominal bore	metre	117.75
15.45	Dismantling C.I. pipes including excavation and refilling trenches after taking out the pipes, manually/ by mechanical means breaking lead caulked joints, melting of lead and making into blocks including stacking of pipes & lead at site within 50 metre lead as per direction of Engineer-in-charge:		
	15.45.1 Up to 150 mm diameter	metre	299.05
	15.45.2 Above 150 mm dia up to 300 mm dia	metre	395.10
	15.45.3 Above 300 mm diameter	metre	515.45
15.46	Dismantling steel cylinder R.C. pipes including excavation and refilling trenches after taking out the pipes, manually/ by mechanical means breaking lead caulked joints, melting of lead and making into blocks including stacking of pipes & lead at site within 50 metres lead as per direction of Engineer-in-charge :		
	15.46.1 Up to 600 mm diameter	metre	506.25
	15.46.2 Above 600 mm diameter	metre	1281.70
15.47	Dismantling asbestos cement pressure pipes including excavation and refilling trenches after taking out the pipes manually/ by mechanical means and stacking the pipes within 50 metres lead as per direction of Engineer-in-charge :		
	15.47.1 Up to 150 mm diameter	metre	236.90
	15.47.2 Above 150 mm diameter	metre	287.50
15.48	Taking out C.I. cover with frame from R.C.C. top slab of manholes of various sizes including demolishing of R.C.C. work manually/ by mechanical means and stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead as per direction of Engineer-in-charge.	each	500.40
15.49	Taking out C.I. cover with frame from R.C.C. top slab of inspection chambers of various sizes including demolishing of R.C.C. work manually/ by mechanical means and stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead as per direction of Engineer-in-charge.	each	292.25
15.50	Dismantling of R.C.C. spun vent shaft including excavating the cement concrete pit completely, taking out the shaft, refilling the excavated gap, stacking the useful materials near the site and disposal of unserviceable materials within 50 metres lead.	each	3353.90
15.51	Dismantling of road gully chamber of various sizes including C.I. grating with frame including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead including refilling the excavated gap.	each	686.70

Code No.	Description	Unit	Rate ₹
15.52	Dismantling of flushing cistern of all types (C.I./PVC/Vitrious China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.	each	668.15
15.53	Dismantling of C.I. sluice valve including stacking of useful materials within a lead of 50 metres		
	15.53.1 Up to 150 mm diameter	each	239.05
	15.53.2 Above 150 mm diameter	each	878.70
15.54	Dismantling of spindle fire hydrant including stacking of useful materials within 50 metres lead.	each	537.60
15.55	Dismantling of cement concrete platform along with curtain walls and base concrete etc. including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead :		
	15.55.1 120 x 120 cm (outside to outside)	each	787.70
	15.55.2 210 x 120 cm (outside to outside)	each	1208.25
	15.55.3 320 x 120 cm (outside to outside)	each	1710.20
15.56	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	sqm	39.00
15.57	Dismantling aluminium/ Gypsum partitions, doors, windows, fixed glazing and false ceiling including disposal of unserviceable material and stacking of serviceable material with in 50 meters lead as directed by Engineer-in-charge.	sqm	42.00
15.58	Demolishing R.C.C. work by mechanical means and stockpiling at designated locations and disposal of dismantled materials up to a lead of 1 kilometre, stacking serviceable and unserviceable material separately including cutting reinforcement bars.	cum	2130.00
15.59	Dismantling of flexible pavement (bituminous courses) by mechanical means and disposal of dismantled material up to a lead of 1 kilometre, as per direction of Engineer-in-charge.	cum	321.25
15.60	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	cum	138.85



**SUB HEAD : 16.0**

**ROAD WORK**

### BASIC RATES (SH: 16.0 ROAD WORK)

Code No.	Description	Unit	Rate ₹
0001	Hire charges of Coaltar Boiler 900 to 1400 litres	day	800.00
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	day	800.00
0003	Hire charges of Diesel Road Roller - 8 to 10 tonne	day	3000.00
0004	Production cost of concrete by batch mix plant	cum	350.00
0007	Hire charges of Coaltar Sprayer	day	300.00
0008	Hire charges of Barber green, drying, mixing and Asphalt Plant, with accessories, capacity 30/45 tonne	day	7700.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc.	cum	210.00
0012	Vibrator (Needle type 40 mm)	day	370.00
0013	Machine for rubbing of floors	day	300.00
0014	Front end loader capacity 1.00 cum	day	6000.00
0016	Mastic Cooker	day	750.00
0017	Hire and running charges of tipper	day	1700.00
0018	Hire and running charges of loader	day	5000.00
0021	Pin vibrator	day	325.00
0022	Surface Vibrator	day	400.00
0023	Hot Bitumen Mixer 0.5 cum i/c hand cart	day	3500.00
0029	Carriage of concrete by transit mixer	km/cum	30.00
0030	Generator 250 KVA	day	2500.00
0033	Paint applicator	day	750.00
0038	Tractor with ripper attachment	day	1200.00
0041	Joint cutting machine with 2-3 blades	day	800.00
0042	C.C .batch mix plant	day	10000.00
0043	Road sweeper	day	550.00
0045	Slip form paver with sensor	day	13000.00
0046	Water tanker 5000 litre	day	1200.00
0047	Concrete joint cutting machine	day	900.00
0048	Texturing machine	day	925.00
0049	Dozer D-80-A 12	hour	1500.00
0050	Motor Grader 3.35 metre blade	hour	2450.00
0051	Hydraulic Excavator of 1 cum bucket	hour	1000.00
0052	Front end loader 1 cum bucket capacity	hour	900.00
0053	Tipper-5 Cum	tonne/km	3.00
0054	Vibratory roller 8 to 10 tonne	hour	600.00
0055	Smooth Wheeled Roller 8 to 10 tonne	hour	300.00
0056	Tandem Road Roller	hour	1200.00

Code No.	Description	Unit	Rate ₹
0057	Water Tanker 5 to 6 KL capacity	hour	150.00
0058	Air compressor	hour	200.00
0059	Wet Mix Plant 60 TPH	hour	800.00
0060	Mechanical Broom Hydraulic	hour	360.00
0061	Emulsion Pressure Distributor of capacity 1750 sqm per hour	hour	800.00
0062	Hot mix Plant -120 TPH capacity	hour	15000.00
0063	Hot mix Plant 100 TPH Capacity	hour	13000.00
0064	Paver finisher Hydrostatic with sensor control 100 TPH	hour	1500.00
0065	Paver finisher Mechanical 100 TPH	hour	800.00
0066	Batching and Mixing Plant @ 75 cum per hour	hour	2400.00
0068	Concrete Paver finisher with 40 HP Motor and sensor	hour	3000.00
0069	Generator 250 KVA	hour	350.00
0070	Generator 100 KVA/125 KVA	hour	250.00
0071	Truck 5.5 cum/10 tonnes	tonne km	3.00
0075	Road sweeper (Mechanical Broom) @ 1250 sqm per hour	hour	350.00
0076	Drum Type HMP of 60-90 TPH capacity @ 75 tonne per hour actual output	hour	12000.00
0083	Hire charges of TATA 407 or equivalent for local shifting.	day	1200.00
0100	Bandhani	day	617.00
0101	Bhisti	day	617.00
0102	Blacksmith 1st class	day	738.00
0103	Blacksmith 2nd class	day	679.00
0113	Chowkidar	day	558.00
0114	Beldar	day	558.00
0115	Coolie	day	558.00
0116	Fitter (grade 1)	day	738.00
0123	Mason (brick layer) 1st class	day	738.00
0124	Mason (brick layer) 2nd class	day	679.00
0125	Mason (for plain stone work) 2nd class	day	679.00
0126	Mason (for ornamental stone work) 1st class	day	738.00
0128	Mate	day	617.00
0130	Mistry	day	738.00
0131	Painter	day	679.00
0138	Sprayer (for bitumen, tar etc.)	day	617.00
0139	Skilled Beldar (for floor rubbing etc.)	day	617.00
0155	Mason (average)	day	709.00
0157	Operator (Pile/ Special machine)	day	738.00
0286	Brick Aggregate (Single size) : 50 mm nominal size	cum	650.00
0287	Brick Aggregate (Single size) : 40 mm nominal size	cum	650.00

Code No.	Description	Unit	Rate ₹
0291	Stone Aggregate (Single size) : 63 mm nominal size	cum	1000.00
0292	Stone Aggregate (Single size) : 50 mm nominal size	cum	1000.00
0293	Stone Aggregate (Single size) : 40 mm nominal size	cum	1300.00
0294	Stone Aggregate (Single size) : 25 mm nominal size	cum	1350.00
0295	Stone Aggregate (Single size) : 20 mm nominal size	cum	1350.00
0296	Stone Aggregate (Single size) : 12.5 mm nominal size	cum	1350.00
0297	Stone Aggregate (Single size) : 10 mm nominal size	cum	1350.00
0298	Stone Aggregate (Single size) : 06 mm nominal size	cum	1400.00
0304	Bajri	cum	1000.00
0309	Paving bitumen of grade VG-10 of approved quality	tonne	25614.00
0310	Bitumen emulsion	tonne	30099.00
0312	Bitumen grade PMB - 40	tonne	32200.00
0313	Blown type petroleum bitumen of penetration 85/25 of approved quality	tonne	34000.00
0314	Bitumen hot sealing compound : grade A	kg	28.00
0316	Bitumen solution primer of approved quality	litre	45.00
0317	Premoulded joint filler 12 mm thick	sqm	360.00
0323	Separation Membrane of impermeable plastic sheeting 125 micron thick	sqm	12.00
0349	Curing compound	litre	38.00
0364	Wire brush	each	20.00
0365	Soft brush	each	20.00
0367	Portland Cement (OPC-43 Grade)	tonne	4940.00
0369	Plastic sheet, 1.25 mm thick for dowel bars	sqm	25.00
0370	Coal (steam)	quintal	440.00
0371	Sealant primer	kg	130.00
0374	Pre moulded Joint filler, 25 mm thick for expansion joint.	sqm	400.00
0588	Chromium plated Brass screws 25 mm	100 Nos	180.00
0773	Unslaked lime	quintal	300.00
0777	Dry hydrated lime (factory made)	quintal	290.00
0784	Marble dust/ powder	cum	1130.00
0810	Moorum	cum	500.00
0979	Royalty for good earth	cum	40.00
0982	Coarse sand (zone III)	cum	1350.00
0983	Fine sand (zone IV)	cum	900.00
1003	Mild steel round bar above 12 mm dia	quintal	4400.00
1005	Twisted steel/ deformed TMT bars Fe-500D	quintal	4600.00
1007	Structural steel such as tees, angles channels and R.S. joists	quintal	4600.00
1008	Flats up to 10 mm in thickness	quintal	4500.00

Code No.	Description	Unit	Rate ₹
1013	Mild steel sheets of 1.00 mm thickness for tanks	quintal	4600.00
1021	Hard drawn steel wire fabric 75 x 25 mm mesh of weight not less than 7.75 kg/sqm	sqm	430.00
1028	Straining bolts	each	80.00
1029	Galvanised steel barbed wire of 9.8 kg /100metre	quintal	5500.00
1030	Galvanised steel turn buckles	each	25.00
1151	Boundary stone top chisel dressed 15x15x90 cm	each	80.00
1158	Stone for pitching 15 cm x 22.5 cm	cum	600.00
1159	Stone dust	cum	1100.00
1179	Crushed stone 2.36 mm to 12.5 mm size	cum	900.00
1215	Welding by electric plant	cm	2.00
1235	Diesel	litre	73.50
1241	Commercial LPG in cylinder	kg	82.00
1980	Fly ash	cum	10.00
2200	Carriage of Steam coal	tonne	120.00
2201	Carriage of Bricks	1000 Nos	276.72
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	103.77
2203	Carriage of Coarse sand	cum	103.77
2205	Carriage of Steel	tonne	92.24
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	112.79
2208	Carriage of Lime	cum	103.77
2209	Carriage of Cement	tonne	92.24
2211	Carriage of Tar / Bitumen	tonne	103.77
2215	Carriage of Soling stone & masonry stone	cum	122.08
2216	Carriage of Stone blocks white & red sand stone & kota stone slab	tonne	92.24
2241	Carriage of Good earth	cum	129.71
2260	Carriage of Brick aggregate	cum	112.79
2261	Carriage of Fine sand	cum	103.77
2265	Carriage of Moorum	cum	103.77
2266	Carriage of Surkhi	cum	103.77
2267	Carriage of Stone dust	cum	103.77
2302	Carriage of G.I. sheet and accessories	tonne	92.24
2311	Carriage of Red bajri	cum	103.77
2314	Carriage of Barbed wire	tonne	92.24
2335	Carriage of sand	cum	103.77
2342	Carriage of Solvent / Diesel.	quintal	10.38
2602	Common burnt clay F.P.S. (non modular) bricks class designation	1000 Nos	4500.00
2704	Aluminium Strip 40 mm wide and 2 mm thick	kg	240.00
2901	Stone Aggregate (Single size): 100 mm nominal size	cum	1350.00

Code No.	Description	Unit	Rate ₹
2902	Stone Aggregate (Single size): 80 mm nominal size	cum	1350.00
2903	Stone chippings/ screenings 4.75 mm nominal size	cum	1400.00
2904	Stone chippings/ screenings 150 micron nominal size	cum	1400.00
2908	Over burnt (Jhama) Brick Aggregate: 120 mm to 40 mm size	cum	500.00
2909	Over burnt (Jhama) Brick Aggregate: 90 mm to 40 mm size	cum	480.00
2910	Stone chippings/ screenings 12.5/ 13.2 mm nominal size	cum	1150.00
2911	Stone chippings/ screenings 10/ 11.2 mm nominal size	cum	1150.00
2914	Solvent	kg	25.00
2916	Paving Asphalt VG 10 of approved quality	tonne	24000.00
5001	Mobil oil	litre	315.00
6501	Sand zone V (Jamuna)	cum	1225.00
7254	Hardening compound	litre	38.00
7255	Road marking paint (spirit based)	litre	115.00
7256	Superior quality road marking paint (water based)	litre	135.00
7280	Waste plastic additive	tonne	40000.00
7295	Granite of any colour, 18 mm thick (slab area upto 0.50 sqm)	sqm	1600.00
7296	Granite of any colour, 30 mm thick (slab area upto 0.50 sqm)	sqm	1800.00
7309	Paving Asphalt of grade VG-30 of approved quality	tonne	39570.00
7318	Plasticizer / super plasticizer	kg	36.00
7382	Bitumen emulsion rapid setting (R.S.) confirming to IS : 8887	tonne	19000.00
7426	Cat's eye	each	100.00
7739	Modified Bitumen Refinery produced CRMB - 55	tonne	29995.00
7741	Modified Bitumen Refinery produced CRMB - 60	tonne	30536.00
7742	Bitumen emulsion medium setting (M.S.) conforming to IS : 8887	tonne	27909.00
7753	Stone Boulder 50 mm to 200 mm	cum	850.00
7773	Coloured inter locking C.C. paver Block (60 mm thick, M-35)	sqm	450.00
7774	Stone size 10x10x7.50cm	each	10.00
7893	Tactile tile	sqm	1000.00
7895	Matt finished vitrified tile 100x100 x16 mm	sqm	1000.00
7896	Vitrified tile	sqm	500.00
8576	Powder coated Galvanized Iron intermediate cross-T section wire diameter 3.00 mm).	sqm	190.00
8577	Crates made of Mesh type 10x12 (D=100 mm) Zn+PVC coated. Mesh wire diameter 2.70/3.70 mm (ID/OD).	sqm	220.00
8578	Crates made of Mesh type 10x12 (D=100 mm) Zn+10% Al alloy + PVC coated. Mesh wire diameter 2.70/3.70 mm (ID/OD).	sqm	290.00
8685	Delineator	each	300.00
8686	Precast C.C. Kerb stone M - 25	cum	5500.00
8687	Thermoplastic paint	kg	65.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
8688	Glass beads	kg	70.00
8689	Interlocking C.C. paver block ( 60 mm thick, M-30)	sqm	400.00
8690	High intensity retro - reflective sheet as per IRC 67-2001	sqm	1300.00
8691	Punched tape concertina coil 600 mm dia 10 m openable length (Total length 90 m)	bundle	600.00
8692	RBT reinforced barbed wire	metre	6.50
8693	Turn buckle and strengthening bolt	each set	40.00
8694	Precast pavement slab 450 x 450 x 50 mm (M - 30)	each	135.00
8695	Chain link fabric fencing mesh of size 50x50 mm made of G.I. wire of dia 4 mm	sqm	280.00
8696	Chain link fabric fencing mesh of size 50x50 mm made of G.I. wire of dia 4 mm, PVC coated to outer dia 5 mm	sqm	300.00
8697	Chain link fabric fencing mesh of size 25x25 mm made of G.I. wire of dia 3 mm	sqm	360.00
8785	Interlocking C.C. paver block ( 80 mm thick, M-30)	sqm	470.00
9977	Carriage	L.S.	2.00
9999	Sundries	L.S.	2.00

## 16.0 ROAD WORK

Code No.	Description	Unit	Rate ₹
<b>ROADS</b>			
16.1	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth with lead upto 50 metres.	sqm	156.75
16.2	Extra for compaction of earth work in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (proctor density).	cum	18.20
16.3	Supplying and stacking at site.		
16.3.1	90 mm to 45 mm size stone aggregate	cum	1840.05
16.3.2	63 mm to 45 mm size stone aggregate	cum	1535.65
16.3.3	53 mm to 22.4 mm size stone aggregate	cum	1749.75
16.3.4	Over burnt (Jhama) brick aggregate 120 mm to 40 mm	cum	819.85
16.3.5	Over burnt (Jhama) brick aggregate 90 mm to 45 mm	cum	793.10
16.3.6	Stone screening 13.2 mm nominal size (Type A)	cum	1727.65
16.3.7	Stone screening 11.2 mm nominal size (Type B)	cum	1978.50
16.3.8	Red bajri	cum	1476.80
16.3.9	Good earth	cum	483.90
16.3.10	Moorum	cum	807.80
16.4	Laying, spreading and compacting stone aggregate of specified sizes to WBM specifications in uniform thickness, hand picking, rolling with 3 wheeled road/vibratory roller 8-10 tonne capacity in stages to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density .	cum	767.25
16.5	Laying water bound macadam sub-base with brick aggregate and binding material, earth etc. including screening, sorting and spreading to template and consolidation with light power road-roller etc. complete. (payment for brick aggregate and moorum etc. to be made separately)		
16.5.1	Over burnt (Jhama) brick aggregate 120 mm to 40 mm	cum	630.35
16.5.2	Over burnt (Jhama) brick aggregate 90 mm to 45 mm	cum	630.35
16.6	Supplying, stacking and Spreading 6 mm thick red bajri, watering and rolling complete including preparation of the surface and rolling.		
16.6.1	With road roller/ hand roller	sqm	19.90
16.7	Brick edging in full brick width and half brick depth including excavation, refilling and disposal of surplus earth lead upto 50 metres.		
16.7.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	167.80



Code No.	Description	Unit	Rate ₹
16.8	Brick edging laid lengthwise with half brick depth including excavation, refilling and disposal of surplus earth lead upto 50 metres :		
16.8.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	46.75
16.9	Scarifying metalled (water-bound) road surface including disposal of rubbish, lead upto 50 m and consolidation of the aggregate received from scarifying with power road roller of 8 to 10 tonne capacity.	sqm	24.55
16.10	Making bajri path including preparation of subgrade, supplying and laying brick aggregate of 50 mm nominal size 7.5 cm deep with blinding material consisting of 12 mm moorum and 12 mm red bajri consolidated with road roller.	sqm	172.45
16.11	Dry stone pitching 22.5 cm thick including supply of stones and preparing surface complete.	sqm	730.20
16.12	Dry brick pitching half brick thick in drains including supply of bricks and preparing the surface complete :		
16.12.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	sqm	568.70
16.13	Cutting road and making good the same including supply of extra quantities of materials i.e. aggregate, moorum screening, red bajri and labour required.		
16.13.1	bituminous portion	cum	3677.15
16.13.2	Water bound macadam	cum	2275.95
16.14	Cutting bajri paths and making good the same including supply of extra quantities of brick aggregate, moorum and red bajri required.	sqm	212.25
<b>FENCING</b>			
16.15	Supplying at site :		
16.15.1	R.C.C. Standards post/ struts/rails/ pales of mix 1:1.5:3 (1 cement : 1.5 coarsesand : 3 graded stone aggregate 12.5 mm nominal size) with wooden plugs or 6mm bar nibs wherever required as per direction of Engineer-in-charge (cost of earth works in excavation, concrete works in foundation to be paid separately).	cum	26754.35
16.15.2	Welded steel wire fabric of required width having rectangular mesh painted with two or more coats of enamel paint of approved shade over a coat of primer (Priming & Painting to be paid for separately).	kg	74.35
16.16	Supplying and fixing turn buckles and straining bolts for barbed wire fencing.	each set	238.65
16.17	Fencing with R.C.C. post placed at required distance, embedded in cement concrete blocks, every 15th post, last but one end post and corner post shall be strutted on both sides and end post one side only, provided with horizontal lines and two diagonals of barbed wire weighing 9.38 kg per 100 metres (minimum), between the two posts fitted and fixed with G.I. staples on wooden plugs or G.I. binding wire tied to 6 mm bar nibs fixed while casting the post (cost of R.C.C.		

Code No.	Description	Unit	Rate ₹
	posts, struts, earth work and concrete to be paid for separately) :- Payment to be made per metre cost of total length of barbed wire used.		
16.17.1	With G.I. barbed wire	metre	12.00
16.18	Fencing with angle iron post placed at required distance embedded in cement concrete blocks, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with horizontal lines and two diagonals interwoven with horizontal wires, of barbed wire weighing 9.38 kg per 100 m (minimum), between the two posts fitted and fixed with G.I. staples, turn buckles etc. complete. (Cost of posts, struts, earth work and concrete work to be paid for separately). Payment to be made per metre cost of total length of barbed wire used.		
16.18.1	With G.I. barbed wire	metre	19.05
16.19	Supplying at site Angle iron post & strut of required size including bottom to be split and bent at right angle in opposite direction for 10 cm length and drilling holes upto 10 mm dia. etc. complete.	kg	92.40
16.20	Welded steel wire fabric fencing with posts of specified material and of standard design placed and embedded in cement concrete blocks 45x45x 60 cm of mix 1:5:10 (1 cement:5 fine sand : 10 graded stone aggregate 40 mm nominal size), every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and struts embedded in cement concrete blocks 70x45x50 cm of the same mix, provided with welded steel wire fabric fixed between the posts fitted and fixed with G.I. staples on wooden plugs or tied to 6 mm bar nibs with G.I. binding wire (cost of posts, welded steel wire fabric, painting, earth work in excavation and concrete to be paid for separately).	sqm	51.00
<b>ROAD SIGNS</b>			
16.21	Engraving letters in hard stone	per cm height per letter	8.20
16.22	Providing and fixing 15x15x90 cm boundary stone of hard stone with top 30 cm chisel dressed on all four sides including top (cost of excavation, refilling and concrete etc. to be paid for separately).	each	207.75
16.23	Providing and fixing 15 cm dia at top, 20 cm at bottom and 90 cm high precast reinforced cement concrete 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size) boundary stone as per standard design, including finishing smooth with cement mortar 1:3 (1 cement : 3 fine sand) (cost of excavation, refilling and concreting to be paid for separately).	each	663.55
16.24	Providing and fixing precast reinforced cement concrete 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size) kilometre stone as per standard design, including finishing smooth in 1:3 cement mortar (1 cement : 3 fine sand) but excluding		

Code No.	Description	Unit	Rate ₹
	the cost of earth work, concrete in foundation, painting and lettering etc. which shall be paid for separately.		
16.24.1	35x111x25 cm size	each	2308.50
16.24.2	50x152.5x25 cm size	each	4211.25
16.24.3	35x93.5x18 cm size	each	1546.00
<b>SURFACE DRESSING</b>			
16.25	Surface dressing on new surface with paving bitumen of grade VG - 10 of approved quality using 2.25 kg of bitumen per sqm with 1.65 cum of stone chippings 13.2 mm nominal size per 100 sqm of road surface, including consolidation with road roller of 6 to 8 tonne capacity etc. complete:	sqm	167.25
16.26	Surface dressing on new surface in two coats with bitumen of grade VG -10 of approved quality using 1.8 kg of bitumen per sqm with 1.5 cum of stone chippings 13.2 mm nominal size per 100 sqm of road surface for first coat and 1.1 kg. of bitumen per sqm with 1.00 cu. metre of stone chippings 11.2 mm nominal size per 100 sqm of road surface for second coat, including consolidation of each coat separately with road roller of 6 to 8 tonne capacity etc. complete.	sqm	232.05
16.27	Surface dressing on old surface with hot bitumen of grade VG - 10 of approved quality using 1.95 kg of bitumen per sqm with 1.50 cum of stone chippings 11.2 mm nominal size per 100 sqm of road surface, including consolidation with road roller of 6 to 8 tonne capacity, etc. complete.	sqm	130.40
16.28	Surface dressing one coat on new surface with bitumen of specified grade at a rate of 1.95 kg/sqm of surface area with 1.5 cum of stone chippings 13.2 mm nominal size per 100 sqm of road surface, including consolidation with road roller of 6 to 8 tonne capacity , etc. complete :		
16.28.1	Using bitumen emulsion (minimum 50% bitumen content- RS grade conforming to IS : 8887)	sqm	157.95
16.29	Surface dressing one coat on old surface with bitumen of specified grade at the rate of 1.22 kg/ sqm of surface area with 1.10 cum of stone chippings 11.2 mm nominal size per 100 sqm of road surface, including consolidation with road roller of 6 to 8 tonne capacity etc. complete :		
16.29.1	Using bitumen emulsion (minimum 50% bitumen content- RS grade conforming to IS : 8887)	sqm	100.00
<b>PREMIX CARPET</b>			
16.30	Providing and applying tack coat using hot straight run bitumen of grade VG - 10, including heating the bitumen, spraying the bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning and preparing the existing road surface as per specifications :		
16.30.1	On W.B.M. @ 0.75 Kg / sqm	sqm	42.05
16.30.2	On bituminous surface @ 0.50 Kg / sqm	sqm	33.65

Code No.	Description	Unit	Rate ₹
16.31	Providing and applying tack coat using bitumen emulsion conforming to IS:8887, using emulsion pressure distributor including preparing the surface & cleaning with mechanical broom.		
16.31.1	With rapid setting bitumen emulsion		
16.31.1.1	On W.B.M / W.M.M. @ 0.4kg/sqm	sqm	11.85
16.31.1.2	On bituminous surface @ 0.25kg/sqm	sqm	8.05
16.31.2	With medium setting bitumen emulsion		
16.31.2.1	On W.B.M / W.M.M. @ 0.4kg/sqm	sqm	16.65
16.31.2.2	On bituminous surface @ 0.25kg/sqm	sqm	11.00
<b>Note - Use of Item No. 16.81.1 shall be restricted only per site at sub zero temperature or for emergency application</b>			
16.32	2 cm premix carpet surfacing with 1.8 cum and 0.90 cum of stone chippings of 13.2 mm size and 11.2 mm size respectively per 100 sqm and 52 kg and 56 kg of hot bitumen per cum of stone chippings of 13.2 mm and 11.2 mm size respectively, including a tack coat with hot straight run bitumen, including consolidation with road roller of 6 to 9 tonne capacity etc. complete (tack coat to be paid for separately).		
16.32.1	With paving Asphalt grade VG - 10 heated and then mixed with solvent at the rate of 70 grams per kg of asphalt	sqm	173.05
16.32.2	With paving Asphalt grade VG - 30 with no solvent	sqm	199.65
16.32.3	With Refinery Modified Bitumen CRMB 55 conforming to IRC: SP: 53	sqm	184.60
16.33	2.5 cm premix carpet surfacing with 2.25 cum and 1.12 cum of stone chippings of 13.2 mm and 11.2 mm size respectively per 100 sqm and 52 kg and 56 kg of hot bitumen per cum of stone chippings of 13.2 mm and 11.2 mm size respectively, including a tack coat with hot straight run bitumen, including consolidation with road roller of 6 to 9 tonne capacity etc. complete (tack coat to be paid for separately).		
16.33.1	With paving Asphalt grade VG - 10 heated and then mixed with solvent at the rate of 70 grams per kg of asphalt	sqm	207.75
16.33.2	With paving Asphalt grade VG - 30 with no solvent	sqm	241.00
16.33.3	With Refinery Modified Bitumen CRMB 55 conforming to IRC: SP: 53	sqm	222.20
16.34	2 cm premix carpet surfacing with 2.4 cum of stone chippings 11.2 mm nominal size per 100 sqm and bitumen emulsion (medium setting min. 65% bitumen content) complying with IS : 8887, using 96 kg per cum of chippings, including consolidation with road roller of 6 to 9 tonne capacity etc. complete.	sqm	164.25
16.35	2.5 cm premix carpet surfacing with 3 cum of stone chippings 10 mm nominal size per 100 sqm and bitumen emulsion (medium setting min. 65% bitumen contents) complying with IS : 8887, using 96 kg per cum of chippings of road surface, including consolidation with road roller etc complete .	sqm	198.35

Code No.	Description	Unit	Rate ₹
16.36	Providing and laying Bitumen Penetration Macadam with hard stone aggregate of quality, size and grading as specified, with bitumen of suitable penetration grade, including required key aggregate as specified, spreading coarse aggregate with the help of self propelled/ tipper tail mounted aggregate spreader and applying bitumen by a pressure distributor and then spreading key aggregate with the help of aggregate spreader complete, including consolidation with road roller of minimum 8 to 10 tonne capacity to achieve specified values of compaction and surface accuracy :		
16.36.1	For 50mm compacted thickness using coarse aggregate of size 50-20 mm graded @ 0.60 cum per 10 sqm key aggregate of size 12.5 mm graded @ 0.15 cum per 10 sqm. With paving asphalt grade VG - 10 @ 50 kg/ 10 sqm.	sqm	390.15
16.36.2	For 75 mm compacted thickness in two layers using stone aggregate of size 63-41 mm graded @ 0.90 cum per 10 sqm key aggregate of size 20.0 mm graded @ 0.18 cum per 10 sqm. With paving asphalt grade VG - 10 @ 68 kg/ 10 sqm.	sqm	572.35
16.37	Providing and laying bitumen mastic wearing course (as per specifications) with industrial bitumen of grade 85/25 conforming to IS : 702, prepared by using mastic cooker and laid to required level and slope, including providing antiskid surface with bitumen precoated fine grained hard stone chipping of approved size at the rate of 0.005 cum per 10 sqm and at approximate spacing of 10 cm centre to centre in both directions, pressed into surface protruding 1 mm to 4 mm over mastic surface, including cleaning the surface, removal of debris etc. all complete. (Considering bitumen using 10.2% as per MORTH specification).		
16.37.1	25 mm thick	sqm	671.85
16.37.2	40 mm thick	sqm	1074.95
16.38	2.5 cm thick bitumastic sheet with hot bitumen of approved quality, using stone chippings (60% with 12.5 mm nominal size and 40% with 10 mm nominal size) @ 1.65 cum per 100 sqm and coarse sand @ 1.65 cum per 100 sqm of road surface and with bitumen @ 56 kg/cum of stone chippings and @ 128 kg/cum of sand over a tack coat with hot straight run bitumen, including consolidation with road roller of 8 to 10 tonne etc. complete. (tack coat to be paid separately) :		
16.38.1	With paving Asphalt grade VG - 10 heated and then mixed with solvent at the rate of 70 grams per kg of asphalt	sqm	261.45
16.38.2	With paving Asphalt grade VG - 30	sqm	317.45
16.38.3	With Refinery Modified Bitumen CRMB 55 conforming to IRC: SP : 53	sqm	285.75
16.39	4 cm thick bitumastic sheet with hot bitumen of approved quality, using stone chippings (60% with 12.5 mm nominal size and 40% with 10 mm nominal size) @ 2.60 cum per 100 sqm and coarse sand @ 2.60 cum per 100 sqm of road surface and with bitumen @		

Code No.	Description	Unit	Rate ₹
	56 kg/cum of stone chippings and @ 128 kg/cum of sand over a tack coat with hot straight run bitumen, including consolidation with road roller of 8 to 10 tonne etc. complete. (tack coat to be paid separately) :		
16.39.1	With paving Asphalt grade VG - 10 heated and then mixed with solvent at the rate of 70 grams per kg of asphalt	sqm	393.00
16.39.2	With paving asphalt grade VG - 30 with no solvent	sqm	481.55
16.39.3	With Refinery Modified Bitumen CRMB 55 conforming to IRC: SP : 53	sqm	431.45
<b>SEAL COAT</b>			
16.40	Providing and laying seal coat of premixed fine aggregate ( passing 2.36 mm and retained on 180 micron sieve) with bitumen using 128 kg of bitumen of grade VG - 10 bitumen per cum of fine aggregate and 0.60 cum of fine aggregate per 100 sqm of road surface, including rolling and finishing with road roller all complete.	sqm	73.70
16.41	Providing and laying seal coat over prepared surface of road with bitumen heated in bitumen boiler fitted with the spray set spraying using 98 kg of bitumen of grade VG - 10 and blinding surface with 0.90 cum of stone aggregate of 6.7 mm size (Passing 11.2 mm sieve and retained on 2.36 mm sieve) per 100 sqm of road surface, including rolling and finishing with power road roller all complete.	sqm	99.15
<b>Note:</b> Seal coat items to be operated only with the prior approval of chief Engineer concerned.			
<b>CONCRETE PAVEMENTS</b>			
16.42	Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 40 mm nominal size) in pavements, laid to required slope and camber in panels as required including consolidation finishing and tamping complete.	cum	6840.85
16.43	Providing and laying design mix cement concrete of M-30 grade, in roads/ taxi tracks/ runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 40 mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/ camber, finishing with required texture, including steel form work with sturdy M.S. channel sections, curing, making provision for contraction/ expansion, construction & longitudinal joints (10 mm wide x 50 mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer-in-charge (Item of joint fillers, sealants, dowel bars with sleeve/ tie bars to be paid separately).		
<b>Note:-</b> Cement content considered in M-30 is @ 340 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately.			
16.43.1	Cement concrete prepared with batch mixing machine	cum	8752.35
16.43.2	Cement concrete manufactured in automatic batching plant (RMC plant) i/c transportation to site in transit mixer	cum	9153.75



<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
16.44	Extra for providing and mixing hardening compound of approved quality as per manufacturer's specification in cement concrete.	litre	50.85
16.45	Providing and fixing in position pre-moulded joint filler in expansion joints.	per cm depth per cm width per metre length	3.10
16.46	Providing and laying in position bitumen hot sealing compound for expansion joints etc.		
16.46.1	Using grade 'A' sealing compound.	per cm depth per cm width per metre length	3.30
<b>PAINTING AREA/RUNWAY MARKING</b>			
16.47	Painting runway/taxi track/apron marking with adequate nos of coats to give uniform finish with road marking paint of superior make as approved by the Engineer-in-charge, i/c cleaning the surface of ail dirt, scales, oil, grease and other foreign material etc. and lining out complete.		
16.47.1	New work (Two or more coats)	sqm	150.85
16.47.2	Old work (One or more coats)	sqm	96.40
16.48	Painting road surface marking with adequate nos of coats to give uniform finish with ready mixed road marking paint conforming to IS : 164, on bituminous surface in white/yellow shade, including cleaning the surface of all dirt, scales, oil, grease and foreign material etc. complete.		
16.48.1	New work (Two or more coats)	sqm	215.95
16.48.2	Old work (One or more coats)	sqm	141.70
<b>MISCELLANEOUS</b>			
16.49	Making bell mouth opening/ entrance of size 100x50x50 cm for drainage pipe under footpath, including providing cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) for shape of bell mouth, including plastering providing and fixing precast R.C.C./ S.F.R.C. slab including plastering with cement mortar 1:3 (1 cement : 3 fine sand) of 6 mm thickness on exposed surface of the slab & bell mouth including centring, shuttering & neat cement punning inside the bell mouth etc. all complete.	each	2481.60
16.50	Providing and fixing Glow studs of size 100x20 mm made of heavy duty body shall be moulded ASA (Acrylic styrene Acryloretrite ) or HIP (High impact polystyrene) or ABS having electronically welded micro- prismatic lens with abrasion resistant coating as approved by Engineer in charge. The glow stud shall support a load of 13635 kg tested in accordance with ASTM D4280. The slope of retro- reflective surface shall be 35 (+/-5) degress to base .The reflective panels on both sides with at least 12 cm of reflective area up each side. The luminance intensity should be as per the specification and shall be tested as described in ASTM I: 809 as recommended in BS: 873		

Code No.	Description	Unit	Rate ₹
	part 4 : 1973. The studs shall be fixed to the Road surface using the adhesive conforming to IS, as per procedure recommended by the manufacturer complete and as per direction of Engineer-in-charge.	each	196.40
16.51	Preparation of sub-base road pavement with commercial dry lime (slaked), fly ash stabilised soil with a mix of 3% lime, 12% fly ash and 85% local suitable soil by weight, so as to achieve minimum field C.B.R. of 20, including mixing, rolling with road roller curing etc. all complete.		
	16.51.1 Minimum thickness 15 cm	cum	1111.05
16.52	Providing and fixing precast lime fly ash concrete blocks 1:2:3:6 (1 lime: 2 fly ash : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size), including finishing with 10mm thick cement mortar 1:3 (1 cement : 3 coarse sand) in foot paths, including preparation of sub grade with a hand rammer, laying 10 mm thick leveling course of fine sand (jamuna sand) and filling the joints with fine sand.	cum	10802.45
16.53	Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia 10 metre openable length ( total length 90 m), having 50 nos rounds per 6 metre length, upto 3 m height of wall with existing angle iron 'Y' shaped placed 2.4m or 3.00 m apart and with 9 horizontal R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron, all complete as per direction of Engineer-in-charge, with reinforced barbed tape(R.B.T.) / Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (cost of M.S. angle, C.C. blocks shall be paid separately)	metre	290.80
16.54	Providing and laying Dense Graded Bituminous Macadam using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers as per specifications to achieve the desired compaction and density, complete as per specificatons and directions of Engineer-in-Charge.		
	16.54.1 50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	10064.25
	16.54.2 50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	9981.90
16.55	Providing and laying bituminous macadam using crushed stone aggregates of specified grading premixed with bituminous binder, transported to site by tippers, laid over a previously prepared surface with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers as per specifications to achieve the desired compaction and density, complete as per specificatons and directions of Engineer-in-Charge.		



Code No.	Description	Unit	Rate ₹
16.55.1	50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 3.50% (percentage by weight of total mix) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	7743.55
16.55.2	50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 3.50% (percentage by weight of total mix) prepared in Drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	7665.25
16.56	Providing and laying semi-dense Bituminous concrete using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction and density as per specification, complete and as per directions of Engineer-in-Charge.		
16.56.1	25 mm compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	sqm	250.75
16.56.2	25 mm compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Drum Type Hot Mix Plant of 60-90 TPH capacity.	sqm	248.70
16.57	Providing and laying Bituminous concrete using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction and density as per specification, complete and as per directions of Engineer-in-Charge.		
16.57.1	40/50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	10944.65
16.57.2	40/50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) and waste plastic additive @ 8% (percentage by weight of bitumen) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	11499.40
16.57.3	40/50 mm compacted thickness with bitumen of grade PMB-40 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	9666.90

Code No.	Description	Unit	Rate ₹
16.57.4	40/50 mm compacted thickness with bitumen of grade CRMB-60 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	9378.40
16.57.5	40/50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	10860.60
16.57.6	40/50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) and waste plastic additive @ 8% (percentage by weight of bitumen) prepared in drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	11415.35
16.57.7	40/50 mm compacted thickness with bitumen of grade PMB-40 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	9582.85
16.57.8	40/50 mm compacted thickness with bitumen of grade CRMB-60 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in Drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	9294.35
16.59	Manufacturing, supplying and fixing retro reflective sign boards made up of 2 mm thick aluminium sheet, face to be fully covered with high intensity encapsulated type heat activated retro reflective sheeting conforming to type - IV of ASTM-D 4956-01 in blue and silver white or other colour combination including subject matter, message (bi-lingual), symbols and borders etc. as per IRC ; 67:2001, pasted on substrate by an adhesive backing which shall be activated by applying heat and pressure conforming to class -2 of ASTM-D-4956-01 and fixing the same with suitable sized aluminium alloy rivets @ 20 cm c/c to back support frame of M.S. angle iron of size 25x25x3 mm along with theft resistant measures, mounted and fixed with 2 Nos. M.S. angles of size 35x35x5 mm to a vertical post made up to M.S. Tee section ISMT 50x50x6 mm welded with base plate of size 100x100x5 mm at the bottom end and including making holes in pipes, angles flats, providing & fixing M.S. message plate of required size, steel work to be painted with two or more coats of synthetic enamel paint of required shade and of approved brand & manufacture over priming coat of zinc		

Code No.	Description	Unit	Rate ₹
	chromate yellow primer (vertical MS-Tee support to be painted in black and white colours).Backside of aluminium sheet to be painted with two or more coats of epoxy paint over and including appropriate priming coat including all leads and lifts etc. complete as per drawing, specification and direction of Engineer-in-charge.		
16.59.1	Mandatory/ Regulatory sign boards of 900 mm diametre with support length of 3750 mm	each	5996.95
16.59.2	Cautionary /warning sign boards of equilateral triangular shape having each side of 900 mm with support length of 3650 mm	each	4533.85
16.60	Manufacturing, supplying and fixing retro reflective overhead signage boards made up of 2 mm thick aluminium sheet, face to be fully covered with high intensity and encapsulated lens type heat activated retro reflective sheeting conforming to type - III of ASTM-D-4956-01 as approved by Engineer-in-charge, letters, borders etc. as per IRC : 67-2001 in silver white with blue colour back ground and with high intensity grade, pasted on substrate by pressure sensitive adhesive backing which shall be activated by applying pressure conforming to class II of ASTM-D-4956-01 and fixing the same to the plate of structural frame work by means of suitable sized aluminium alloys, rivets or bolts & nuts @ 300 mm centre to centre all along the periphery as well as in two vertical rows along with theft resistant measures, including the cost of painting with two or more coats of epoxy paint in grey colour on the back side of aluminium sheet including appropriate priming coat. The rate includes the cost of rounding off the corners, lowering down the structural frame work from the gantry, fixing and erecting the same in position all complete as per drawings, specification and direction of the engineer-in-charge.(Structural frame work including M.S. plate to be provided separately. Rectangular area of the sheet only shall be measured for payment).		
16.60.1	Overhead informatory road signage	sqm	5284.45
16.61	Providing Retro-reflective regulatory sign board of size 900 mm dia meter made out of 2 mm thick aluminium sheet, face to be fully covered with high intensity encapsulated lens type retro -reflective sheeting as approved by Engineer-in-charge . Letter, symbols, borders etc. will be as per IRC - 67 with required colour scheme on the boards and with the high intensity grade A. The aluminium sheet to be riveted to M.S. frame of angle iron of size 40x40x4 mm. The boards will be fixed to 1 No. 50x50 mm square post made of M.S. angle 50x50x4 mm, 4 m long welded to the frame with adequate anti-theft arrangement .Sheet work to be painted with two or more coats of synthetic enamel paint over an under coat (primer) and back side of aluminium sheet to be painted with two or more coats of epoxy paint including appropriate priming coat complete in all respects as per direction of Engineer-in-charge.	each	6729.90
16.62	Providing and applying 2.5 mm thick road marking strips (retro-reflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted		

Code No.	Description	Unit	Rate ₹
	with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications.	sqm	607.30
16.63	Providing, laying and making kerb channel 30 cm wide and 50 mm thick with cement concrete 1:3:6 (1 cement: 3 coarse sand:6 graded stone aggregate 20 mm nominal size) over 75mm bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including finishing the top smooth etc. complete and as per direction of Engineer-in-charge.	sqm	483.00
16.64	Providing and laying 75 mm thick compacted bed of dry brick aggregate of 40 mm thick nominal size including spreading, well ramming, consolidating and grouting with jamuna sand, including finishing smooth etc. complete as per direction of Engineer-in-charge.	sqm	176.70
16.65	Providing and fixing post delineators made of ABS round body fitted with 2 nos 100 mm dia high reflective reflectors and mounted on MS pipe of 65 mm dia duly powder coated anti-rust and anti theft steel to be installed as per direction of Engineer-in-charge.	each	714.45
16.66	Excavating holes upto 0.10 cum, including getting out the excavated soil, then returning the soil as deported in layers not exceeding 20 cm in depth, including consolidating and deposited layer by ramming watering etc., disposing of surplus excavated soil as directed with in a lead of 50 mm and lift upto 1.5 m.		
	16.66.1 All kind of soil	each	26.45
16.67	Providing and fixing at or near ground level factory made RCC pavement slab of M-30 grade of size 450x450x50 mm, including reinforcement with 6 mm dia M.S. bars 4 nos on each side, including setting in position in footpath to the required level and line over a bed of 20 mm average thick cement mortar 1:5 (1 cement : 5 coarse sand), having joint thickness not more than 5mm except on curve, including filling of joints with same cement mortar and making grooves etc. complete as per direction of Engineer-in-charge.	sqm	1264.65
16.68	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	sqm	859.35
16.69	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	cum	8376.15

Code No.	Description	Unit	Rate ₹
16.70	Providing and fixing G.I. chain link fabric fencing of required width in mesh size 50x50 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge.		
16.70.1	Made of G.I. wire of dia 4 mm	sqm	797.20
16.70.2	Made of G.I. wire of dia. 4 mm, PVC coated to achieve outer dia not less than 5 mm in required colour and shade	sqm	825.30
16.71	Providing and fixing G.I. chain link fabric fencing of required width in mesh size 25x25 mm made of G.I. wire of dia 3 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge.	sqm	909.60
16.72	Supplying and stacking of hard stone (for stone pitching) 22.5 cm thick at site.	cum	966.10
16.73	Dry stone pitching 22.5 cm thick laid in courses and required profile with hammer dressed stones having no side less than 15 cm, with minimum depth of 20 cm including preparing the bedding surface etc. all complete. (Payment for Stone to be made separately).	sqm	487.25
16.74	75 mm thick back filling for pitching including supplying of required materials and consolidation etc. complete with :		
16.74.1	Moorum	sqm	73.90
16.74.2	Stone aggregate 20 mm nominal size	sqm	162.25
16.74.3	Stone aggregate 40 mm nominal size	sqm	158.15
16.75	Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator , vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (The panel shuttering work shall be paid for separately).  (Note:- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately).	cum	8663.05
16.76	Deduct for using of M-20 grade concrete instead of M-25 grade concrete in C.C. pavement.	cum	188.30
16.77	Scarifying the existing bituminous road surface to a depth of 50 mm and disposal of scarified material within all lifts and lead upto 1km (by mechanical means).	sqm	4.75
16.78	Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.		
16.78.1	With material conforming to Grade-I (size range 75 mm to 0.075 mm) having CBR Value-30	cum	2517.70

Code No.	Description	Unit	Rate ₹
16.78.2	With material conforming to Grade-II (size range 53 mm to 0.075 mm ) having CBR Value-25	cum	2637.30
16.78.3	With material conforming to Grade-III (size range 26.5 mm to 0.075 mm ) having CBR Value-20	cum	2474.60
16.79	Providing, laying, spreading and compacting graded stone aggregate (size range 53 mm to 0.075 mm ) to wet mix macadam (WMM) specification including premixing the material with water at OMC in for all leads & lifts, laying in uniform layers with mechanical paverfinisher in sub- base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	cum	2641.40
16.80	Construction of dry lean cement concrete sub base over a prepared sub-grade with coarse and fine aggregate conforming to IS:383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specifications, cement content not to be less than 150 Kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, for all leads & lifts, laid with a mechanical paver, compacting with 8-10 tonne vibratory roller, finishing and curing etc. complete as per direction of Engineer-in-charge.	cum	3881.85
16.81	Providing and erecting 2.00 metre high temporary barricading at site; <b>each panel of size 2.50mx2.00m made of 40x40x6mm angle iron or 50x50x3mm hollow MS tube posts/horizontal members/ bracings covered with 1.63mm thick MS sheet. The sheet shall be fixed with 30x5mm MS flat by suitable welding/riveting. The panels shall be made so that gap of 50cm above the ground is available making overall height as 2.5m. MS channel ISLC 75 @ 5.70 kg/m, 50cm long shall be provided at the bottom having oval shaped holes of size 50x25mm at both ends with 50cm long MS angle 40x40x6mm bracing. Suitable arrangement shall be made to fix the barricading to avoid from overturning by providing 250mm long expansion fasteners at both ends. The work shall be executed</b> as per drawing/direction of Engineer-in-Charge which includes writing and painting, arrangement for traffic diversion such as traffic signals during construction at site for day and night, glow lamps, reflective signs, marking, flags, caution tape as directed by the Engineer-in-Charge. The barricading provided shall be retained in position at site continuously i/c shifting of barricading from one location to another location as many times as required during the execution of the entire work till its completion. Rate include its maintenance for damages, painting, all incidentals, labour materials, equipments and works required to execute the job. The barricading shall not be removed without prior approval of Engineer-in-Charge.  <b>(Note :-</b> One time payment shall be made for providing barricading from start of work till completion of work i/c shifting. The barricading provided shall remain to be the property of the contractor on completion of the work).	metre	2566.70



Code No.	Description	Unit	Rate ₹
16.82	Taking out existing kerb stones of all types from footpath/ central verge, including removal of mortar etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.	metre	28.05
16.83	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.	sqm	94.05
16.84	Laying old cement concrete interlocking paver blocks of any design/ shape laid in required line, level, curvature, colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (Old CC paver blocks shall be supplied by the department free of cost).	sqm	324.20
16.85	Laying at or near ground level old kerb stones of all types in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement : 3 coarse sand), including making joints with or without grooves (thickness of joints, except at sharp curve, shall not be more than 5 mm), including making drainage opening wherever required etc. complete as per direction of Engineer-in-charge. (Length of finished kerb edging shall be measured for payment). (Old kerb stones shall be supplied by the department free of cost)	metre	82.95
16.86	Providing and laying gang saw cut 18 mm thick, mirror polished pre moulded and pre polished machine cut granite stone of required size and shape of approved shade, colour and texture in footpath, flooring cut granite stone of required size and shape of approved shade, colour and texture in footpath, flooring in road side plazas and similar locations, laid over 20mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement mixed with matching pigment, epoxy touch ups etc. complete as per direction of Engineer-in-Charge.		
	16.86.1 With granite stone of area less than 0.50 sqm.	sqm	3725.90
16.87	Providing and laying gang saw cut 30 mm thick, mirror polished pre moulded and pre polished machine cut granite stone of required size and shape of approved shade, colour and texture in footpath, flooring in road side plazas and similar locations, laid over 20mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement mixed with matching pigment, epoxy touch ups etc. complete as per direction of Engineer-in-Charge.		
	16.87.1 With granite stone of area less than 0.50 sqm.	sqm	4006.85
16.88	Providing and laying matt finished vitrified tile of size 100x100x16mm having water absorption less than 0.5% and conforming to IS: 15622 of approved make in all colours and shades in out door floors such as footpath, court yard multi models etc., laid on 20mm thick base of cement mortar 1:4 (1cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as direction of Engineer-in-Charge.	sqm	1933.75

Code No.	Description	Unit	Rate ₹
16.89	Providing and laying matt finished vitrified tile of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS: 15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-Charge.	sqm	1264.80
16.90	Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS:15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-Charge.	sqm	1933.75
16.91	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.		
16.91.1	60mm thick cement concrete paver block of M-35 grade with approved colour, design & pattern.	sqm	884.75
16.91.2	80 mm thick C.C. paver block of M-30 grade with approved color design and pattern.	sqm	953.00
16.92	Providing and fixing 10x10x7.50 cm Granite stone block hand cut and chisel dressed on top, for paving in floors, drains etc. laid over 20mm thick base mortar 1:4 (1 cement : 4 coarse sand) with joints 10mm wide filled with same mortar including ruled pointing etc. complete as per direction of engineer-in-charge.	sqm	1897.95
16.93	Providing and placing in position 100 mm thick factory made machine batched & machine mixed Precast RCC Rectangular Covers on drains of footpath of various sizes, of M-25 grade cement concrete for RCC work, including cost of centering, shuttering, reinforcement of 8 mm dia TMT bars of Fe 500 grade @ maximum 100mm c/c on both ways , neat cement punning on finished surface, properly encased on all edges with 1.6 mm thick , 100 mm wide MS sheet duly painted over priming coat , reinforcement to be welded at edges with MS sheet and providing 2 Nos. 12 mm dia bar for hooks etc i/c cost of cartage, all leads & lift, handling at site etc. all complete as per direction of Engineer-in-Charge.	sqm	2525.35
16.94	Providing & making Gabion structure with Mechanically Woven Double Twisted Hexagonal Shaped Wire mesh Gabion Boxes as per IS 16014:2012, MORTH Clause 2500, of required size, Mesh Type 10x12		



Code No.	Description	Unit	Rate ₹
	(D=100 mm with tolerance of $\pm 2\%$ ) Zinc coated, Mesh wire diameter 3.0 mm, mechanically edged/selvedged with partitions at every 1m interval and shall have minimum 10 numbers of openings per meter of mesh perpendicular to twist, tying with lacing wire of diameter 2.2mm, supplied @ 3% by weight of Gabion boxes, filled with boulders with least dimension of 200 mm, as per drawing, all complete as per direction of Engineer-in-charge.	cum	3363.70
16.95	Providing & making Gabion structure with Mechanically Woven Double Twisted Hexagonal Shaped Wire mesh Gabion Boxes as per IS 16014:2012, MORTH Clause 2500, of required size, Mesh Type 10x12(D=100 mm with tolerance of $\pm 2\%$ ) Zinc+PVC coated, Mesh wire diameter 2.7/3.7mm, mechanically edged/selvedged with partitions at every 1m interval and shall have minimum 10 numbers of openings per meter of mesh perpendicular to twist, tying with lacing wire of diameter 2.2/3.2mm(ID/OD), supplied @3% by weight of Gabion boxes, filled with boulders with least dimension of 200 mm, as per drawing, all complete as per directions of Engineer-in-charge.	cum	3584.45
16.96	Providing & making Gabion structure with Mechanically Woven Double Twisted Hexagonal Shaped Wire mesh Gabion Boxes as per IS 16014:2012, MORTH Clause 2500, of required size, Mesh Type 10x12(D=100 mm with tolerance of $\pm 2\%$ ), Zinc+10% Al alloy+PVC coated, Mesh wire diameter 2.7/3.7mm (ID/OD), mechanically edged/selvedged with partitions at every 1m interval and shall have minimum 10 numbers of openings per meter of mesh perpendicular to twist, tying with lacing wire of diameter 2.2/3.2mm(ID/OD), supplied @3% by weight of Gabion boxes, filled with boulders with least dimension of 200 mm, as per drawing, all complete as per directions of Engineer-in-charge.	cum	4099.55

**SUB HEAD : 17.0**

**SANITARY INSTALLATIONS**

## BASIC RATES (17.0 SANITARY INSTALLATIONS)

Code No.	Description	Unit	Rate ₹
0100	Bandhani	day	617.00
0101	Bhisti	day	617.00
0103	Blacksmith 2nd class	day	679.00
0112	Carpenter 2nd class	day	679.00
0114	Beldar	day	558.00
0115	Coolie	day	558.00
0116	Fitter (grade 1)	day	738.00
0117	Assistant Fitter or 2nd class Fitter	day	679.00
0123	Mason (brick layer) 1st class	day	738.00
0124	Mason (brick layer) 2nd class	day	679.00
0128	Mate	day	617.00
0131	Painter	day	679.00
0295	Stone Aggregate (Single size) : 20 mm nominal size	cum	1350.00
0297	Stone Aggregate (Single size) : 10 mm nominal size	cum	1350.00
0367	Portland Cement (OPC-43 Grade)	tonne	4940.00
0586	Chromium plated Brass screws 40 mm	100 Nos	290.00
0588	Chromium plated Brass screws 25 mm	100 Nos	180.00
0828	Anticorrosive bituminous paint (black)	litre	100.00
0830	Enamel paint	litre	165.00
0834	Synthetic enamel paint in all shades except black or chocolate shade	litre	160.00
0982	Coarse sand (zone III)	cum	1350.00
1007	Structural steel such as tees, angles channels and R.S. joists	quintal	4600.00
1309	C.I. bracket for wash basin and sinks	pair	88.00
1313	8 mm dia C.P. Brass/ S.S. Jet with flexible tube upto 1 metre long with S.S. triangular plate for European type W.C.	each	200.00
1315	C.P.brass chain with 40 mm dia rubber plug	each	40.00
1330	Clamps and M.S. stays including bolts and nuts for 100 mm pipe	each	67.50
1331	M.S. Holder bat clamp of approved design for 100 mm S.C.I. pipe	each	30.00
1332	M.S. Holder bat clamp of approved design for 75 mm S.C.I. pipe	each	27.00
1334	Clamps and M.S. stays including bolts and nuts for 50 mm pipe	each	35.00
1335	Clamps and M.S. stays including bolts and nuts for 75 mm pipe	each	37.00
1350	Mosquito proof coupling of approved design	each	30.00
1363	Vitreous china foot rests 250x130x30 mm	pair	100.00
1369	S.C.I. gully or nahani grating 100 mm dia	each	25.00
1373	Rubber insertions for 75 mm dia pipe joints	each	16.00

Code No.	Description	Unit	Rate ₹
1374	Rubber insertions for 100 mm dia pipe joints	each	18.00
1392	Mirror of superior make glass 60x45 cm	each	400.00
1396	Vitreous china pedestal for wash basin	each	900.00
1397	Pig lead	kg	176.00
1532	Flush pipe with union spreaders and clamps all in C.P. brass for single stall	each	270.00
1533	Flush pipe with union spreaders and clamps all in C.P. brass for double stall	each	400.00
1534	Flush pipe with union spreaders and clamps all in C.P. brass for range of three stall	each	520.00
1535	Flush pipe with union spreaders and clamps all in C.P. brass for range of four stall	each	600.00
1540	Flush pipe and spreaders G.I. for single set of one squatting plate urinal	each	175.00
1541	Flush pipe and spreaders G.I. for range of two squatting plates urinal	each	250.00
1542	Flush pipe and spreaders G.I. for range of three squatting plates urinal	each	300.00
1543	Flush pipe and spreaders G.I. for range of four squatting plates urinal	each	390.00
1614	G.I. inlet connection	each	60.00
1616	S.C.I. soil, waste and vent single socketed pipe 1.80 metres long: 75 mm dia	each	1050.00
1617	S.C.I. soil, waste and vent single socketed pipe 1.80 metres long: 100 mm dia	each	1135.00
1620	S.C.I. plain bend 75 mm dia	each	210.00
1621	S.C.I. plain bend 100 mm dia	each	258.00
1624	S.C.I. bend with access door 75 mm dia	each	240.00
1625	S.C.I. bend with access door 100 mm dia	each	300.00
1627	S.C.I. plain single equal junctions 75x75x75 mm dia	each	278.00
1628	S.C.I. plain single equal junctions 100x100x100 mm dia	each	360.00
1630	S.C.I. single equal junctions 75x75x75 mm dia with access door	each	320.00
1631	S.C.I. single equal junctions 100x100x100 mm dia with access door	each	405.00
1633	S.C.I. plain double equal junctions 75x75x75x75 mm dia	each	382.00
1634	S.C.I. plain double equal junctions 100x100x100x100 mm dia	each	590.00
1636	S.C.I. double equal junctions 75x75x75x75 mm dia with access door	each	500.00
1637	S.C.I. double equal junctions 100x100x100x100 mm dia with access door	each	715.00
1639	Slotted cowl (terminal guard) 75 mm dia	each	191.00

Code No.	Description	Unit	Rate ₹
1640	Slotted cowl (terminal guard) 100 mm dia	each	239.00
1653	Sand cast iron S&S plain single unequal junctions: 100x100x75 mm dia	each	494.00
1656	Sand cast iron S&S single unequal junctions: 100x100x75 mm dia with access door	each	550.00
1659	Sand cast iron S&S plain double unequal junctions: 100x100x75x75 mm dia	each	615.00
1662	Sand cast iron S&S double unequal junctions: 100x100x75x75 mm dia with access door	each	700.00
1666	Sand cast iron heel rest bend 75 mm dia	each	274.00
1667	Sand cast iron heel rest bend 100 mm dia	each	347.00
1669	S.C.I. single equal invert branch of required degree 75x75x75 mm dia	each	320.00
1670	S.C.I. single equal invert branch of required degree 100x100x100 mm dia	each	410.00
1672	S.C.I. double equal invert branch of required degree 75x75x75x75 mm dia	each	410.00
1673	S.C.I. double equal invert branch of required degree 100x100x100x100 mm dia	each	550.00
1674	S.C.I. single unequal invert branch of required degree 100x100x75 mm dia	each	495.00
1677	S.C.I. double unequal invert branch of required degree 100x100x75x75 mm dia	each	570.00
1682	S.C.I. door pieces 75 mm dia	each	283.00
1683	S.C.I. door pieces 100 mm dia	each	475.00
1685	S.C.I. collar 75 mm dia	each	177.00
1686	S.C.I. collar 100 mm dia	each	246.00
1863	Fire clay kitchen sink: 600x450x250 mm	each	1283.00
1871	White vitreous china laboratory sink 450x300x150 mm	each	1500.00
1872	White vitreous china laboratory sink 600x450x200 mm	each	2500.00
1875	White plastic seat (solid) with lid C.P. brass hinges and rubber buffers	each	400.00
1876	Black plastic seat (solid) with lid C.P. brass hinges and rubber buffers	each	310.00
1881	Spun yarn	kg	50.00
1885	15 mm C.P. brass tap	each	207.00
1889	C.P. brass toilet paper holder of standard size	each	225.00
1891	C.I. trap for standard urinal with vent arm with operating and other couplings in C.P. brass: 50 mm dia	each	170.00
1893	C.I. trap for standard urinal with vent arm with operating and other couplings in C.P. brass: 80 mm dia	each	225.00
1895	C.P. brass trap 40 mm dia	each	300.00
1896	100 mm S.C.I. trap with vent heel	each	320.00

Code No.	Description	Unit	Rate ₹
1897	100 mm S.C.I. trap with 100 mm inlet and 100 mm outlet	each	271.00
1898	100 mm S.C.I. trap with 100 mm inlet and 75 mm outlet	each	218.00
1913	Vitreous china lipped front urinal	each	460.00
1915	Vitreous china squatting plate urinal	each	1053.00
1947	Vitreous china flat back wash basin 630x450 mm	each	725.00
1949	Vitreous china angle back wash basin 600x480 mm	each	725.00
1950	Vitreous china angle back wash basin 400x400 mm	each	425.00
1951	C.P. brass waste 32 mm	each	80.00
1952	C.P. brass waste 40 mm	each	95.00
1953	Vitreous china Indian type W.C. pan of size 580 mm	each	450.00
1954	Vitreous china orrisa type W.C. pan of size 580 mm	each	1200.00
1955	Vitreous china pedestal type water closet	each	1000.00
1965	White vitreous china dual purpose closet (Anglo Indian W.C.) suitable for use as squatting pan or European type water closet as per manufacturer's specifications	each	2500.00
1966	Floor mounted white vitreous china double trap syphonic WC with 10 litre cistern and all fittings & fixtures, seat cover etc	each	9500.00
1970	Vitreous china foot rests 250x125x25 mm	pair	100.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	103.77
2203	Carriage of Coarse sand	cum	103.77
2205	Carriage of Steel	tonne	92.24
2209	Carriage of Cement	tonne	92.24
3213	Vitreous china Surgeon type wash basin of size 660x460 mm	each	1000.00
3228	600x120 mm glass shelf with anodised aluminium angle frame, C.P. brass brackets and guard rail of standard size	each	250.00
3229	Vitreous china flat back wash basin 550x400 mm	each	545.00
3617	C.P. Brass union 40mm dia	each	200.00
3620	C.C.I. (spun) socketed soil, waste and vent pipe 1.80 metres long:100 mm dia	each	1200.00
3621	C.C.I. (spun) socketed soil, waste and vent pipe 1.80 metres long:75 mm dia	each	1100.00
3624	S.C.I. S&S bends with access door 100 mm dia	each	300.00
3625	S.C.I. S&S bends with access door 75 mm dia	each	250.00
3628	S.C.I. S&S bend 100 mm dia	each	265.00
3629	S.C.I. S&S bend 75 mm dia	each	195.00
3634	S.C.I. S&S heel rest sanitary bend 100 mm dia	each	296.00
3635	S.C.I. S&S heel rest sanitary bend 75 mm dia	each	250.00
3640	S.C.I. S&S single equal junctions 100x100x100 mm	each	472.00
3641	S.C.I. S&S single equal junctions 75x75x75 mm	each	330.00

Code No.	Description	Unit	Rate ₹
3644	S.C.I. S&S single equal junctions with access door 100x100x100 mm	each	495.00
3645	S.C.I. S&S single equal junctions with access door 75x75x75 mm	each	373.00
3650	S.C.I. S&S double equal junctions 100x100x100x100 mm	each	620.00
3651	S.C.I. S&S double equal junctions 75x75x75x75 mm	each	462.00
3654	S.C.I. S&S double equal junctions with access door 100x100x100x100 mm	each	615.00
3655	S.C.I. S&S double equal junctions with access door 75x75x75x75 mm	each	480.00
3660	S.C.I. S&S single unequal junctions 100x100x75 mm	each	570.00
3664	S.C.I. S&S single unequal junctions with access door 100x100x75 mm	each	640.00
3670	S.C.I. S&S double unequal junctions 100x100x75x75 mm	each	800.00
3674	S.C.I. S&S double unequal junctions with access door 100x100x75x75 mm	each	850.00
3681	S.C.I. S&S single equal invert branch of required degree 100x100x100 mm dia	each	425.00
3682	S.C.I. S&S single equal invert branch of required degree 75x75x75 mm dia	each	323.00
3685	S.C.I. S&S double equal invert branch of required degree 100x100x100x100 mm dia	each	530.00
3686	S.C.I. S&S double equal invert branch of required degree 75x75x75x75 mm dia	each	425.00
3690	S.C.I. S&S single unequal invert branch of required degree 100x100x75 mm dia	each	545.00
3695	S.C.I. S&S double unequal invert branch of required degree 100x100x75x75 mm dia	each	725.00
3699	S.C.I. S&S, 75 mm offset for 75 mm dia pipe	each	225.00
3707	S.C.I. S&S, 150 mm offset for 75 mm dia pipe	each	285.00
3708	S.C.I. S&S, 150 mm offset for 100 mm dia pipe	each	390.00
3712	S.C.I. S&S, 114 mm offset for 75 mm dia pipe	each	300.00
3713	S.C.I. S&S, 114 mm offset for 100 mm dia pipe	each	383.00
3716	S.C.I. S&S, 152 mm offset for 75 mm dia pipe	each	358.00
3717	S.C.I. S&S, 152 mm offset for 100 mm dia pipe	each	455.00
3728	S.C.I. S&S door pieces 100 mm dia	each	400.00
3729	S.C.I. S&S door pieces 75 mm dia	each	295.00
3733	S.C.I. S&S, Slotted Cowl (Terminal Guard) 100 mm	each	264.00
3734	S.C.I. S&S, Slotted Cowl (Terminal Guard) 75 mm	each	210.00
3738	S.C.I. S&S, collars 100 mm	each	279.00
3739	S.C.I. S&S, collars 75 mm	each	170.00

Code No.	Description	Unit	Rate ₹
3746	S.C.I. S&S, 75 mm offset for 75 mm dia pipe	each	218.00
3747	S.C.I. S&S, 75 mm offset for 100 mm dia pipe	each	363.00
3749	Vitreous china toilet paper holder of standard size	each	100.00
4202	Red oxide Zinc chromate primer	litre	110.00
7004	Vitreous china flat back wash basin 450x300 mm	each	310.00
7005	Vitreous china 10 litres low level cistern without fittings	each	715.00
7006	Vitreous china 10 litres low level cistern with fittings	each	1240.00
7048	Rawl plug 50 mm (designation 10 nos)	each	25.00
7072	Wall mounted water closet of size 780 x 370x690 mm	each	6000.00
7073	Adjustable Vitreous China Cistern with fittings of flushing capacity 3 litre/ 6litre 9adjustibla to 4 litre/8litre)	each	1900.00
7074	White Vetrious China Waterless Urinal of size 600x330x315 mm	each	9650.00
7075	Cistern with fittings for Waterless Urinal	each	2290.00
7076	Battery based infrared sensor operated white Vitreous Urinal of aprox.size 610x390x370 mm	each	4500.00
7095	Stainless steel kitchen sink with drain board 510 x 1040 mm bowl depth 250 mm	each	2480.00
7096	Stainless steel kitchen sink - with drain board 510 x 1040 mm bowl depth 225 mm	each	3000.00
7097	Stainless steel kitchen sink - with drain board 510 x 1040 mm bowl depth 200 mm	each	2800.00
7098	Stainless steel kitchen sink - with drain board 510x1040 mm bowl depth 178 mm	each	2500.00
7101	Stainless steel kitchen sink - without drain board 610x510 mm bowl depth 200 mm	each	1800.00
7102	Stainless steel kitchen sink - without drain board 610x460 mm bowl depth 200 mm	each	1200.00
7103	Stainless steel kitchen sink - without drain board 470x420 mm bowl depth 178 mm	each	1050.00
7104	Coloured Orissa pattern W.C. pan 580x440 mm	each	1830.00
7105	Coloured Pedestal type W.C. pan 580x440 mm (European type)	each	860.00
7106	Coloured Vitreous china 10 lit. low level cistern	each	1050.00
7107	Coloured (other than black) solid P.V.C. seat in European W.C. pan	each	390.00
7112	Circular shape 450 mm dia Mirror with Plastic moulded frame	each	430.00
7113	Rectangular shape 453x357 mm Mirror with Plastic moulded frame	each	290.00
7114	Oval shape 450x350 mm (outer dimensions) Mirror with Plastic moulded frame	each	340.00
7115	Rectangular shape 1500x450 mm Mirror with Plastic moulded frame	each	670.00
7116	Hard board 6 mm thick	sqm	115.00
7117	Semi Rigid PVC waste pipe for sink and wash basin 32 mm dia with length not less than 700 mm i/c PVC waste fittings	each	25.00



Code No.	Description	Unit	Rate ₹
7118	Semi Rigid PVC waste pipe for sink and wash basin 40 mm dia with length not less than 700 mm i/c PVC waste fittings	each	33.00
7119	Flexible (coil shaped) PVC waste pipe for sink and wash basin 32mm dia with length not less than 700 mm i/c PVC waste fittings	each	35.00
7120	Flexible (coil shaped) PVC waste pipe for sink and wash basin 40 mm dia with length not less than 700 mm i/c PVC waste fittings	each	35.00
7121	Bottle Trap	each	620.00
7122	CP Brass Single lever telephonic wall mixer of approved make	each	4500.00
7123	Coloured High density polyethylene / poly propylene 10 lit. (full flush) capacity controlled low level flushing cistern with fittings	each	550.00
7126	White Vitreous china 10 litre (full flush) capacity controlled low level flushing cistern with all fittings	each	700.00
7127	Coloured Vitreous china 10 litre (full flush) capacity controlled low level flushing cistern with all fittings	each	1150.00
7358	Flushing Cistern P.V.C. 10 litre capacity (low level) (White) (with fittings, accessories and flush pipe)	each	575.00
7359	P.V.C. automatic flushing cistern 5 litre capacity	each	470.00
7361	P.V.C. automatic flushing cistern 10 litre capacity	each	510.00
7363	15 mm C.P. brass tap with elbow operation lever	each	430.00
7364	White glazed fire clay draining board 600x450x25 mm	each	525.00
7375	G.I. flush pipe and C.P. brass spreader including C.P. connecting pipe Single lipped urinal	each	445.00
7376	G.I. flush pipe and C.P. brass spreader including C.P. connecting pipe Range of two lipped urinals	each	765.00
7377	G.i. flush pipe and C.P. brass spreader including C.P. connecting pipe Range of three lipped urinals	each	1050.00
7378	G.I. flush pipe and C.P. brass spreader including C.P. connecting pipe Range of four lipped urinals	each	1430.00
7379	White vitreous china clay half stall urinal flat back 580x380x350 mm or angle back 450x375x350 mm with waste fittings as per IS:2556	each	865.00
7406	PTMT pillar cock	each	125.00
7491	PTMT - Waste Coupling 31/32 mm	each	34.00
7492	PTMT - Waste Coupling 38/40 mm	each	48.00
7493	PTMT - Bottle Trap 31/32 mm	each	210.00
7494	PTMT - Bottle Trap 38/40 mm	each	220.00
7503	PTMT Liquid Soap Container of 400 ml capacity	each	105.00
7504	PTMT - Towel Ring 215x200x37 mm	each	130.00
7505	PTMT - Towel Rail (450 mm long )	each	135.00
7506	PTMT - Towel Rail (600 mm long)	each	165.00
7507	PTMT Shelf 450x124x36 mm	each	200.00
7508	PTMT - Urinal Spreader 15 mm	each	76.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
7621	Hubless centrifugally cast (spun) iron pipes as per IS 15905 - 100 mm dia (3000 mm length pipe)	metre	700.00
7622	Hubless centrifugally cast (spun) iron pipes as per IS 15905 - 75 mm dia (3000 mm length pipe)	metre	570.00
7623	Hubless centrifugally cast (spun) iron plain bend as per IS 15905 - 100mm dia	each	230.00
7624	Hubless centrifugally cast (spun) iron plain bend as per IS 15905 - 75 mm dia	each	160.00
7625	Hubless centrifugally cast (spun) iron double equal plain junction as per IS 15905 - 100x100x100x100 mm dia	each	510.00
7626	Hubless centrifugally cast (spun) iron double equal plain junction as per IS 15905 - 75x75x75x75 mm dia	each	275.00
7627	Hubless centrifugally cast (spun) iron single equal plain junction as per IS 15905 - 100x100x100 mm dia	each	400.00
7628	Hubless centrifugally cast (spun) iron single equal plain junction as per IS 15905 - 75x75x75 mm dia	each	215.00
7629	Hubless centrifugally cast (spun) iron double unequal plain junction as per IS 15905 - 100x100x75x75 mm dia	each	400.00
7630	Hubless centrifugally cast (spun) iron single unequal plain junction as per IS 15905 - 100x100x75 mm dia	each	375.00
7631	Hubless centrifugally cast (spun) iron double equal plain invert branch as per IS 15905 - 100x100x100x100 mm dia	each	625.00
7632	Hubless centrifugally cast (spun) iron single equal plain invert branch as per IS 15905 - 100x100x100 mm dia	each	390.00
7633	Hubless centrifugally cast (spun) iron single equal plain invert branch as per IS 15905 - 75x75x75 mm dia	each	260.00
7634	Hubless centrifugally cast (spun) iron single unequal plain invert branch 45 degree as per IS 15905 - 100x100x75 mm dia	each	430.00
7635	Hubless centrifugally cast (spun) iron 65 mm offset with 100 mm dia pipe as per IS 15905	each	360.00
7636	Hubless centrifugally cast (spun) iron 65 mm offset with 75 mm dia pipe as per IS 15905	each	295.00
7637	Hubless centrifugally cast (spun) iron 130 mm offset with 100 mm dia pipe as per IS 15905	each	440.00
7638	Hubless centrifugally cast (spun) iron 130 mm offset with 75 mm dia pipe as per IS 15905	each	310.00
7639	Hubless centrifugally cast (spun) iron bend with access door - 100mm dia as per IS 15905	each	365.00
7640	Hubless centrifugally cast (spun) iron bend with access door - 75mm dia as per IS 15905	each	290.00
7641	Hubless centrifugally cast (spun) iron terminal guard (slotted cowl) -100 mm dia as per IS 15905	each	270.00
7642	Hubless centrifugally cast (spun) iron trap with 100 mm inlet and 100 mm outlet as per IS 15905	each	540.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
7643	Hubless centrifugally cast (spun) iron trap with 100 mm inlet and 75 mm outlet as per IS 15905	each	385.00
7644	SS 304 grade shielded coupling with EPDM rubber gasket for 100mm dia Hubless centrifugally cast (spun) iron	each	275.00
7645	SS 304 grade shielded coupling with EPDM rubber gasket for 75 mm dia Hubless centrifugally cast (spun) iron	each	250.00
7805	Salem Stainless steel AISI - 304 (18/8) Orrisa pattern W.C. pan 724mm X 578 mm	each	4500.00
7806	Salem Stainless steel AISI - 304 (18/8) Round basin 405mm X 355 mm	each	1500.00
7807	Salem Stainless steel AISI - 304 (18/8) Wash basin 530mm X 345 mm	each	2000.00
7808	Centrifugally cast (spun) iron S&S 100 mm inlet and 100 mm outlet	each	450.00
7809	Centrifugally cast (spun) iron S&S 100 mm inlet and 75 mm outlet	each	500.00
7858	P.T.M.T. Urinal cock 15 mm dia	each	106.50
9001	C.P. Brass Centre Hole Basin Mixer With Cast Spout	each	1600.00
9977	Carriage	L.S.	2.00
9988	Carriage and sundries	L.S.	2.00
9999	Sundries	L.S.	2.00

## 17.0 SANITARY INSTALLATIONS

Code No.	Description	Unit	Rate ₹
17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan ) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:		
17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	each	5421.50
17.1.2	Stainless Steel AISI-304(18/8) Orissa pattern W.C. pan of size 585x480 mm with flush pipe and integrated type foot rests	each	9836.70
17.2	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :		
17.2.1	W.C. pan with ISI marked white solid plastic seat and lid	each	5260.95
17.2.2	W.C. pan with ISI marked black solid plastic seat and lid	each	5140.55
17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :		
17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	each	6685.00
17.3.2	W.C. pan with ISI marked black solid plastic seat and lid	each	6564.60
17.4	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm and 340x410x265 mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :		
17.4.1	One urinal basin with 5 litre white P.V.C. automatic flushing cistern	each	4982.25
17.4.2	Range of two urinal basins with 5 litre white P.V.C. automatic flushing cistern	each	7677.75
17.4.3	Range of three urinal basins with 10litre white P.V.C. automatic flushing cistern	each	10605.30
17.4.4	Range of four urinal basins with 10 litre white P.V.C. automatic flushing cistern	each	14648.50

Code No.	Description	Unit	Rate ₹
17.5	Providing and fixing white vitreous china flat back half stall urinal of size 580x380x350 mm with white PVC automatic flushing cistern, with fittings, standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS : 2556, C.I. trap with outlet grating and other couplings in C.P. brass, including painting of fittings and cutting and making good the walls and floors wherever required :		
17.5.1	Single half stall urinal with 5 litre P.V.C. automatic flushing cistern	each	9360.60
17.5.2	Range of two half stall urinals with 5 litre P.V.C. automatic flushing cistern	each	14020.75
17.5.3	Range of three half stall urinals with 10 litre P.V.C. automatic flushing cistern	each	17307.55
17.5.4	Range of four half stall urinals with 10 litre P.V.C. automatic flushing cistern	each	20448.85
17.6	Providing and fixing one piece construction white vitreous china squatting plate with an integral longitudinal flushing pipe, white P.V.C. automatic flushing cistern, with fittings, standard size G.I. / PVC flush pipe for back and front flush with standard spreader pipes with fittings, G.I clamps and C.P. brass coupling complete, including painting of fittings and cutting and making good the walls and floors etc. wherever required :		
17.6.1	Single squatting plate with 5 litre P.V.C. automatic flushing cistern	each	7240.55
17.6.2	Range of two squatting plates with 5 litre P.V.C. automatic flushing cistern	each	10572.45
17.6.3	Range of three squatting plates with 10 litre P.V.C. automatic flushing cistern	each	13931.70
17.6.4	Range of four squatting plates with 10 litre P.V.C. automatic flushing cistern	each	16718.80
17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:		
17.7.1	White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C.P. brass pillar taps	each	3087.70
17.7.2	White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap	each	2751.30
17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	each	2846.90
17.7.4	White Vitreous China Flat back wash basin size 550x 400 mm with single 15 mm C.P. brass pillar tap	each	2510.45
17.7.5	White Vitreous China Angle back wash basin size 600 x 480 mm with single 15mm C.P. brass pillar tap	each	2751.30
17.7.6	White Vitreous China Angle back wash basin size 400 x 400 mm with single 15 mm C.P. brass pillar tap	each	2349.90

Code No.	Description	Unit	Rate ₹
17.7.7	White Vitreous China Flat back wash basin size 450x300 mm with single 15mm C.P. brass pillar tap	each	2196.05
17.7.8	White Vitreous China Surgeon type wash basin of size 660x460 mm with a pair of 15 mm C.P. brass pillar taps with elbow including operated levers	each	4052.35
17.7.9	White Vitreous China Surgeon type wash basin of size 660x460 mm with single 15 mm C.P. brass pillar taps with elbow operated levers ISI Marked	each	3417.55
17.7.10	Stainless Steel AISI-304(18/8) Round basin 405x355 mm with single 15 mm C.P. brass pillar tap	each	3788.20
17.7.11	Stainless Steel AISI-304(18/8) Wash basin 530x345 mm with single 15 mm C.P. brass pillar tap	each	4457.15
17.7A	Providing and fixing wash basin with C.I. brackets, 15 mm dia CP Brass single hole basin mixer of approved quality and make, including painting of fittings and brackets, cutting and making good the walls wherever required:-  (a) White Vitreous China Wash basin size 550x400 mm with a 15 mm CP Brass single hole basin mixer	each	4403.80
17.7B	Providing and fixing wash basin with C.I. brackets, 15 mm PTMT pillar cock, 32 mm PTMT waste coupling of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever required. White Vitreous China Flat back wash basin size 550x400 mm with single 15 mm PTMT pillar cock.	each	2398.70
17.8	Providing and fixing white vitreous china pedestal for wash basin completely recessed at the back for the reception of pipes and fittings.	each	1420.15
17.9	Providing and fixing kitchen sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P. brass waste complete, including painting the fittings and brackets, cutting and making good the walls wherever required:		
17.9.1	White glazed fire clay kitchen sink of size 600x450x 250 mm	each	3163.25
17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :		
17.10.1	Kitchen sink with drain board		
17.10.1.1	510x1040 mm bowl depth 250 mm	each	5155.95
17.10.1.2	510x1040 mm bowl depth 225 mm	each	5851.70
17.10.1.3	510x1040 mm bowl depth 200 mm	each	5584.10
17.10.1.4	510x1040 mm bowl depth 178 mm	each	5182.70
17.10.2	Kitchen sink without drain board		
17.10.2.1	610x510 mm bowl depth 200 mm	each	3631.55
17.10.2.2	610x460 mm bowl depth 200 mm	each	2828.75
17.10.2.3	470x420 mm bowl depth 178 mm	each	2628.10

Code No.	Description	Unit	Rate ₹
17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :		
17.11.1	Size 450x300x150 mm	each	4122.55
17.11.2	Size 600x450x200 mm	each	5460.45
17.12	Providing and fixing draining board with C.I. brackets including painting of brackets, cutting and making good the walls wherever required :		
17.12.1	White glazed fire clay draining board of size 600x450x25 mm	each	1337.80
17.13	Providing and fixing white vitreous china water closet squatting pan (Indian type) :		
17.13.1	Long pattern W.C. pan of size 580 mm	each	1541.05
17.13.2	Orissa pattern W.C. pan of size 580x440 mm	each	2544.50
17.14	Extra for using coloured W.C. pan instead of white W.C. pan :		
17.14.1	Orissa pattern W.C. pan 580x440 mm	each	842.90
17.15	Providing and fixing white vitreous china pedestal type (European type/ wash down type) water closet pan.	each	2276.95
17.16	Extra for using coloured pedestal type W.C pan (European type) with low level cistern of same colour instead of white vitreous china W.C pan and cistern.	each	260.90
17.16A	Providing and fixing 8 mm dia C.P. / S.S. Jet with flexible tube upto 1 metre long with S.S. triangular plate to European type W.C. of quality and make as approved by Engineer - in - charge.	each	297.55
17.17	Providing and fixing a pair of white vitreous china foot rests of standard pattern for squatting pan water closet :		
17.17.1	250x130x30 mm	pair	214.60
17.17.2	250x125x25 mm	pair	214.60
17.18	Providing and fixing P.V.C. low level flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete.		
17.18.1	10 litre capacity - White	each	999.95
17.18.2	10 litre capacity - coloured	each	971.40
17.19	Providing and fixing controlled flush, low level cistern made of vitreous china with all fittings complete.		
17.19.1	10 litre (full flush) capacity-white	each	1839.70
17.19.2	10 litre (full flush) capacity-coloured	each	2441.80
17.20	Providing and fixing solid plastic seat with lid for pedestal type W.C. pan complete :		
17.20.1	White solid plastic seat with lid	each	571.00
17.20.2	Black solid plastic seat with lid	each	450.60
17.20.3	Coloured (other than black & white) solid plastic seat with lid	each	557.65



Code No.	Description	Unit	Rate ₹
17.22	Providing and fixing G.I. inlet connection for flush pipe connecting with W.C. pan.	each	116.10
17.22A	Providing and fixing CP Brass 32mm size Bottle Trap of approved quality & make and as per the direction of Engineer-in-charge.	each	883.05
17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge. (a) 15 mm nominal dia	each	6113.60
17.23	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm or 340x410x265 mm sizes respectively.	each	1299.75
17.24	Providing and fixing white vitreous china squatting plate urinal with integral rim longitudinal flush pipe.	each	3207.50
17.25	Providing and fixing white vitreous china wash basin including making all connections but excluding the cost of fittings :		
17.25.1	Flat back wash basin of size 630x450 mm	each	1139.40
17.25.2	Flat back wash basin of size 550x400 mm	each	898.60
17.25.3	Angle back wash basin of size 600x480 mm	each	1139.40
17.25.4	Angle back wash basin of size 400x400 mm	each	738.05
17.25.5	Flat back wash basin of size 450x300 mm	each	584.15
17.25.6	Surgeon type wash basin of size 660x460 mm	each	1507.35
17.26	Providing and fixing kitchen sink including making all connections excluding cost of fittings.		
17.26.1	White glazed fire clay sink of size 600x450x250 mm	each	1853.65
17.27	Providing and fixing white vitreous china laboratory sink including making all connections excluding cost of fittings :		
17.27.1	Size 450x300x150 mm	each	2143.95
17.27.2	Size 600x450x200 mm	each	3481.90
17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.		
17.28.1	Semi rigid pipe		
17.28.1.1	32 mm dia	each	87.70
17.28.1.2	40 mm dia	each	98.40
17.28.2	Flexible pipe		
17.28.2.1	32 mm dia	each	101.10
17.28.2.2	40 mm dia	each	101.10
17.29	Providing and fixing 100 mm sand cast Iron grating for gully trap.	each	44.60
17.30	Providing and fixing in position 25 mm diameter mosquito proof coupling of approved municipal design.	each	45.00
17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	each	1283.05



Code No.	Description	Unit	Rate ₹
17.32	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing :		
17.32.1	Circular shape 450 mm dia	each	1242.00
17.32.2	Rectangular shape 453x357 mm	each	1120.25
17.32.3	Oval shape 450x350 mm (outer dimensions)	each	1185.60
17.32.4	Rectangular shape 1500x450 mm	each	1786.55
17.33	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	each	841.80
17.34	Providing and fixing toilet paper holder :		
17.34.1	C.P. brass	each	583.75
17.34.2	Vitreous china	each	426.15
17.35	Providing and fixing soil, waste and vent pipes :		
17.35.1	100 mm dia		
17.35.1.1	Sand cast iron S&S pipe as per IS: 1729	metre	1008.20
17.35.1.2	Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989	metre	1092.20
17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	metre	1051.75
17.35.2	75 mm diameter :		
17.35.2.1	Sand cast iron S&S pipe as per IS: 1729	metre	923.25
17.35.2.2	Centrifugally cast (spun) iron socketed pipe as per IS: 3989	metre	992.05
17.35.2.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	metre	859.55
17.36	Providing and filling the joints with spun yarn, cement slurry and cement mortar 1:2 ( 1 cement : 2 fine sand) in S.C.I./ C.I. Pipes :		
17.36.1	75 mm dia pipe	each	126.00
17.36.2	100 mm dia pipe	each	148.45
17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including cost of cutting holes and making good the walls etc. :		
17.37.1	For 100 mm dia pipe	each	287.45
17.37.2	For 75 mm dia pipe	each	283.40

Code No.	Description	Unit	Rate ₹
17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.		
17.38.1	100 mm dia		
17.38.1.1	Sand cast iron S&S as per IS - 1729	each	461.65
17.38.1.2	Sand cast iron S&S as per IS - 3989	each	461.65
17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	548.60
17.38.2	75 mm dia		
17.38.2.1	Sand cast iron S&S as per IS - 1729	each	371.40
17.38.2.2	Sand cast iron S&S as per IS- 3989	each	384.75
17.38.2.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	438.30
17.39	Providing and fixing plain bend of required degree.		
17.39.1	100 mm dia		
17.39.1.1	Sand cast iron S&S as per IS - 1729	each	381.35
17.39.1.2	Sand cast iron S&S as per IS : 3989	each	390.75
17.39.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	each	343.90
17.39.2	75 mm dia		
17.39.2.1	Sand cast iron S&S as per IS -1729	each	309.85
17.39.2.2	Sand cast iron S&S as per IS - 3989	each	289.75
17.39.2.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	each	242.95
17.40	Providing and fixing heel rest sanitary bend		
17.40.1	100 mm dia		
17.40.1.1	Sand cast iron S&S as per IS - 1729	each	500.45
17.40.1.2	Sand cast iron S&S as per IS - 3989	each	432.20
17.40.2	75 mm dia		
17.40.2.1	Sand cast iron S&S as per IS - 1729	each	395.45
17.40.2.2	Sand cast iron S&S as per IS - 3989	each	363.35
17.41	Providing and fixing double equal junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete :		
17.41.1	100x100x100x100 mm		
17.41.1.1	Sand cast iron S&S as per IS - 1729	each	1016.55
17.41.1.2	Sand cast iron S&S as per IS - 3989	each	882.75
17.41.2	75x75x75x75 mm		
17.41.2.1	Sand cast iron S&S as per IS - 1729	each	719.25
17.41.2.2	Sand cast iron S&S as per IS - 3989	each	692.50

Code No.	Description	Unit	Rate ₹
17.42	Providing and fixing double equal plain junction of required degree.		
17.42.1	100x100x100x100 mm		
17.42.1.1	Sand cast iron S&S as per IS - 1729	each	825.55
17.42.1.2	Sand cast iron S&S as per IS - 3989	each	865.70
17.42.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	each	718.55
17.42.2	75x75x75x75 mm		
17.42.2.1	Sand cast iron S&S as per IS - 1729	each	539.95
17.42.2.2	Sand cast iron S&S as per IS - 3989	each	647.00
17.42.2.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	each	396.80
17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.		
17.43.1	100x100x100 mm		
17.43.1.1	Sand cast iron S&S as per IS - 1729	each	602.15
17.43.1.2	Sand cast iron S&S as per IS - 3989	each	722.55
17.43.2	75x75x75 mm		
17.43.2.1	Sand cast iron S&S as per IS - 1729	each	478.40
17.43.2.2	Sand cast iron S&S as per IS - 3989	each	549.35
17.44	Providing and fixing single equal plain junction of required degree :		
17.44.1	100x100x100 mm		
17.44.1.1	Sand cast iron S&S as per IS - 1729	each	517.85
17.44.1.2	Sand cast iron S&S as per IS - 3989	each	667.70
17.44.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	571.35
17.44.2	75x75x75 mm		
17.44.2.1	Sand cast iron S&S as per IS - 1729	each	400.80
17.44.2.2	Sand cast iron S&S as per IS - 3989	each	470.40
17.44.2.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	316.55
17.45	Providing and fixing double unequal junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete:		
17.45.1	100x100x75x75 mm		
17.45.1.1	Sand cast iron S&S as per IS - 1729	each	996.80
17.45.1.2	Sand cast iron S&S as per IS - 3989	each	1197.50

Code No.	Description	Unit	Rate ₹
17.46	Providing and fixing double unequal plain junction of required degree :		
17.46.1	100x100x75x75 mm		
17.46.1.1	Sand cast iron S&S as per IS - 1729	each	859.00
17.46.1.2	Sand cast iron S&S as per IS - 3989	each	1106.55
17.46.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	571.35
17.47	Providing and fixing single unequal junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete :		
17.47.1	100x100x75 mm		
17.47.1.1	Sand cast iron S&S as per IS - 1729	each	796.15
17.47.1.2	Sand cast iron S&S as per IS - 3989	each	916.55
17.48	Providing and fixing single unequal plain junction of required degree :		
17.48.1	100x100x75 mm		
17.48.1.1	Sand cast iron S&S as per IS - 1729	each	697.10
17.48.1.2	Sand cast iron S&S as per IS - 3989	each	798.80
17.48.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	537.90
17.49	Providing and fixing double equal plain invert branch of required degree:		
17.49.1	100x100x100x100 mm		
17.49.1.1	Sand cast iron S&S as per IS - 1729	each	772.05
17.49.1.2	Sand cast iron S&S as per IS 3989	each	745.30
17.49.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	872.40
17.49.2	75x75x75x75 mm		
17.49.2.1	Sand cast iron S&S as per IS - 1729	each	577.45
17.49.2.2	Sand cast iron S&S as per IS - 3989	each	597.50
17.50	Providing and fixing single equal plain invert branch of required degree :		
17.50.1	100x100x100 mm		
17.50.1.1	Sand cast iron S&S as per iron 1729	each	584.75
17.50.1.2	Sand cast iron S&S as per IS - 3989	each	604.80
17.50.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	557.95
17.50.2	75x75x75 mm		
17.50.2.1	Sand cast iron S&S as per IS - 1729	each	453.10
17.50.2.2	Sand cast iron S&S as per IS - 3989	each	461.05
17.50.2.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	376.75

Code No.	Description	Unit	Rate ₹
17.51	Providing and fixing double unequal invert branch of required degree :		
17.51.1	100x100x75x75 mm		
17.51.1.1	Sand cast iron S&S as per IS - 1729	each	798.80
17.51.1.2	Sand cast iron S&S as per IS - 3989	each	1006.20
17.52	Providing and fixing single unequal plain invert branch of required degree :		
17.52.1	100x100x75 mm		
17.52.1.1	Sand cast iron S&S as per IS - 1729	each	698.45
17.52.1.2	Sand cast iron S&S as per IS - 3989	each	765.35
17.52.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	611.50
17.53	Providing and fixing sand cast iron S&S off sets as per IS: 1729		
17.53.1	76 mm off sets		
17.53.1.1	With 75 mm dia pipe	each	320.55
17.53.1.2	With 100 mm dia pipe	each	514.55
17.53.2	114 mm off sets		
17.53.2.1	With 75 mm dia pipe	each	437.55
17.53.2.2	With 100 mm dia pipe	each	548.60
17.53.3	152 mm off sets		
17.53.3.1	With 75 mm dia pipe	each	527.00
17.53.3.2	With 100 mm dia pipe	each	656.75
17.53A	Providing and fixing Hubless centrifugally cast iron offsets epoxy coated inside & outside as per IS:15905		
17.53A.1	65 mm offsets		
17.53A.1.1	With 100 mm dia pipe	each	510.55
17.53A.1.2	With 75 mm dia pipe	each	423.55
17.54	Providing and fixing sand cast iron S&S off sets as per IS: 3989 :		
17.54.1	75 mm off sets		
17.54.1.1	With 75 mm dia pipe	each	329.90
17.54.2	150 mm off sets		
17.54.2.1	With 75 mm dia pipe	each	424.45
17.54.2.2	With 100 mm dia pipe	each	564.95
17.54A	Providing and fixing Hubless centrifugally cast iron offsets epoxy coated inside & outside as per IS:15905		
17.54A.1	130 mm offsets		
17.54A.1.1	With 100 mm dia	each	624.85
17.54A.1.2	With 75 mm dia	each	443.65

Code No.	Description	Unit	Rate ₹
17.55	Providing and fixing door piece, insertion rubber washer 3mm thick, bolts & nuts complete :		
17.55.1	100 mm		
17.55.1.1	Sand cast iron S&S as per IS - 1729	each	695.80
17.55.1.2	Sand cast iron S&S as per IS - 3989	each	595.45
17.55.2	75 mm		
17.55.2.1	Sand cast iron S&S as per IS - 1729	each	428.90
17.55.2.2	Sand cast iron S&S as per IS - 3989	each	444.95
17.56	Providing and fixing terminal guard :		
17.56.1	100 mm		
17.56.1.1	Sand cast iron S&S as per IS - 1729	each	355.95
17.56.1.2	Sand cast iron S&S as per IS - 3989	each	389.40
17.56.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	397.40
17.56.2	75 mm		
17.56.2.1	Sand cast iron S&S as per IS - 1729	each	284.40
17.56.2.2	Sand cast iron S&S as per IS - 3989	each	309.85
17.57	Providing and fixing collar :		
17.57.1	100 mm		
17.57.1.1	Sand cast iron S&S as per IS - 1729	each	365.30
17.57.1.2	Sand cast iron S&S as per IS - 3989	each	409.45
17.57.2	75 mm		
17.57.2.1	Sand cast iron S&S as per IS - 1729	each	265.70
17.57.2.2	Sand cast iron S&S as per IS - 3989	each	256.30
17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipe		
17.57A.1	100 mm dia		
17.57A.1.1	SS 304 grade coupling with EPDM rubber gasket	each	404.10
17.57A.2	75 mm dia		
17.57A.2.1	SS 304 grade coupling with EPDM rubber gasket	each	363.35
17.58	Providing lead caulked joints to sand cast iron/centrifugally cast (spun) iron pipes and fittings of diameter :		
17.58.1	100 mm	each	481.45
17.58.2	75 mm	each	407.90
17.58.3	50 mm	each	329.50

Code No.	Description	Unit	Rate ₹
17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :		
17.59.1	100 mm	each	126.50
17.59.2	75 mm	each	78.40
17.59.3	50 mm	each	72.20
17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :		
17.60.1	100 mm inlet and 100 mm outlet		
17.60.1.1	Sand cast iron S&S as per IS: 3989	each	1512.55
17.60.1.2	Sand Cast Iron S&S as per IS: 1729	each	1273.05
17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	758.65
17.60.2	100 mm inlet and 75 mm outlet		
17.60.2.1	Sand cast iron S&S as per IS - 3989	each	1579.45
17.60.2.2	Sand Cast Iron S&S as per IS- 1729	each	1202.15
17.60.2.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	each	551.30
17.61	Cutting chases in brick masonry walls for following diameter sand cast iron/centrifugally cast (spun) iron pipes and making good the same with cement concrete 1:3:6 ( 1 cement : 3 coarse sand :6 graded stone aggregate 12.5 mm nominal size), including necessary plaster and pointing in cement mortar 1:4 (1 cement : 4 coarse sand) :		
17.61.1	100 mm dia	metre	555.30
17.61.2	75 mm dia	metre	398.70
17.61.3	50 mm dia	metre	259.05
17.62	Painting C.I. cistern with bitumastic or any other anti-corrosive paint inside and white paint over a coat of zinc chromate yellow primer (of approved quality ) on the outside surface of the cistern, flush pipe, other fittings, etc. complete for new work.	each	768.15
17.63	Re-painting C.I. cistern with bitumastic or any other anti-corrosive paint inside and white paint on the outside surface of the cistern, flush pipe, other fittings, etc. complete, including polishing of wooden seat and lid and cleaning of W.C. pan with acid wherever necessary.	each	516.35
17.64	Repainting C.I. cistern with synthetic enamel paint of approved colour, brand and manufacture on the outside surface of cistern, flush pipe, other fittings etc. complete.	each	223.90

Code No.	Description	Unit	Rate ₹
17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :		
17.65.1	100 mm diameter pipe	metre	64.20
17.65.2	75 mm diameter pipe	metre	48.85
17.66	Repainting sand cast iron/ centrifugally cast iron (spun) iron, soil, waste, vent pipes and fittings with one coat of synthetic enamel paint of any colour such as chocolate, grey or buff etc :		
17.66.1	100 mm diameter pipe	metre	30.95
17.66.2	75 mm diameter pipe	metre	23.15
17.67	Repainting bath tub of size 1700x730x430 mm with enamel paint.	each	630.55
17.68	Providing and fixing vitreous china dual purpose closet suitable for use as squatting pan or European type water closet (Anglo Indian W.C pan) with seat & lid fixed with C.P. brass hinges and rubber buffers, 10 litre low level flushing cistern with fitting and brackets, 40 mm flush bend, 20 mm over flow pipe, with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required:		
17.68.1	White vitreous china dual purpose WC pan with white solid plastic seat and lid with white vitreous china flushing cistern and C.P. flush bend.	each	10023.90
17.69	Providing and fixing PTMT Waste Coupling for wash basin and sink, of approved quality and colour.		
17.69.1	Waste coupling 31 mm dia of 79 mm length and 62mm breadth weighing not less than 45 gms	each	99.75
17.69.2	Waste coupling 38 mm dia of 83 mm length and 77mm breadth, weighing not less than 60 gms	each	118.50
17.70	Providing and fixing PTMT Bottle Trap for Wash basin and sink.		
17.70.1	Bottle trap 31mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 260 gms	each	335.25
17.70.2	Bottle trap 38 mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 263 gms	each	348.60
17.71	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms.	each	158.55



Code No.	Description	Unit	Rate ₹
17.72	Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour, weighing not less than 88 gms.	each	228.20
17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.		
17.73.1	450 mm long towel rail with total length of 495 mm, 78 mm wide and effective height of 88 mm, weighing not less than 170 gms	each	555.35
17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	each	595.50
17.74	Providing and fixing PTMT shelf 440 mm long, 124 mm width and 36 mm height of approved quality and colour, weighing not less than 300 gms.	each	642.30
17.75	Providing and fixing PTMT 15 mm Urinal spreader size 95x69x100 mm with 1/2" BSP thread and shapes, weighing not less than 60 gms.	each	119.75
17.76	Providing and fixing PTMT urinal cock of approved quality and colour.		
17.76.1	15 mm nominal bore, 80 mm long, 42 mm high and 30mm wide with BSP female threads weighing not less than 48 gms	each	164.05
17.77	Providing and fixing M.S. holder bat clamp of approved design to sand cast iron/ cast iron (spun) pipes comprising of M.S. flat brackets made of 50x5 mm flat of specified shape, projecting 75 mm outside the wall surface and fixed on wall with 4nos, 6mm dia expansion hold fasteners, including drilling necessary holes in brick wall/ CC/ RCC surface and the cost of bolts etc. The pipes shall be fixed to the already fixed brackets with the help of 30 mm x1.6 mm galvanised M.S. flats of specified shape and of total length 420 mm and shall be fixed with M.S. nuts, bolts, & washers of size 25x6 mm, one bolts on each side of the pipe.		
17.77.1	Total bracket length 580 mm of approved shape and design (for single 100 mm dia pipe)	each	247.80
17.77.2	Total bracket length 810 mm of approved shape and design (for two 100 mm dia pipes)	each	302.35
17.77.3	Total bracket length 1040 mm of approved shape and design (for three 100 mm dia pipes)	each	356.70
17.78	Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/ 6 litre (adjustable to 4 litre/ 8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete.	each	13852.45

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
17.79	Providing & fixing white vitreous china water less urinal of size 600 x 330 x 315 mm having antibacterial /germs free ceramic surface, fixed with cartridge having debris catcher and hygiene seal.	each	16868.15
17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	each	6913.90
17.81	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	each	15457.95

**SUB HEAD : 18.0**

**WATER SUPPLY**

### BASIC RATES (SH: 18.0 WATER SUPPLY)

Code No.	Description	Unit	Rate ₹
0001	Hire charges of Coaltar Boiler 900 to 1400 litres	day	800.00
0010	Hire charges of derrick monkey rope	day	750.00
0114	Beldar	day	558.00
0115	Coolie	day	558.00
0116	Fitter (grade 1)	day	738.00
0117	Assistant Fitter or 2nd class Fitter	day	679.00
0123	Mason (brick layer) 1st class	day	738.00
0124	Mason (brick layer) 2nd class	day	679.00
0593	C.P. Brass Extension Nipple (1/2"x2" size)	each	40.00
0761	Fuel wood	quintal	500.00
0771	Kerosene oil	litre	50.00
1301	Bleaching powder	quintal	1800.00
1304	Surface box for stop cock	each	125.00
1305	Surface box for sluice valve	each	210.00
1307	Surface box for water meter	each	250.00
1339	Brass bib-cock 15 mm dia	each	210.00
1340	Brass bib-cock 20 mm dia	each	225.00
1342	Brass stop-cock 15 mm dia	each	210.00
1343	Brass stop-cock 20 mm dia	each	225.00
1360	C.I. mouth, brass ferrule 15 mm dia	each	140.00
1361	C.I. mouth, brass ferrule 20 mm dia	each	160.00
1362	C.I. mouth, brass ferrule 25 mm dia	each	220.00
1373	Rubber insertions for 75 mm dia pipe joints	each	16.00
1374	Rubber insertions for 100 mm dia pipe joints	each	18.00
1375	Rubber insertions for 125 mm dia pipe joints	each	20.00
1376	Rubber insertions for 150 mm dia pipe joints	each	20.00
1377	Rubber insertions for 200 mm dia pipe joints	each	25.00
1378	Rubber insertions for 250 mm dia pipe joints	each	40.00
1379	Rubber insertions for 300 mm dia pipe joints	each	45.00
1380	Rubber insertions for 350 mm dia pipe joints	each	50.00
1381	Rubber insertions for 400 mm dia pipe joints	each	73.00
1382	Rubber insertions for 450 mm dia pipe joints	each	92.00
1383	Rubber insertions for 500 mm dia pipe joints	each	110.00
1384	Rubber insertions for 600 mm dia pipe joints	each	125.00
1397	Pig lead	kg	176.00
1464	S & S.C.I. standard specials upto 300 mm dia (heavy class)	quintal	3600.00
1466	S & S.C.I. standard specials over 300 mm dia (heavy class)	quintal	3700.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
1468	Flanged C.I. standard specials upto 300 mm dia (heavy class)	quintal	5500.00
1470	Flanged C.I. standard specials over 300 mm dia (heavy class)	quintal	5500.00
1472	Casing pipe 100 mm dia	metre	335.00
1545	G.I. pipes 15 mm dia	metre	91.00
1546	G.I. pipes 20 mm dia	metre	120.00
1547	G.I. pipes 25 mm dia	metre	171.00
1548	G.I. pipes 32 mm dia	metre	215.00
1549	G.I. pipes 40 mm dia	metre	250.00
1550	G.I. pipes 50 mm dia	metre	310.00
1551	G.I. pipes 65 mm dia	metre	395.00
1552	G.I. pipes 80 mm dia	metre	505.00
1555	G.I. back (jam) nuts 25 mm dia	each	15.00
1559	G.I. back (jam) nuts 65 mm dia	each	25.00
1608	G.I. tees (equal) 25 mm	each	50.00
1612	G.I. tees (equal) 65 mm	each	452.00
1641	G.I. Union 15 mm nominal bore	each	30.00
1642	G.I. Union 20 mm nominal bore	each	49.00
1643	G.I. Union 25 mm nominal bore	each	108.00
1644	G.I. Union 32 mm nominal bore	each	141.00
1645	G.I. Union 40 mm nominal bore	each	192.00
1646	G.I. Union 50 mm nominal bore	each	249.00
1647	G.I. Union 65 mm nominal bore	each	504.00
1648	G.I. Union 80 mm nominal bore	each	563.00
1649	Polyethylene water storage tank with cover and suitable locking arrangement	per litre	5.50
1687	Unplasticised P.V.C. connection pipe with brass union 30 cm long 15 mm bore	each	30.00
1688	Unplasticised P.V.C. connection pipe with brass union 30 cm long 20 mm bore	each	35.00
1689	Unplasticised P.V.C. connection pipe with brass union 45 cm long 15 mm bore	each	35.00
1690	Unplasticised P.V.C. connection pipe with brass union 45 cm long 20 mm bore	each	48.00
1693	S.C.I. hand pump	each	670.00
1878	Shower rose C.P. brass for 15 to 20 mm inlet 100 mm dia	each	100.00
1879	Shower rose C.P. brass for 15 to 20 mm inlet 150 mm dia	each	125.00
1881	Spun yarn	kg	50.00
1882	Strainer brass 40 mm dia 1.5 metre long	each	600.00
1922	H.P. or L.P. ball valve with polythene floats: 15 mm dia	each	210.00

Code No.	Description	Unit	Rate ₹
1923	H.P. or L.P. ball valve with polythene floats: 20 mm dia	each	235.00
1924	H.P. or L.P. ball valve with polythene floats: 25 mm dia	each	230.00
1926	20 mm dia Gunmetal gate valve with wheel	each	325.00
1927	Brass full way valve with C.I. wheel (screwed end) 25 mm dia	each	350.00
1928	Brass full way valve with C.I. wheel (screwed end) 32 mm dia	each	410.00
1929	Brass full way valve with C.I. wheel (screwed end) 40 mm dia	each	480.00
1930	Brass full way valve with C.I. wheel (screwed end) 50 mm dia	each	620.00
1931	Brass full way valve with C.I. wheel (screwed end) 65 mm dia	each	1080.00
1932	Brass full way valve with C.I. wheel (screwed end) 80 mm dia	each	1620.00
1933	Gunmetal non-return valve-horizontal (screwed end) 25 mm dia	each	330.00
1934	Gunmetal non-return valve-horizontal (screwed end) 32 mm dia	each	450.00
1935	Gunmetal non-return valve-horizontal (screwed end) 40 mm dia	each	560.00
1936	Gunmetal non-return valve-horizontal (screwed end) 50 mm dia	each	820.00
1937	Gunmetal non-return valve-horizontal (screwed end) 65 mm dia	each	1490.00
1938	Gunmetal non-return valve-horizontal (screwed end) 80 mm dia	each	2120.00
1940	C.I. sluice valve (with caps) class I: 100 mm dia	each	2410.00
1941	C.I. sluice valve (with caps) class I : 125 mm dia	each	2600.00
1942	C.I. sluice valve (with caps) class I: 150 mm dia	each	3600.00
1943	C.I. sluice valve (with caps) class I : 200 mm dia	each	7500.00
1944	C.I. sluice valve (with caps) class I : 250 mm dia	each	10980.00
1945	C.I. sluice valve (with caps) class I: 300 mm dia	each	15500.00
1956	Bolts and nuts 16 mm dia 60 mm long	each	11.00
1957	Bolts and nuts 16 mm dia 65 mm long	each	12.00
1958	Bolts and nuts 20 mm dia 65 mm long	each	15.00
1959	Bolts and nuts 20 mm dia 70 mm long	each	17.00
1960	Bolts and nuts 20 mm dia 75 mm long	each	16.00
1961	Bolts and nuts 20 mm dia 80 mm long	each	18.00
1962	Bolts and nuts 24 mm dia 85 mm long	each	28.00
1963	Bolts and nuts 24 mm dia 90 mm long	each	32.00
1964	Bolts and nuts 27 mm dia 100 mm long	each	38.00
2271	Carriage of G.I. pipes below 100 mm dia	tonne	92.24
2272	Carriage of Stainless Steel pipes below 100 mm dia	tonne	92.24
2309	Carriage of Cast Iron fittings	tonne	92.24
2319	Carriage of Spun iron S & S pipes 100 mm dia	100 metre	226.82
2320	Carriage of Spun iron S & S pipes 125 mm dia	100 metre	302.97
2321	Carriage of Spun iron S & S pipes 150 mm dia	100 metre	378.03
2322	Carriage of Spun iron S & S pipes 200 mm dia	100 metre	614.93

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
2323	Carriage of Spun iron S & S pipes 250 mm dia	100 metre	873.84
2324	Carriage of Spun iron S & S pipes 300 mm dia	100 metre	1080.08
2325	Carriage of Spun iron S & S pipes 350 mm dia	100 metre	1512.11
2326	Carriage of Spun iron S & S pipes 400 mm dia	100 metre	2061.97
2327	Carriage of Spun iron S & S pipes 450 mm dia	100 metre	2520.19
2328	Carriage of Spun iron S & S pipes 500 mm dia	100 metre	2520.19
2329	Carriage of Spun iron S & S pipes 600mm dia	100 metre	3780.28
2330	Carriage of C.I. pipes 500 mm dia	100 metre	2520.19
2331	Carriage of R.C.C. pipes 900 mm dia	100 metre	5670.42
2332	Carriage of R.C.C. pipes 1000 mm dia	100 metre	7560.57
2333	Carriage of R.C.C. pipes 1100 mm dia	100 metre	7560.57
2334	Carriage of R.C.C. pipes 1200 mm dia	100 metre	7560.57
2335	Carriage of sand	cum	103.77
2341	Carriage of Pig lead	tonne	92.24
2343	Carriage of Ductile Iron pipes (k7) 100 mm dia	100 metre	226.82
2344	Carriage of Cast iron pipes 150 mm dia	100 metre	378.03
2345	Carriage of Cast iron pipes 200 mm dia	100 metre	614.93
2346	Carriage of Cast iron pipes 250 mm dia	100 metre	873.84
2347	Carriage of Cast iron pipes 300 mm dia	100 metre	1080.08
2348	Carriage of Cast iron pipes 350 mm dia	100 metre	1512.11
2349	Carriage of Cast iron pipes 400 mm dia	100 metre	2061.97
2350	Carriage of Cast iron pipes 450 mm dia	100 metre	2520.19
2351	Carriage of Cast iron pipes 500 mm dia	100 metre	2520.19
2352	Carriage of Cast iron pipes 600 mm dia	100 metre	3780.28
2353	Carriage of Cast iron pipes 700 mm dia	100 metre	3780.28
2355	Carriage of Cast iron pipes 800 mm dia	100 metre	3780.28
2356	Carriage of Cast iron pipes 900 mm dia	100 metre	5670.42
2357	Carriage of Cast iron pipes 1000 mm dia	100 metre	7560.57
3080	Gunmetal non-return valve - vertical (screwed end) 25 mm dia	each	350.00
3084	Gunmetal non-return valve - vertical (screwed end) 32 mm dia	each	500.00
3088	Gunmetal non-return valve - vertical (screwed end) 40 mm dia	each	700.00
3092	Gunmetal non-return valve - vertical (screwed end) 50 mm dia	each	900.00
3096	Gunmetal non-return valve - vertical (screwed end) 65 mm dia	each	1500.00
3300	Gunmetal non-return valve - vertical (screwed end) 80 mm dia	each	2500.00
3311	C.I. sluice valve (with caps) class II : 100 mm dia	each	2700.00
3314	C.I. sluice valve (with caps) class II : 125 mm dia	each	3200.00
3317	C.I. sluice valve (with caps) class II : 150 mm dia	each	4000.00

Code No.	Description	Unit	Rate ₹
3320	C.I. sluice valve (with caps) class II : 200 mm dia	each	8900.00
3321	C.I. sluice valve (with caps) class II : 250 mm dia	each	14500.00
3326	C.I. sluice valve (with caps) class II : 300 mm dia	each	18200.00
3327	15 mm Battery Based Sensor Pillar Cock	each	5800.00
6501	Sand zone V (Jamuna)	cum	1225.00
7257	C.P. Brass bibcock 15 mm	each	290.00
7258	C.P. Brass long nose bibcock 15 mm	each	430.00
7259	C.P. Brass long body bibcock 15 mm	each	385.00
7260	C.P. Brass stop cock (concealed) 15 mm	each	430.00
7261	C.P. Brass angle valve 15 mm	each	375.00
7400	15 mm PTMT bib cock	each	71.00
7401	15 mm PTMT bib cock with flange (fancy)	each	105.00
7402	15 mm PTMT bib cock long body with flange	each	116.00
7403	15 mm dia PTMT stop cock (male thread)	each	71.00
7405	20 mm dia PTMT stop cock	each	97.00
7406	PTMT pillar cock	each	125.00
7407	PTMT push cock 15 mm dia	each	62.00
7408	PTMT push cock 12 mm dia 20 mm BSP	each	57.00
7409	PTMT grating 100 mm dia	each	20.00
7410	PTMT Pillar cock (fancy) 15 mm foam flow	each	138.00
7411	125 mm grating with waste hole	each	30.00
7412	Rectangular type with openable circular lid 150 mm size 18 mm high with 100 mm dia (110 gm)	each	118.00
7415	Double acting air valve 50 mm	each	3715.00
7416	Double acting air valve 80 mm	each	4525.00
7417	Double acting air valve 100 mm	each	5910.00
7418	Water meter (including testing charges) 80 mm	each	2030.00
7419	Water meter (including testing charges) 100 mm	each	3143.00
7420	Water meter (including testing charges) 150 mm	each	4765.00
7421	Water meter (including testing charges) 200 mm	each	5145.00
7422	Dirt box strainer 80 mm	each	2680.00
7423	Dirt box strainer 100 mm	each	4370.00
7424	Dirt box strainer 150 mm	each	5540.00
7425	Dirt box strainer 200 mm	each	7860.00
7495	PTMT Ball Cock 15mm complete with Epoxy Coated Aluminium Rod & H.D. Ball	each	100.00
7496	PTMT Ball Cock 20mm complete with Epoxy Coated Aluminium Rod & H.D. Ball	each	135.00



<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
7497	PTMT Ball Cock 25mm complete with Epoxy Coated Aluminium Rod & H.D. Ball	each	290.00
7498	PTMT Ball Cock 40mm complete with Epoxy Coated Aluminium Rod & H.D. Ball	each	480.00
7499	PTMT Ball Cock 50mm complete with Epoxy Coated Aluminium Rod & H.D. Ball	each	870.00
7500	PTMT Angle Stop cock with Flange 15 mm	each	100.00
7501	PTMT Swiveling shower 15 mm	each	70.00
7509	PTMT Soap Dish/Holder 138x102x75 mm	each	84.00
7651	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 100 mm dia	metre	765.00
7652	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 150 mm dia	metre	1150.00
7653	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 200 mm dia	metre	1575.00
7654	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 250 mm dia	metre	2200.00
7655	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 300 mm dia	metre	2750.00
7656	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 350 mm dia	metre	3350.00
7657	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 400 mm dia	metre	4300.00
7658	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 450 mm dia	metre	5000.00
7659	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 500 mm dia	metre	6270.00
7660	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 600 mm dia	metre	7560.00
7661	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 700 mm dia	metre	10500.00
7662	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 750 mm dia	metre	11350.00
7663	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 800 mm dia	metre	11450.00
7664	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 900 mm dia	metre	13900.00
7665	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 1000 mm dia	metre	15550.00
7666	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 100 mm dia	each	29.00
7668	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 150 mm dia	each	36.00
7669	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 200 mm dia	each	63.00
7670	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 250 mm dia	each	74.00
7671	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 300 mm dia	each	110.00
7672	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 350 mm dia	each	126.00
7673	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 400 mm dia	each	230.00
7674	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 450 mm dia	each	270.00
7675	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 500 mm dia	each	290.00
7676	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 600 mm dia	each	365.00
7677	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 700 mm dia	each	550.00
7678	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 750 mm dia	each	660.00
7679	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 800 mm dia	each	725.00
7680	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 900 mm dia	each	960.00

Code No.	Description	Unit	Rate ₹
7681	Rubber Gaskets Conforming to I.S 5382 of S.B.R quality 1000 mm dia	each	1145.00
7682	Ductile Iron K - 12 specials suitable for push on jointing up to 600 mm dia	quintal	12400.00
7683	Ductile Iron K - 12 specials suitable for push on jointing over 600 mm dia	quintal	17200.00
7684	Ductile Iron specials suitable for mechanical jointing as per I.S. 9523 - up to 600 mm dia	quintal	13050.00
7685	Ductile Iron Specials suitable for mechanical jointing as per I.S. 9523 over 600 mm dia	quintal	18750.00
7686	Ductile Iron Pipe Class K-9 flanges and welding 100 mm dia	metre	1100.00
7687	Ductile Iron Pipe Class K-9 flanges and welding 150 mm dia	metre	1650.00
7688	Ductile Iron Pipe Class K-9 flanges and welding 200 mm dia	metre	2075.00
7689	Ductile Iron Pipe Class K-9 flanges and welding 250 mm dia	metre	2950.00
7690	Ductile Iron Pipe Class K-9 flanges and welding 300 mm dia	metre	3790.00
7691	Ductile Iron Pipe Class K-9 flanges and welding 350 mm dia	metre	4780.00
7692	Ductile Iron Pipe Class K-9 flanges and welding 400 mm dia	metre	6150.00
7693	Ductile Iron Pipe Class K-9 flanges and welding 450 mm dia	metre	6453.00
7694	Ductile Iron Pipe Class K-9 flanges and welding 500 mm dia	metre	9180.00
7695	Ductile Iron Pipe Class K-9 flanges and welding 600 mm dia	metre	12150.00
7696	Ductile Iron Pipe Class K-9 flanges and welding 700 mm dia	metre	14370.00
7697	S&S Centrifugally (Spun) C.I. Pipe class LA 100 mm dia	metre	857.00
7698	S&S Centrifugally (Spun) C.I. Pipe class LA 125 mm dia	metre	1067.00
7699	S&S Centrifugally (Spun) C.I. Pipe class LA 150 mm dia	metre	1286.00
7700	S&S Centrifugally (Spun) C.I. Pipe class LA 200 mm dia	metre	2190.00
7701	S&S Centrifugally (Spun) C.I. Pipe class LA 250 mm dia	metre	2857.00
7702	S&S Centrifugally (Spun) C.I. Pipe class LA 300 mm dia	metre	3857.00
7703	S&S Centrifugally (Spun) C.I. Pipe class LA 350 mm dia	metre	4619.00
7704	S&S Centrifugally (Spun) C.I. Pipe class LA 400 mm dia	metre	6095.00
7705	S&S Centrifugally (Spun) C.I. Pipe class LA 450 mm dia	metre	7381.00
7706	S&S Centrifugally (Spun) C.I. Pipe class LA 500 mm dia	metre	8571.00
7707	S&S Centrifugally (Spun) C.I. Pipe class LA 600 mm dia	metre	11995.00
7708	S&S Centrifugally (Spun) C.I. Pipe Specials as per IS 1538 suitable for lead jointing up to 300 mm dia	quintal	5190.00
7709	S&S Centrifugally (Spun) C.I. Pipe Specials as per IS 1538 suitable for lead jointing over 300 mm dia	quintal	6200.00
7710	S&S Centrifugally (Spun) C.I. Pipe specials suitable for mechanical joint as per I.S. 13382 up to 300 mm dia	quintal	8571.00
7711	S&S Centrifugally (Spun) C.I. Pipe Specials suitable for mechanical joint as per I.S. 13382 over 300 mm dia	quintal	9048.00

Code No.	Description	Unit	Rate ₹
7712	Screwed double flanged centrifugally cast (spun) C.I. Pipe of Class B conforming to I.S. 1536, - 100 mm dia	metre	1310.00
7713	Screwed double flanged centrifugally cast (spun) C.I. Pipe of Class B conforming to I.S. 1536, - 150 mm dia	metre	2048.00
7714	Screwed double flanged centrifugally cast (spun) C.I. Pipe of Class B conforming to I.S. 1536, - 200 mm dia	metre	3238.00
7715	Screwed double flanged centrifugally cast (spun) C.I. Pipe of Class B conforming to I.S. 1536, - 250 mm dia	metre	3905.00
7716	Screwed double flanged centrifugally cast (spun) C.I. Pipe of Class B conforming to I.S. 1536, - 300 mm dia	metre	4990.00
7717	Screwed double flanged centrifugally cast (spun) C.I. Pipe of Class B conforming to I.S. 1536, - 350 mm dia	metre	6286.00
7718	Screwed double flanged centrifugally cast (spun) C.I. Pipe of Class B conforming to I.S. 1536, - 400 mm dia	metre	8143.00
7719	Screwed double flanged centrifugally cast (spun) C.I. Pipe of Class B conforming to I.S. 1536, - 450 mm dia	metre	10381.00
7720	Screwed double flanged centrifugally cast (spun) C.I. Pipe of Class B conforming to I.S. 1536, - 500 mm dia	metre	12914.00
7721	Screwed double flanged centrifugally cast (spun) C.I. Pipe of Class B conforming to I.S. 1536, - 600 mm dia	metre	17905.00
7722	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 100 mm dia	metre	800.00
7723	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 150 mm dia	metre	1140.00
7724	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 200 mm dia	metre	1400.00
7725	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 250 mm dia	metre	1800.00
7726	Ductile Iron Class K- 7 pipe conforming to i.S. 8329 - 300 mm dia	metre	2250.00
7727	Ductile Iron Class K- 7 pipe conforming to i.S. 8329 - 350 mm dia	metre	2650.00
7728	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 400 mm dia	metre	3175.00
7729	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 450 mm dia	metre	3852.00
7730	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 500 mm dia	metre	4350.00
7731	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 600 mm dia	metre	5600.00
7732	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 700 mm dia	metre	7300.00
7733	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 800 mm dia	metre	9100.00
7734	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 900 mm dia	metre	11800.00
7735	Ductile Iron Class K- 7 pipe conforming to I.S. 8329 - 1000 mm dia	metre	12300.00
7859	P.T.M.T. Bib cock with nozzle 15 mm	each	154.50
7861	P.T.M.T. Stop cock (concealed) 15 mm	each	133.50
7862	15 mm nominal bore and 30 cm length PVC connection pipe with P.T.M.T. Nuts	each	46.50
7863	15 mm nominal bore and 45 cm length PVC connection pipe with P.T.M.T. Nuts	each	57.00
7864	P.T.M.T. extension nipple 15 mm dia	each	30.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
7865	P.T.M.T. extension nipple 20 mm dia	each	54.00
7866	P.T.M.T. extension nipple 25 mm dia	each	78.00
8300	1216 mm PE-AL-PE Composite pressure pipe	metre	62.00
8301	1620 mm PE-AL-PE Composite pressure pipe	metre	78.00
8302	2025 mm PE-AL-PE Composite pressure pipe	metre	110.00
8303	2532 mm PE-AL-PE Composite pressure pipe	metre	157.00
8304	3240 mm PE-AL-PE Composite pressure pipe	metre	235.00
8305	4050 mm PE-AL-PE Composite pressure pipe	metre	330.00
8306	PPR Union 20 mm	each	48.00
8307	PPR Union 25 mm	each	97.00
8308	PPR Union 32 mm	each	137.20
8309	PPR Union 40 mm	each	184.80
8310	PPR Union 50 mm	each	352.80
8311	PPR Union 63 mm	each	483.60
8312	PPR Union 75 mm	each	933.00
8626	Poly propylene- Random - Co - Polymer (PPR) pipes PN-16 (SDR 7.4) - 20 mm Outer dia	metre	43.27
8627	Poly propylene- Random - Co - Polymer (PPR) pipes PN-16 (SDR 7.4) - 25 mm Outer dia	metre	66.80
8628	Poly propylene- Random - Co - Polymer (PPR) pipes PN-16 (SDR 7.4) - 32 mm Outer dia	metre	107.47
8629	Poly propylene- Random - Co - Polymer (PPR) pipes PN-16 (SDR 7.4) - 40 mm Outer dia	metre	161.07
8630	Poly propylene- Random - Co - Polymer (PPR) pipes PN-10 (SDR 11) - 50 mm Outer dia	metre	252.22
8631	Poly propylene- Random - Co - Polymer (PPR) pipes PN-10 (SDR 11) - 63 mm Outer dia	metre	281.73
8632	Poly propylene- Random - Co - Polymer (PPR) pipes PN-10 (SDR 11) - 75 mm Outer dia	metre	418.18
8633	Poly propylene- Random - Co - Polymer (PPR) pipes PN-10 (SDR 11) - 90 mm Outer dia	metre	597.63
8634	Poly propylene- Random - Co - Polymer (PPR) pipes PN-10 (SDR 11) - 110 mm Outer dia	metre	885.83
8635	Poly propylene- Random - Co - Polymer (PPR) pipes PN-10 (SDR 11) - 160 mm Outer dia	metre	2557.30
8636	Chlorinated Polyvinyl - chloride (CPVC) pipe 15 mm outer dia	metre	48.55
8637	Chlorinated Polyvinyl - chloride (CPVC) pipe 20 mm outer dia	metre	77.80
8638	Chlorinated Polyvinyl - chloride (CPVC) pipe 25 mm outer dia	metre	113.60
8639	Chlorinated Polyvinyl - chloride (CPVC) pipe 32 mm outer dia	metre	163.65
8640	Chlorinated Polyvinyl - chloride (CPVC) pipe 40 mm outer dia	metre	228.70

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
8641	Chlorinated Polyvinyl - chloride (CPVC) pipe 50 mm outer dia	metre	375.25
8642	Chlorinated Polyvinyl - chloride (CPVC) pipe 62.5 mm inner dia	metre	793.30
8643	Chlorinated Polyvinyl - chloride (CPVC) pipe 75 mm inner dia	metre	1031.05
8644	Chlorinated Polyvinyl - chloride (CPVC) pipe 100 mm inner dia	metre	1466.75
8645	Chlorinated Polyvinyl - chloride (CPVC) pipe 150 mm inner dia	metre	3145.15
8701	SS pipe 304 grades with press fit technology as per JIS 3448 standard 48.60 mm outer dia	metre	610.00
8702	Coupling/Socket fittings for 15.88 mm outer dia SS pipe	each	59.00
8779	SS pipe 304 grades with press fit technology as per JIS 3448 standard 15.88 mm outer dia	metre	130.00
8780	SS pipe 304 grades with press fit technology as per JIS 3448 standard 22.22 mm outer dia	metre	243.00
8781	SS pipe 304 grades with press fit technology as per JIS 3448 standard 28.58 mm outer dia	metre	297.00
8782	SS pipe 304 grades with press fit technology as per JIS 3448 standard 34.00 mm outer dia	metre	423.00
8783	SS pipe 304 grades with press fit technology as per JIS 3448 standard 42.70 mm outer dia	metre	441.00
8786	Coupling/Socket fittings for 22.22 mm outer dia SS pipe	each	63.00
8787	Coupling/Socket fittings for 28.58 mm outer dia SS pipe	each	89.00
8788	Coupling/Socket fittings for 34.00 mm outer dia SS pipe	each	131.00
8789	Coupling/Socket fittings for 42.70 mm outer dia SS pipe	each	158.00
8790	Coupling/Socket fittings for 48.60 mm outer dia SS pipe	each	180.00
8791	Reducer for 22.22 mm X 15.88 mm outer Dia SS pipe	each	103.00
8792	Reducer for 28.58 mm X 15.88 mm outer Dia SS pipe	each	141.00
8793	Reducer for 28.58 mm X 22.22 mm outer Dia SS pipe	each	145.00
8794	Reducer for 34.00 mm X 15.88 mm outer Dia SS pipe	each	184.00
8795	Reducer for 34.00 mm X 22.22 mm outer Dia SS pipe	each	187.00
8796	Reducer for 34.00 mm X 28.58 mm outer Dia SS pipe	each	190.00
8797	Reducer for 42.70 mm X 15.88 mm outer Dia SS pipe	each	359.00
8798	Reducer for 42.70 mm X 22.22 mm outer Dia SS pipe	each	362.00
8799	Reducer for 42.70 mm X 28.58 mm outer Dia SS pipe	each	362.00
8800	Reducer for 42.70 mm X 34.00 mm outer Dia SS pipe	each	387.00
8801	Reducer for 48.60 mm X 15.88 mm outer Dia SS pipe	each	410.00
8802	Reducer for 48.60 mm X 22.22 mm outer Dia SS pipe	each	410.00
8803	Reducer for 48.60 mm X 28.58 mm outer Dia SS pipe	each	410.00
8804	Reducer for 48.60 mm X 34.00 mm outer Dia SS pipe	each	410.00
8805	Reducer for 48.60 mm X 42.70 mm outer Dia SS pipe	each	410.00
8806	Slip Coupling / Socket 15.88 mm outer dia SS pipe	each	47.00

Code No.	Description	Unit	Rate ₹
8807	Slip Coupling / Socket 22.22 mm outer dia SS pipe	each	63.00
8808	Slip Coupling / Socket 28.58 mm outer dia SS pipe	each	89.00
8809	Slip Coupling / Socket 34.00 mm outer dia SS pipe	each	131.00
8810	Slip Coupling / Socket 42.70 mm outer dia SS pipe	each	158.00
8811	Slip Coupling / Socket 48.60 mm outer dia SS pipe	each	170.00
8812	Elbow 90° for 15.88 mm outer dia SS pipe	each	58.00
8813	Elbow 90° for 22.22 mm outer dia SS pipe	each	63.00
8814	Elbow 90° for 28.58 mm outer dia SS pipe	each	96.00
8815	Elbow 90° for 34.00 mm outer dia SS pipe	each	109.00
8816	Elbow 90° for 42.70 mm outer dia SS pipe	each	116.00
8817	Elbow 90° for 48.60 mm outer dia SS pipe	each	150.00
8818	Reducing Elbow 90° for 22.22 mm X 15.88 mm outer dia SS pipe	each	148.00
8819	Reducing Elbow 90° for 28.58 mm X 15.88 mm outer dia SS pipe	each	191.00
8820	Reducing Elbow 90° for 28.58 mm X 22.22 mm outer dia SS pipe	each	221.00
8821	Reducing Elbow 90° for 34.00 mm X 22.22 mm outer dia SS pipe	each	287.00
8822	Reducing Elbow 90° for 34.00 mm X 28.58 mm outer dia SS pipe	each	345.00
8823	Reducing Elbow 90° for 42.70 mm X 34.00 mm outer dia SS pipe	each	179.00
8824	Equal Tee for 15.88 mm outer dia SS pipe	each	159.00
8825	Equal Tee for 22.22 mm outer dia SS pipe	each	231.00
8826	Equal Tee for 28.58 mm outer dia SS pipe	each	273.00
8827	Equal Tee for 34.00 mm outer dia SS pipe	each	437.00
8828	Equal Tee for 42.70 mm outer dia SS pipe	each	683.00
8829	Equal Tee for 48.60 mm outer dia SS pipe	each	887.00
8830	Reducing Tee for 22.22 mm X 15.88 mm outer dia SS	each	179.00
8831	Reducing Tee for 28.58 mm X 15.88 mm outer dia SS pipe	each	273.00
8832	Reducing Tee for 28.58 mm X 22.22 mm outer dia SS pipe	each	273.00
8833	Reducing Tee for 34.00 mm X 15.88 mm outer dia SS pipe	each	437.00
8834	Reducing Tee for 34.00 mm X 22.22 mm outer dia SS pipe	each	437.00
8835	Reducing Tee for 34.00 mm X 28.58 mm outer dia SS pipe	each	437.00
8836	Reducing Tee for 42.70 mm X 15.88 mm outer dia SS pipe	each	683.00
8837	Reducing Tee for 42.70 mm X 22.22 mm outer dia SS pipe	each	683.00
8838	Reducing Tee for 42.70 mm X 28.58 mm outer dia SS pipe	each	683.00
8839	Reducing Tee for 42.70 mm X 34.00 mm outer dia SS pipe	each	683.00
8840	Reducing Tee for 48.60 mm X 15.88 mm outer dia SS pipe	each	887.00
8841	Reducing Tee for 48.60 mm X 22.22 mm outer dia SS pipe	each	887.00
8842	Reducing Tee for 48.60 mm X 28.58 mm outer dia SS pipe	each	887.00
8843	Reducing Tee for 48.60mm X 34.00 mm outer dia SS pipe	each	887.00



<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
8844	Reducing Tee for 48.60mm X 42.70mm outer dia SS pipe	each	887.00
8845	Stainless steel Male thread Tee for 15.88 mm outer dia X 15 mm nominal dia threaded	each	179.00
8846	Stainless steel Male thread Tee for 22.22 mm outer dia X 15 mm nominal dia threaded	each	200.00
8847	Stainless steel Male thread Tee for 22.22 mm outer dia X 20 mm nominal dia threaded	each	205.00
8848	Stainless steel Male thread Tee for 28.58 mm outer dia X 15 mm nominal dia threaded	each	273.00
8849	Stainless steel Male thread Tee for 28.58 mm outer dia X 20 mm nominal dia threaded	each	273.00
8850	Stainless steel Male thread Tee for 28.58 mm outer dia X 25 mm nominal dia threaded	each	273.00
8851	Stainless steel Male thread Tee for 34.00 mm outer dia X 15 mm nominal dia threaded	each	437.00
8852	Stainless steel Male thread Tee for 34.00 mm outer dia X 20 mm nominal dia threaded	each	437.00
8853	Stainless steel Male thread Tee for 34.00 mm outer dia X 25 mm nominal dia threaded	each	437.00
8854	Stainless steel Male thread Tee for 34.00 mm outer dia X 32 mm nominal dia threaded	each	437.00
8855	Stainless steel Male thread Tee for 42.70 mm outer dia X 15 mm nominal dia threaded	each	683.00
8856	Stainless steel Male thread Tee for 42.70 mm outer dia X 20 mm nominal dia threaded	each	683.00
8857	Stainless steel Male thread Tee for 42.70 mm outer dia X 25 mm nominal dia threaded	each	683.00
8858	Stainless steel Male thread Tee for 42.70 mm outer dia X 32 mm nominal dia threaded	each	683.00
8859	Stainless steel Male thread Tee for 42.70 mm outer dia X 40 mm nominal dia threaded	each	683.00
8860	Stainless steel Male thread Tee for 48.60 mm outer dia X 15 mm nominal dia threaded	each	887.00
8861	Stainless steel Male thread Tee for 48.60 mm outer dia X 20 mm nominal dia threaded	each	887.00
8862	Stainless steel Male thread Tee for 48.60 mm outer dia X 25 mm nominal dia threaded	each	887.00
8863	Stainless steel Male thread Tee for 48.60 mm outer dia X 32 mm nominal dia threaded	each	887.00
8864	Stainless steel Male thread Tee for 48.60 mm outer dia X 40 mm nominal dia threaded	each	887.00
8865	Stainless steel Male thread Tee for 48.60 mm outer dia X 50 mm nominal dia threaded	each	887.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
8866	Stainless steel Female thread Tee for 15.88 mm outer dia X 15 mm nominal dia threaded	each	179.00
8867	Stainless steel Female thread Tee for 22.22 mm outer dia X 15 mm nominal dia threaded	each	200.00
8868	Stainless steel Female thread Tee for 22.22 mm outer dia X 20 mm nominal dia threaded	each	200.00
8869	Stainless steel Female thread Tee for 28.58 mm outer dia X 15 mm nominal dia threaded	each	273.00
8870	Stainless steel Female thread Tee for 28.58 mm outer dia X 20 mm nominal dia threaded	each	273.00
8871	Stainless steel Female thread Tee for 28.58 mm outer dia X 25 mm nominal dia threaded	each	273.00
8872	Stainless steel Female thread Tee for 34.00 mm outer dia X 15 mm nominal dia threaded	each	437.00
8873	Stainless steel Female thread Tee for 34.00 mm outer dia X 20 mm nominal dia threaded	each	437.00
8874	Stainless steel Female thread Tee for 34.00 mm outer dia X 25 mm nominal dia threaded	each	437.00
8875	Stainless steel Female thread Tee for 34.00 mm outer dia X 32 mm nominal dia threaded	each	437.00
8876	Stainless steel Female thread Tee for 42.70 mm outer dia X 15 mm nominal dia threaded	each	683.00
8877	Stainless steel Female thread Tee for 42.70 mm outer dia X 20 mm nominal dia threaded	each	683.00
8878	Stainless steel Female thread Tee for 42.70 mm outer dia X 25 mm nominal dia threaded	each	683.00
8879	Stainless steel Female thread Tee for 42.70 mm outer dia X 32 mm nominal dia threaded	each	683.00
8880	Stainless steel Female thread Tee for 42.70 mm outer dia X 40 mm nominal dia threaded	each	683.00
8881	Stainless steel Female thread Tee for 48.60 mm outer dia X 15 mm nominal dia threaded	each	887.00
8882	Stainless steel Female thread Tee for 48.60 mm outer dia X 20 mm nominal dia threaded	each	887.00
8883	Stainless steel Female thread Tee for 48.60 mm outer dia X 25 mm nominal dia threaded	each	887.00
8884	Stainless steel Female thread Tee for 48.60 mm outer dia X 32 mm nominal dia threaded	each	887.00
8885	Stainless steel Female thread Tee for 48.60 mm outer dia X 40 mm nominal dia threaded	each	887.00
8886	Stainless steel Female thread Tee for 48.60 mm outer dia X 50 mm nominal dia threaded	each	887.00
8887	Stainless steel Female threaded Connector/Adapter for 15.88 mm outer dia X 15 mm nominal threaded	each	190.00



<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
8888	Stainless steel Female threaded Connector/Adapter for 22.22 mm outer dia X 15 mm nominal threaded	each	230.00
8889	Stainless steel Female threaded Connector/Adapter for 22.22 mm outer dia X 20 mm nominal threaded	each	237.00
8890	Stainless steel Female threaded Connector/Adapter for 28.58 mm outer dia X 15 mm nominal threaded	each	277.00
8891	Stainless steel Female threaded Connector/Adapter for 28.58 mm outer dia X 20 mm nominal threaded	each	286.00
8892	Stainless steel Female threaded Connector/Adapter for 28.58 mm outer dia X 25 mm nominal threaded	each	337.00
8893	Stainless steel Female threaded Connector/Adapter for 34.00 mm outer dia X 25 mm nominal threaded	each	409.00
8894	Stainless steel Female threaded Connector/Adapter for 34.00 mm outer dia X 32 mm nominal threaded	each	538.00
8895	Stainless steel Female threaded Connector/Adapter for 42.70 mm outer dia X 32 mm nominal threaded	each	576.00
8896	Stainless steel Female threaded Connector/Adapter for 42.70 mm outer dia X 40 mm nominal threaded	each	681.00
8897	Stainless steel Female threaded Connector/Adapter for 48.60 mm outer dia X 40 mm nominal threaded	each	838.00
8898	Stainless steel Female threaded Connector/Adapter for 48.60 mm outer dia X 50 mm nominal threaded	each	965.00
8899	Stainless steel Male threaded Connector/Adapter for 15.88 mm outer dia X 15 mm nominal threaded	each	193.00
8900	Stainless steel Male threaded Connector/Adapter for 22.22 mm outer dia X 15 mm nominal threaded	each	227.00
8901	Stainless steel Male threaded Connector/Adapter for 22.22 mm outer dia X 20 mm nominal threaded	each	248.00
8902	Stainless steel Male threaded Connector/Adapter for 28.58 mm outer dia X 20 mm nominal threaded	each	313.00
8903	Stainless steel Male threaded Connector/Adapter for 28.58 mm outer dia X 25 mm nominal threaded	each	320.00
8904	Stainless steel Male threaded Connector/Adapter for 34.00 mm outer dia X 25 mm nominal threaded	each	461.00
8905	Stainless steel Male threaded Connector/Adapter for 34.00 mm outer dia X 32 mm nominal threaded	each	565.00
8906	Stainless steel Male threaded Connector/Adapter for 42.70 mm outer dia X 32 mm nominal threaded	each	649.00
8907	Stainless steel Male threaded Connector/Adapter for 42.70 mm outer dia X 40 mm nominal threaded	each	726.00
8908	Stainless steel Male threaded Connector/Adapter for 48.60 mm outer dia X 40 mm nominal threaded	each	840.00
8909	Stainless steel Male threaded Connector/Adapter for 48.60 mm outer dia X 50 mm nominal threaded	each	1138.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
8910	Stainless steel Valve Connector for 15.88 mm outer dia X 15 mm nominal dia threaded	each	234.00
8911	Stainless steel Valve Connector for 22.22 mm outer dia X 15 mm nominal dia threaded	each	276.00
8912	Stainless steel Valve Connector for 22.22 mm outer dia X 20 mm nominal dia threaded	each	295.00
8913	Stainless steel Valve Connector for 28.58 mm outer dia X 25 mm nominal dia threaded	each	424.00
8914	Stainless steel Valve Connector for 34.00 mm outer dia X 32 mm nominal dia threaded	each	629.00
8915	Stainless steel Valve Connector for 42.70 mm outer dia X 40 mm nominal dia threaded	each	875.00
8916	Stainless steel Valve Connector for 48.60 mm outer dia X 50 mm nominal dia threaded	each	1176.00
8917	SS Female Threaded Elbow 90o for 15.88 mm outer dia X 15 mm nominal dia threaded	each	150.00
8918	Stainless steel Female Threaded Elbow 90o for 22.22 mm outer dia X 15 mm nominal dia threaded	each	191.00
8919	Stainless steel Female Threaded Elbow 90o for 22.22 mm outer dia X 20 mm nominal dia threaded	each	191.00
8920	Stainless steel Female Threaded Elbow 90o for 28.58 mm outer dia X 25 mm nominal dia threaded	each	205.00
8921	Stainless steel Female Threaded Elbow 90o for 34.00 mm outer dia X 32 mm nominal dia threaded	each	287.00
8922	Stainless steel Female Threaded Elbow 90o for 42.70 mm outer dia X 32 mm nominal dia threaded	each	478.00
8923	Stainless steel Female Threaded Elbow 90o for 42.70 mm outer dia X 40 mm nominal dia threaded	each	478.00
8924	Stainless steel Female Threaded Elbow 90o for 48.60 mm outer dia X 40 mm nominal dia threaded	each	683.00
8925	Stainless steel Female Threaded Elbow 90o for 48.60 mm outer dia X 50 mm nominal dia threaded	each	683.00
8926	Stainless steel Male Threaded Elbow 90o for 15.88 mm outer dia X 15 mm nominal dia threaded	each	191.00
8927	Stainless steel Male Threaded Elbow 90o for 22.22 mm outer dia X 15 mm nominal dia threaded	each	205.00
8928	Stainless steel Male Threaded Elbow 90o for 22.22 mm outer dia X 20 mm nominal dia threaded	each	205.00
8929	Stainless steel Male Threaded Elbow 90o for 28.58 mm outer dia X 25 mm nominal dia threaded	each	205.00
8930	Stainless steel Male Threaded Elbow 90o for 34.00 mm outer dia X 25 mm nominal dia threaded	each	287.00
8931	Stainless steel Male Threaded Elbow 90o for 34.00 mm outer dia X 32 mm nominal dia threaded	each	287.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
8932	Stainless steel Male Threaded Elbow 900 for 42.70 mm outer dia X32 mm nominal dia threaded	each	478.00
8933	Stainless steel Male Threaded Elbow 900 for 42.70 mm outer dia X40 mm nominal dia threaded	each	478.00
8934	Stainless steel Male Threaded Elbow 900 for 48.60 mm outer dia X40 mm nominal dia threaded	each	683.00
8935	Stainless steel Male Threaded Elbow 900 for 48.60 mm outer dia X50 mm nominal dia threaded	each	683.00
8936	Stainless steel Cap for 15.88 mm outer dia pipe	each	45.00
8937	Stainless steel Cap for 22.22 mm outer dia pipe	each	64.00
8938	Stainless steel Cap for 28.58 mm outer dia pipe	each	84.00
8939	Stainless steel Cap for 34.00 mm outer dia pipe	each	163.00
8940	Stainless steel Cap for 42.70 mm outer dia pipe	each	236.00
8941	Stainless steel Cap for 48.60 mm outer dia pipe	each	299.00
8942	Stainless steel Pipe Bridge for 15.88 mm outer dia pipe	each	214.00
8943	Stainless steel Pipe Bridge for 22.22 mm outer dia pipe	each	271.00
8944	Stainless steel Pipe Bridge for 28.58 mm outer dia pipe	each	407.00
9977	Carriage	L.S.	2.00
9988	Carriage and sundries	L.S.	2.00
9999	Sundries	L.S.	2.00

## 18.0 WATER SUPPLY

Code No.	Description	Unit	Rate ₹
<b>PE-AL-PE COMPOSITE PRESSURE PIPE</b>			
18.1	Providing and fixing Polyethelene-Aluminium-Polyethelene PE-AL-PE Composite Pressure Pipes conforming to IS - 15450, U.V. stabilized with carbon black having thermal stability for hot & cold water supply, capable to withstand temperature up to 80°C, including all special fittings of composite material (engineering plastic blend and brass inserts wherever required) e.g. elbows, tees, reducers, couplers & connectors etc., with clamps at 1.00 metre spacing. This includes testing of joints complete as per direction of the Engineer-in-charge.		
<b>INTERNAL WORK - EXPOSED ON WALL</b>			
18.1.1	1216 (16 mm OD) pipe	metre	250.40
18.1.2	1620 (20 mm OD) pipe	metre	292.75
18.1.3	2025 (25 mm OD) pipe	metre	362.95
18.1.4	2532 (32 mm OD) pipe	metre	468.95
18.1.5	3240 (40 mm OD) pipe	metre	659.55
18.1.6	4050 (50 mm OD) pipe	metre	824.80
18.2	Providing and fixing Polyethelene-Aluminium- Polyethelene PE-AL-PE Composite Pressure Pipes conforming to IS - 15450, U.V. stabilized with carbon black having thermal stability for hot & cold water supply, capable to withstand temperature up to 80°C, including all special fittings of composite material (engineering plastic blend and brass inserts wherever required) e.g. elbows, tees, reducers, couplers & connectors etc., with clamps at 1.00 metre spacing. This includes the costs of cutting chases and including testing of joints complete as per direction of the engineer in charge.  Concealed work, including cutting chases and making good the wall etc.		
18.2.1	1216 (16 mm OD) pipe	metre	441.15
18.2.2	1620 (20 mm OD) pipe	metre	478.60
18.2.3	2025 (25 mm OD) pipe	metre	553.50
18.2.4	2532 (32 mm OD) pipe	metre	663.55
18.3	Providing and fixing Polyethelene-Aluminium- Polyethelene PE-AL-PE Composite Pressure Pipes conforming to IS - 15450, U.V. stabilized with carbon black having thermal stability for hot & cold water supply, capable to withstand temperature up to 80°C, including all special fittings of composite material (engineering plastic blend and brass inserts wherever required) e.g. elbows, tees, reducers, couplers & connectors etc., with trenching, refilling and testing of joints complete as per direction of the engineer in charge.		
<b>External work</b>			
18.3.1	1216 (16 mm OD) pipe	metre	226.25

Code No.	Description	Unit	Rate ₹
18.3.2	1620 (20 mm OD ) pipe	metre	254.05
18.3.3	2025 (25 mm OD ) pipe	metre	309.70
18.3.4	2532 (32 mm OD ) pipe	metre	391.45
18.3.5	3240 (40 mm OD ) pipe	metre	547.70
18.3.6	4050 (50 mm OD ) pipe	metre	712.95
<b>PP-R PIPES</b>			
<b>18.4</b>	<b>Providing and fixing 3 layer PP-R (Poly propylene Random copolymer) pipes confirming to IS 15801, UV stabilized &amp; anti - microbial fusion welded, having thermal stability for hot &amp; cold water supply, including all PP - R plain &amp; brass threaded polypropylene random fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes testing of joints complete as per direction of Engineer-in-Charge.</b>		
	<b>Internal Exposed on walls</b>		
18.4.1	PN - 16 Pipe, 20mm OD (SDR-7.4)	metre	232.35
18.4.2	PN - 16 Pipe, 25mm OD (SDR-7.4)	metre	287.80
18.4.3	PN - 16 Pipe, 32mm OD (SDR-7.4)	metre	344.55
18.4.4	PN - 16 Pipe, 40mm OD (SDR-7.4)	metre	498.65
18.4.5	PN - 10 Pipe, 50mm OD (SDR-11)	metre	638.90
<b>18.5</b>	<b>Providing and fixing 3 layer PP-R (Poly propylene Random copolymer) pipes confirming to IS:15801, UV stabilized &amp; anti - microbial fusion welded, having thermal stability for hot &amp; cold water supply, including all PP - R plain &amp; brass threaded polypropylene random fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer-in-Charge.</b>		
	<b>Concealed work,including cutting chases and making good the wall etc.</b>		
18.5.1	PN - 16 Pipe, 20mm OD (SDR-7.4)	metre	394.85
18.5.2	PN - 16 Pipe, 25mm OD (SDR-7.4)	metre	452.35
18.5.3	PN - 16 Pipe, 32mm OD (SDR-7.4)	metre	511.65
<b>18.6</b>	<b>Providing and fixing 3 layer PP-R (Poly propylene Random copolymer) pipes confirming to IS:15801 UV stabilized &amp; anti - microbial fusion welded, having thermal stability for hot &amp; cold water supply, including all PP - R plain &amp; brass threaded polypropylene random fittings, including trenching, refilling &amp; testing of joints complete as per direction of Engineer-in-Charge.</b>		
	<b>External work</b>		
18.6.1	PN - 16 Pipe, 20mm OD (SDR-7.4)	metre	187.85
18.6.2	PN - 16 Pipe, 25 mm OD (SDR-7.4)	metre	236.30
18.6.3	PN - 16 Pipe, 32 mm OD (SDR-7.4)	metre	301.60
18.6.4	PN - 16 Pipe, 40 mm OD (SDR-7.4)	metre	397.60

Code No.	Description	Unit	Rate ₹
18.6.5	PN - 10 Pipe, 50 mm OD (SDR-11)	metre	543.95
18.6.6	PN - 10 Pipe, 63 mm OD (SDR-11)	metre	624.85
18.6.7	PN - 10 Pipe, 75 mm OD (SDR-11)	metre	843.90
18.6.8	PN - 10 Pipe, 90 mm OD (SDR-11)	metre	1187.90
18.6.9	PN - 10 Pipe, 110 mm OD (SDR-11)	metre	1650.60
18.6.10	PN - 10 Pipe, 160 mm OD (SDR-11)	metre	4457.25
18.6A	<b>Providing and fixing PPR Unions</b>		
18.6A.1	PPR Union 20mm	each	259.85
18.6A.2	PPR Union 25mm	each	325.40
18.6A.3	PPR Union 32mm	each	379.15
18.6A.4	PPR Union 40mm	each	442.85
18.6A.5	PPR Union 50mm	each	667.65
18.6A.6	PPR Union 63mm	each	842.65
18.6A.7	PPR Union 75mm	each	1443.90
	<b>C.P.V.C. PIPES</b>		
18.7	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.		
	<b>Internal work - Exposed on wall</b>		
18.7.1	15 mm nominal outer dia Pipes	metre	241.55
18.7.2	20 mm nominal outer dia Pipes	metre	306.95
18.7.3	25 mm nominal outer dia Pipes	metre	369.20
18.7.4	32 mm nominal outer dia Pipes	metre	480.55
18.7.5	40 mm nominal outer dia Pipes	metre	648.60
18.7.6	50 mm nominal outer dia Pipes	metre	903.50
18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.		
	Concealed work, including cutting chases and making good the walls etc.		
18.8.1	15 mm nominal outer dia Pipes	metre	409.65
18.8.2	20 mm nominal outer dia Pipes	metre	478.15
18.8.3	25 mm nominal outer dia Pipes	metre	561.95
18.8.4	32 mm nominal outer dia Pipes	metre	679.15

Code No.	Description	Unit	Rate ₹
18.9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.		
	<b>External work</b>		
18.9.1	15 mm nominal outer dia Pipes	metre	202.85
18.9.2	20 mm nominal outer dia Pipes	metre	253.70
18.9.3	25 mm nominal outer dia Pipes	metre	326.65
18.9.4	32 mm nominal outer dia Pipes	metre	413.70
18.9.5	40 mm nominal outer dia Pipes	metre	536.75
18.9.6	50 mm nominal outer dia Pipes	metre	791.65
18.9.7	62.50 mm nominal inner dia Pipes	metre	1552.30
18.9.8	75 mm nominal inner dia Pipes	metre	1965.85
18.9.9	100 mm nominal inner dia Pipes	metre	2779.55
18.9.10	150 mm nominal inner dia Pipes	metre	5821.85
18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.		
	<b>Internal work - Exposed on wall</b>		
18.10.1	15 mm dia nominal bore	metre	284.90
18.10.2	20 mm dia nominal bore	metre	344.10
18.10.3	25 mm dia nominal bore	metre	438.00
18.10.4	32 mm dia nominal bore	metre	529.70
18.10.5	40 mm dia nominal bore	metre	639.60
18.10.6	50 mm dia nominal bore	metre	786.75
18.11	Providing and fixing G.I. Pipes complete with G.I. fittings and clamps, i/c making good the walls etc. concealed pipe, including painting with anti corrosive bitumastic paint, cutting chases and making good the wall :		
18.11.1	15 mm dia nominal bore	metre	447.60
18.11.2	20 mm dia nominal bore	metre	494.10
18.12	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.		
	<b>External work</b>		
18.12.1	15 mm dia nominal bore	metre	244.15
18.12.2	20 mm dia nominal bore	metre	283.80
18.12.3	25 mm dia nominal bore	metre	364.55
18.12.4	32 mm dia nominal bore	metre	424.70
18.12.5	40 mm dia nominal bore	metre	483.15

Code No.	Description	Unit	Rate ₹
18.12.6	50 mm dia nominal bore	metre	565.25
18.12.7	65 mm dia nominal bore	metre	716.00
18.12.8	80 mm dia nominal bore	metre	866.40
18.13	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :		
18.13.1	25 to 40 mm nominal bore	each	673.45
18.13.2	50 to 80 mm nominal bore	each	1432.75
18.14	Fixing water meter and stop cock in G.I. pipe line including cutting and threading the pipe and making long screws etc. complete (cost of water meter and stop cock to be paid separately).	each	606.55
<b>BRASS FITTINGS</b>			
18.15	Providing and fixing brass bib cock of approved quality :		
18.15.1	15 mm nominal bore	each	302.55
18.15.2	20 mm nominal bore	each	326.45
18.16	Providing and fixing brass stop cock of approved quality :		
18.16.1	15 mm nominal bore	each	302.55
18.16.2	20 mm nominal bore	each	326.45
18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :		
18.17.1	25 mm nominal bore	each	497.15
18.17.1A	20 mm nominal bore	each	460.20
18.17.2	32 mm nominal bore.	each	581.25
18.17.3	40 mm nominal bore	each	678.40
18.17.4	50 mm nominal bore	each	869.20
18.17.5	65 mm nominal bore	each	1488.10
18.17.6	80 mm nominal bore	each	2217.90
18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :		
18.18.1	15 mm nominal bore	each	338.70
18.18.2	20 mm nominal bore	each	386.40
18.18.3	25 mm nominal bore	each	394.00
18.19	Providing and fixing gun metal non- return valve of approved quality (screwed end) :		
18.19.1	25 mm nominal bore		
18.19.1.1	Horizontal	each	477.70
18.19.1.2	Vertical	each	504.45
18.19.2	32 mm nominal bore		
18.19.2.1	Horizontal	each	641.75
18.19.2.2	Vertical	each	708.65



Code No.	Description	Unit	Rate ₹
18.19.3	40 mm nominal bore		
	18.19.3.1 Horizontal	each	792.40
	18.19.3.2 Vertical	each	979.70
18.19.4	50 mm nominal bore		
	18.19.4.1 Horizontal	each	1144.05
	18.19.4.2 Vertical	each	1251.10
18.19.5	65 mm nominal bore		
	18.19.5.1 Horizontal	each	2043.95
	18.19.5.2 Vertical	each	2057.35
18.19.6	80 mm nominal bore		
	18.19.6.1 Horizontal	each	2890.70
	18.19.6.2 Vertical	each	3399.10
18.20	Providing and fixing brass ferrule with C.I. mouth cover including boring and tapping the main :		
18.20.1	15 mm nominal bore	each	295.15
18.20.2	20 mm nominal bore	each	340.35
18.20.3	25 mm nominal bore	each	438.35
18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :		
18.21.1	30 cm length		
	18.21.1.1 15 mm nominal bore	each	72.85
	18.21.1.2 20 mm nominal bore	each	79.55
18.21.2	45 cm length		
	18.21.2.1 15 mm nominal bore	each	83.00
	18.21.2.2 20 mm nominal bore	each	100.40
18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :		
18.22.1	100 mm diameter	each	151.90
18.22.2	150 mm diameter	each	188.80
<b>C.I./DUCTILE IRON PIPES &amp; SPECIALS</b>			
18.23	Laying in position centrifugally cast (spun) iron S&S or flanged pipes (excluding cost of pipe).	quintal	264.25
18.24	Laying in position S&S or flanged C.I. special such as tees, bends, collars, tapers and caps etc.(excluding cost of specials).	quintal	491.50
18.25	Providing and laying S&S C.I. standard specials such as tees, bends, collars, tapers, caps etc. (Heavy class):		
18.25.1	Up to 300 mm dia	quintal	5320.40
18.25.2	Over 300 mm dia	quintal	5454.20

Code No.	Description	Unit	Rate ₹
18.26	Providing and laying flanged C.I. standard specials such as tees, bends, collars, tapers, caps etc., suitable for flanged jointing as per IS : 1538 :		
18.26.1	Up to 300 mm dia	quintal	7862.50
18.26.2	Over 300 mm dia	quintal	7862.50
18.27	Providing and laying S&S centrifugally cast (spun) iron pipes (Class LA) conforming to IS - 1536 :		
18.27.1	100 mm dia pipe	metre	1201.95
18.27.2	125 mm dia pipe	metre	1499.80
18.27.3	150 mm dia pipe	metre	1810.75
18.27.4	200 mm dia pipe	metre	3062.75
18.27.5	250 mm dia pipe	metre	4002.00
18.27.6	300 mm dia pipe	metre	5391.05
18.27.7	350 mm dia pipe	metre	6472.60
18.27.8	400 mm dia pipe	metre	8513.95
18.27.9	450 mm dia pipe	metre	10308.85
18.27.10	500 mm dia pipe	metre	11969.15
18.27.11	600 mm dia pipe	metre	16722.75
18.28	Providing lead caulked joints to spun iron or C.I. pipes and specials, including testing of joints but excluding the cost of pig lead :		
18.28.1	100 mm diameter pipe	each	374.80
18.28.2	125 mm diameter pipe	each	556.65
18.28.3	150 mm diameter pipe	each	562.70
18.28.4	200 mm diameter pipe	each	747.65
18.28.5	250 mm diameter pipe	each	934.50
18.28.6	300 mm diameter pipe	each	1124.00
18.28.7	350 mm diameter pipe	each	1144.70
18.28.8	400 mm diameter pipe	each	1505.80
18.28.9	450 mm diameter pipe	each	1690.65
18.28.10	500 mm diameter pipe	each	1787.50
18.28.11	600 mm diameter pipe	each	2424.05
18.29	Supplying pig lead at site of work.	quintal	23560.05
18.30	Providing flanged joints to double flanged C.I./D.I. pipes and specials, including testing of joints :		
18.30.1	80 mm diameter pipe	each	169.15
18.30.2	100 mm diameter pipe	each	265.00
18.30.3	125 mm diameter pipe	each	278.35
18.30.4	150 mm diameter pipe	each	327.40
18.30.5	200 mm diameter pipe	each	355.50

Code No.	Description	Unit	Rate ₹
18.30.6	250 mm diameter pipe	each	484.70
18.30.7	300 mm diameter pipe	each	491.40
18.30.8	350 mm diameter pipe	each	660.45
18.30.9	400 mm diameter pipe	each	906.00
18.30.10	450 mm diameter pipe	each	1115.15
18.30.11	500 mm diameter pipe	each	1263.20
18.30.12	600 mm diameter pipe	each	1478.10
<b>C.I. SLUICE VALVES/ FIRE HYDRANTS &amp; FIXTURES</b>			
18.31	Providing and fixing C.I. sluice valves (with cap) complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately) :		
18.31.1	100 mm diameter		
	18.31.1.1 Class I	each	3977.60
	18.31.1.2 Class II	each	4426.05
18.31.2	125 mm diameter		
	18.31.2.1 Class I	each	4318.95
	18.31.2.2 Class II	each	5182.20
18.31.3	150 mm diameter		
	18.31.3.1 Class I	each	5836.60
	18.31.3.2 Class II	each	6442.35
18.31.4	200 mm diameter		
	18.31.4.1 Class I	each	11357.75
	18.31.4.2 Class II	each	13376.85
18.31.5	250 mm diameter		
	18.31.5.1 Class I	each	16566.40
	18.31.5.2 Class II	each	21527.85
18.31.6	300 mm diameter		
	18.31.6.1 Class I	each	22942.10
	18.31.6.2 Class II	each	26861.85
18.32	Constructing masonry Chamber 30x30x50 cm inside, in brick work in cement mortar 1:4 (1 cement :4 coarse sand) for stop cock, with C. I. surface box 100x100 x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 ( 1 cement : 5 fine sand : 10 graded stone aggregate 40mm nominal size ) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick, finished with a floating coat of neat cement complete as per standard design :		
	18.32.1 With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	1582.45

Code No.	Description	Unit	Rate ₹
18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep ( inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size ) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :		
18.33.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	9288.40
18.34	Constructing masonry Chamber 90x90x100 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size ) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size ) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :		
18.34.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	16134.15
18.35	Constructing masonry Chamber 120x120x100 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep ( inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :		
18.35.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	22363.20
18.36	Constructing masonry Chamber 60x60x75 cm, inside in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for fire hydrants, with C.I. surface box 350x350 mm top and 165 mm deep ( inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand:10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :		
18.36.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	8856.70

Code No.	Description	Unit	Rate ₹
18.37	Constructing masonry Chamber 60x45x50 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for water meter complete with C.I. double flap surface box 400x200x200 mm (inside) with locking arrangement and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 ( 1 cement : 5 fine sand:10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :		
18.37.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	8300.25
18.38	Painting G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved quality for new work :		
18.38.1	15 mm diameter pipe	metre	15.20
18.38.2	20 mm diameter pipe	metre	18.15
18.38.3	25 mm diameter pipe	metre	23.70
18.38.4	32 mm diameter pipe	metre	28.40
18.38.5	40 mm diameter pipe	metre	33.40
18.38.6	50 mm diameter pipe	metre	39.80
18.39	Repainting G.I. pipes and fittings with synthetic enamel white paint with one coat of approved quality :		
18.39.1	15 mm diameter pipe	metre	7.55
18.39.2	20 mm diameter pipe	metre	8.90
18.39.3	25 mm diameter pipe	metre	11.35
18.39.4	32 mm diameter pipe	metre	13.60
18.39.5	40 mm diameter pipe	metre	15.75
18.39.6	50 mm diameter pipe	metre	18.75
18.40	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality :		
18.40.1	15 mm diameter pipe	metre	9.30
18.40.2	20 mm diameter pipe	metre	11.10
18.40.3	25 mm diameter pipe	metre	14.15
18.40.4	32 mm diameter pipe	metre	17.05
18.40.5	40 mm diameter pipe	metre	19.40
18.40.6	50 mm diameter pipe	metre	23.35
18.40.7	65 mm diameter pipe	metre	28.95
18.40.8	80 mm diameter pipe	metre	33.60

Code No.	Description	Unit	Rate ₹
18.41	Providing and filling sand of grading zone V or coarser grade, allround the G.I. pipes in external work :		
18.41.1	15 mm diameter pipe	metre	142.60
18.41.2	20 mm diameter pipe	metre	144.55
18.41.3	25 mm diameter pipe	metre	148.40
18.41.4	32 mm diameter pipe	metre	152.25
18.41.5	40 mm diameter pipe	metre	154.15
18.41.6	50 mm diameter pipe	metre	159.95
18.41.7	65 mm diameter pipe	metre	252.45
18.41.8	80 mm diameter pipe	metre	260.15
18.41.9	100 mm diameter pipe	metre	275.60
18.41.10	150 mm diameter pipe	metre	410.50
18.42	Boring with 100 mm diameter casing pipe for hand pump / tubewell, in all soils except ordinary hard rocks requiring blasting, including removing the casing pipe after the hand pump / tube well is lowered and tested :		
18.42.1	Up to 6 metres depth	metre	554.20
18.42.2	Beyond 6 m and up to 12 m depth	metre	656.20
18.42.3	Beyond 12 m and up to 18 m depth	metre	761.55
18.43	Providing and placing in position filters of 40 mm diameter G.I. pipe with brass strainer of approved quality.	metre	768.55
18.44	Providing and fixing to filter and lowering to proper levels 40 mm G.I. pipe for tube well including cleaning and priming the tube well.	metre	433.95
18.45	Providing and placing in position hand pump of approved quality for 40 mm diameter G.I. pipe complete with all accessories.	each	1117.80
18.46	Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete (New work) :		
18.46.1	15 mm nominal bore	each	235.75
18.46.2	20 mm nominal bore	each	261.15
18.46.3	25 mm nominal bore	each	340.10
18.46.4	32 mm nominal bore	each	384.25
18.46.5	40 mm nominal bore	each	452.50
18.46.6	50 mm nominal bore	each	598.10
18.46.7	65 mm nominal bore	each	939.30
18.46.8	80 mm nominal bore	each	1018.20
18.47	Providing and fixing G.I. Union in existing G.I. pipe line, cutting and threading the pipe and making long screws, including excavation, refilling the earth or cutting of wall and making good the same complete wherever required :		
18.47.1	15 mm nominal bore	each	617.20

Code No.	Description	Unit	Rate ₹
18.47.2	20 mm nominal bore	each	642.65
18.47.3	25 mm nominal bore	each	721.60
18.47.4	32 mm nominal bore	each	765.75
18.47.5	40 mm nominal bore	each	833.95
18.47.6	50 mm nominal bore	each	1118.30
18.47.7	65 mm nominal bore	each	1459.50
18.47.8	80 mm nominal bore	each	1538.40
18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	per litre	8.80
18.48A	Providing and fixing rectangular high density polyethylene water storage loft tank with cover, conforming to ISI : 12701, colour of opaque white or as approved by Engineer-in-charge. The rate includes making necessary holes for inlet, outlet & over flow pipes. The base support i/c fittings & fixtures for tank shall be paid separately.	per litre	8.80
<b>C.P. BRASS FITTINGS</b>			
18.49	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 :		
18.49.1	15 mm nominal bore	each	418.95
18.50	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.		
18.50.1	15 mm nominal bore	each	618.80
18.51	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.		
18.51.1	15 mm nominal bore	each	552.35
18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.		
18.52.1	15 mm nominal bore	each	606.25
18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931		
18.53.1	15mm nominal bore	each	532.00
18.53A	Providing and fixing C.P. Brass extension nipple (size 15mmx50mm) of approved make and quality as per direction of Engineer-in-charge.	each	61.25
<b>PTMT FITTINGS</b>			
18.54	Providing and fixing PTMT bib cock of approved quality and colour.		
18.54.1	15mm nominal bore, 86 mm long, weighing not less than 88 gms	each	116.55
18.54.2	15 mm nominal bore, 122mm long, weighing not less than 99 gms	each	162.05
18.54.3	15 mm nominal bore, 165 mm long, weighing not less than 110 gms	each	176.75

Code No.	Description	Unit	Rate ₹
18.54.4	15 mm nominal bore, 90 mm long, weighing not less than 93 gms	each	228.30
18.55	Providing and fixing PTMT stop cock of approved quality and colour.		
18.55.1	15 mm nominal bore, 86 mm long, weighing not less than 88 gms	each	116.55
18.55.2	20 mm nominal bore, 89 mm long, weighing not less than 88 gms	each	151.35
18.55.3	Concealed stop cock, 15 mm nominal bore, 108 mm long, weighing not less than 108 gms	each	200.20
18.56	Providing and fixing PTMT pillar cock of approved quality and colour.		
18.56.1	15 mm nominal bore, 107 mm long, weighing not less than 110 gms	each	192.65
18.56.2	15 mm nominal bore, 125 mm long foam flow, weighing not less than 120 gms	each	210.05
18.57	Providing and fixing PTMT, push cock of approved quality and colour.		
18.57.1	15 mm nominal bore, 98 mm long, weighing not less than 75 gms	each	104.50
18.57.2	15 mm nominal bore, 80 mm long, weighing not less than 46 gms	each	97.85
18.58	Providing and fixing PTMT grating of approved quality and colour.		
18.58.1	Circular type		
18.58.1.1	100 mm nominal dia	each	37.90
18.58.1.2	125 mm nominal dia with 25 mm waste hole	each	51.25
18.58.2	Rectangular type with openable circular lid		
18.58.2.1	150 mm nominal size square 100 mm diameter of the inner hinged round grating	each	169.00
<b>AIR VALVE &amp; WATER METER (BULK TYPE)</b>			
18.59	Providing and fixing C.I. double acting air valve of approved quality with bolts, nuts, rubber insertions etc. complete (The tail pieces, tapers etc if required will be paid separately) :		
18.59.1	50 mm dia	each	5157.00
18.59.2	80 mm dia	each	6240.70
18.59.3	100 mm dia	each	8193.10
18.60	Providing and fixing enclosed type water meter (bulk type) conforming to IS : 2373 and tested by Municipal Board complete with bolts, nuts, rubber insertions etc. (The tail pieces if required will be paid separately) :		
18.60.1	80 mm dia nominal bore	each	3576.10
18.60.2	100 mm dia nominal bore	each	5291.70
18.60.3	150 mm dia nominal bore	each	7725.80
18.60.4	200 mm dia nominal bore	each	8429.55



Code No.	Description	Unit	Rate ₹
18.61	Providing and fixing C.I. dirt box strainer for bulk type water meter with nuts, bolts, rubber insertions etc. complete conforming to IS : 2373 :		
18.61.1	80 mm dia	each	4097.90
18.61.2	100 mm dia	each	6585.50
18.61.3	150 mm dia	each	8345.25
18.61.4	200 mm dia	each	11644.65
18.62	Providing and fixing PTMT Ball cock of approved quality, colour and make complete with Epoxy coated aluminium rod with L.P./ H.P.H.D. plastic ball.		
18.62.1	15 mm nominal bore, 105 mm long, weighing not less than 138 gms	each	191.55
18.62.2	20 mm nominal bore, 120 mm long, weighing not less than 198 gms	each	252.65
18.62.3	25 mm nominal bore, 152mm long, weighing not less than 440 gms	each	474.25
18.62.4	40 mm nominal bore, 206mm long, weighing not less than 690 gms	each	728.50
18.62.5	50 mm nominal bore, 242mm long, weighing not less than 1240 gms	each	1250.30
18.63	Providing and fixing PTMT angle stop cock 15 mm nominal bore, weighing not less than 85 gms	each	155.35
18.64	Providing and fixing PTMT swivelling shower, 15 mm nominal bore, weighing not less than 40 gms	each	111.75
18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	each	130.50
18.66	Providing and laying S&S C.I. Standard specials such as tees, bends, collars tapers and caps etc, suitable for flanged jointing as per IS : 1538 :		
18.66.1	Up to 300 mm dia	quintal	7447.75
18.66.2	Above 300 mm dia	quintal	8799.05
18.67	Providing and laying S&S C.I. Standard specials suitable for mechanical jointing as per IS : 13382 :		
18.67.1	Up to 300 mm dia	quintal	11971.30
18.67.2	Above 300 mm dia	quintal	12609.50
18.68	Providing and laying D.I. specials of class K-12 suitable for push-on jointing as per IS : 9523 :		
18.68.1	Up to 600 mm dia	quintal	17094.25
18.68.2	Above 600 mm dia	quintal	23516.35

Code No.	Description	Unit	Rate ₹
18.69	Providing and laying D.I. Specials of Class K - 12 suitable for mechanical jointing as per IS : 9523 :		
18.69.1	Up to 600 mm dia	quintal	17963.95
18.69.2	Above 600 mm dia	quintal	25590.15
18.70	Providing push-on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and the cost of rubber gasket :		
18.70.1	100 mm dia pipes	joint	91.65
18.70.2	150 mm dia pipes	joint	149.85
18.70.3	200 mm dia pipes	joint	219.85
18.70.4	250 mm dia pipes	joint	268.45
18.70.5	300 mm dia pipes	joint	350.50
18.70.6	350 mm dia pipes	joint	371.90
18.70.7	400 mm dia pipes	joint	578.85
18.70.8	450 mm dia pipes	joint	666.25
18.70.9	500 mm dia pipes	joint	709.95
18.70.10	600 mm dia pipes	joint	928.90
18.70.11	650 mm dia pipes	joint	1257.75
18.70.12	700 mm dia pipes	joint	1404.95
18.70.13	800 mm dia pipes	joint	1546.15
18.70.14	900 mm dia pipes	joint	1962.20
18.70.15	1000 mm dia pipes	joint	2277.50
18.71	Providing and laying Double Flanged (screwed / welded) Centrifugally (Spun) Cast Iron, Class B (IS : 1536) :		
18.71.1	100 mm dia C.I. Double Flanged Pipe	metre	1827.10
18.71.2	150 mm dia C.I. Double Flanged Pipe	metre	2861.95
18.71.3	200 mm dia C.I. Double Flanged Pipe	metre	4508.55
18.71.4	250 mm dia C.I. Double Flanged Pipe	metre	5462.00
18.71.5	300 mm dia C.I. Double Flanged Pipe	metre	6981.45
18.71.6	350 mm dia C.I. Double Flanged Pipe	metre	8789.35
18.71.7	400 mm dia C.I. Double Flanged Pipe	metre	11363.20
18.71.8	450 mm dia C.I. Double Flanged Pipe	metre	14455.60
18.71.9	500 mm dia C.I. Double Flanged Pipe	metre	17932.30
18.71.10	600 mm dia C.I. Double Flanged Pipe	metre	24839.80
18.72	Providing and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329 :		
18.72.1	100 mm dia Ductile Iron Class K-7 pipes	metre	1114.10
18.72.2	150 mm dia Ductile Iron Class K-7 pipes	metre	1590.55

Code No.	Description	Unit	Rate ₹
18.72.3	200 mm dia Ductile Iron Class K-7 pipes	metre	1960.90
18.72.4	250 mm dia Ductile Iron Class K-7 pipes	metre	2523.85
18.72.5	300 mm dia Ductile Iron Class K-7 pipes	metre	3152.70
18.72.6	350 mm dia Ductile Iron Class K-7 pipes	metre	3740.15
18.72.7	400 mm dia Ductile Iron Class K-7 pipes	metre	4482.45
18.72.8	450 mm dia Ductile Iron Class K-7 pipes	metre	5429.00
18.72.9	500 mm dia Ductile Iron Class K-7 pipes	metre	6135.45
18.72.10	600 mm dia Ductile Iron Class K-7 pipes	metre	7909.30
18.72.11	700 mm dia Ductile Iron Class K-7 pipes	metre	10316.70
18.72.12	800 mm dia Ductile Iron Class K-7 pipes	metre	12869.25
18.72.13	900 mm dia Ductile Iron Class K-7 pipes	metre	16610.55
18.72.14	1000 mm dia Ductile Iron Class K-7 pipes	metre	17477.90
18.72.15	100 mm dia Ductile Iron Class K-9 pipes	metre	1073.50
18.72.16	150 mm dia Ductile Iron Class K-9 pipes	metre	1613.10
18.72.17	200 mm dia Ductile Iron Class K-9 pipes	metre	2211.00
18.72.18	250 mm dia Ductile Iron Class K-9 pipes	metre	3082.00
18.72.19	300 mm dia Ductile Iron Class K-9 pipes	metre	3853.60
18.72.20	350 mm dia Ductile Iron Class K-9 pipes	metre	4713.00
18.72.21	400 mm dia Ductile Iron Class K-9 pipes	metre	6031.25
18.72.22	450 mm dia Ductile Iron Class K-9 pipes	metre	7016.65
18.72.23	500 mm dia Ductile Iron Class K-9 pipes	metre	8764.75
18.72.24	600 mm dia Ductile Iron Class K-9 pipes	metre	10611.10
18.72.25	700 mm dia Ductile Iron Class K-9 pipes	metre	14656.90
18.72.26	750 mm dia Ductile Iron Class K-9 pipes	metre	15902.55
18.72.27	800 mm dia Ductile Iron Class K-9 pipes	metre	16126.35
18.72.28	900 mm dia Ductile Iron Class K-9 pipes	metre	19547.50
18.72.29	1000 mm dia Ductile Iron Class K-9 pipes	metre	21910.75
18.73	Providing and laying Double Flanged (Screwed/ Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS : 8329 :		
18.73.1	100 mm dia Ductile Iron Double Flanged	metre	1532.35
18.73.2	150 mm dia Ductile Iron Double Flanged	metre	2298.80
18.73.3	200 mm dia Ductile Iron Double Flanged	metre	2901.25
18.73.4	250 mm dia Ductile Iron Double Flanged	metre	4115.55
18.73.5	300 mm dia Ductile Iron Double Flanged	metre	5287.10
18.73.6	350 mm dia Ductile Iron Double Flanged	metre	6657.10
18.73.7	400 mm dia Ductile Iron Double Flanged	metre	8541.30
18.73.8	450 mm dia Ductile Iron Double Flanged	metre	9005.15

Code No.	Description	Unit	Rate ₹
18.73.9	500 mm dia Ductile Iron Double Flanged	metre	12707.10
18.73.10	600 mm dia Ductile Iron Double Flanged	metre	16832.40
18.73.11	700 mm dia Ductile Iron Double Flanged	metre	19933.70
18.74	Providing and fixing unplasticised P.V.C. connection pipe with PTMT Nuts, collar and bush of approved quality and colour.		
18.74.1	15 mm nominal bore with 30cm length	each	94.90
18.74.2	15 mm nominal bore with 45 cm length	each	112.45
18.75	Providing and fixing PTMT extension nipple for water tank pipe, fittings of approved quality and colour.		
18.75.1	15 mm nominal bore, weighing not less than 32 gms	each	49.20
18.75.2	20 mm nominal bore, weighing not less than 40 gms	each	81.30
18.75.3	25mm nominal bore, weighing not less than 62 gms	each	113.40
18.76	Cutting holes up to 30x30 cm in walls including making good the same:		
18.76.1	With common burnt clay F.P.S. (non modular) bricks	each	327.25
18.77	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof.	each	344.60
18.78	Making chases up to 7.5x7.5 cm in walls including making good and finishing with matching surface after housing G.I. pipe etc.	metre	154.15
18.79	Making hole up to 20x20 cm and embedding pipes up to 150 mm diameter in masonry and filling with cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) including disposal of malba.	metre	180.15
18.80	Disinfecting C.I. water mains by flushing with water containing bleaching powder @ 0.5 gms per litre of water and cleaning the same with fresh water, operation to be repeated three times including getting the sample of water from the disinfected main tested in the municipal laboratory.		
18.80.1	80 mm diameter C.I. pipe	100 metre	1349.55
18.80.2	100 mm diameter C.I. pipe	100 metre	1773.30
18.80.3	125 mm diameter C.I. pipe	100 metre	2213.80
18.80.4	150 mm diameter C.I. pipe	100 metre	2653.00
18.80.5	200 mm diameter C.I. pipe	100 metre	3535.25
18.80.6	250 mm diameter C.I. pipe	100 metre	4442.50
18.80.7	300 mm diameter C.I. pipe	100 metre	4935.05
18.80.8	350 mm diameter C.I. pipe	100 metre	5441.35
18.80.9	400 mm diameter C.I. pipe	100 metre	5971.10

Code No.	Description	Unit	Rate ₹
	18.80.10 450 mm diameter C.I. pipe	100 metre	6507.70
	18.80.11 500 mm diameter C.I. pipe	100 metre	7071.40
	18.80.12 600 mm diameter C.I. pipe	100 metre	8211.30
18.81	Extra for every operation of disinfecting the C.I. main by flushing with water containing bleaching powder @ 0.5 gms per litre of water and cleaning the same with fresh water, including getting the samples of water tested in the municipal laboratory :		
	18.81.1 80 mm diameter C.I. pipe	100 metre	493.50
	18.81.2 100 mm diameter C.I. pipe	100 metre	605.00
	18.81.3 125 mm diameter C.I. pipe	100 metre	739.00
	18.81.4 150 mm diameter C.I. pipe	100 metre	859.85
	18.81.5 200 mm diameter C.I. pipe	100 metre	1309.55
	18.81.6 250 mm diameter C.I. pipe	100 metre	1502.75
	18.81.7 300 mm diameter C.I. pipe	100 metre	1683.45
	18.81.8 350 mm diameter C.I. pipe	100 metre	1969.75
	18.81.9 400 mm diameter C.I. pipe	100 metre	2258.80
	18.81.10 450 mm diameter C.I. pipe	100 metre	2555.10
	18.81.11 500 mm diameter C.I. pipe	100 metre	2853.45
	18.81.12 600 mm diameter C.I. pipe	100 metre	3460.45
18.82	Dismantling old C.I. pipes including excavation and refilling trenches after taking out the pipes, breaking lead caulked joints, melting of lead and making into blocks, including stacking of pipes at site lead up to 50 metre:		
	18.82.1 80 mm diameter C.I. pipe	metre	287.05
	18.82.2 100 mm diameter C.I. pipe	metre	299.15
	18.82.3 125 mm diameter C.I. pipe	metre	310.55
	18.82.4 150 mm diameter C.I. pipe	metre	322.15
	18.82.5 200 mm diameter C.I. pipe	metre	359.15
	18.82.6 250 mm diameter C.I. pipe	metre	395.05
	18.82.7 300 mm diameter C.I. pipe	metre	427.40
	18.82.8 350 mm diameter C.I. pipe	metre	458.15
	18.82.9 400 mm diameter C.I. pipe	metre	486.45
	18.82.10 450 mm diameter C.I. pipe	metre	515.45
	18.82.11 500 mm diameter C.I. pipe	metre	541.05
	18.82.12 600 mm diameter C.I. pipe	metre	586.20
18.83	Labour for cutting C.I. pipe with steel saw.		
	18.83.1 80 mm diameter C.I. pipe	each cut	108.90
	18.83.2 100 mm diameter C.I. pipe	each cut	146.00

Code No.	Description	Unit	Rate ₹
18.83.3	125 mm diameter C.I. pipe	each cut	202.55
18.83.4	150 mm diameter C.I. pipe	each cut	274.35
18.83.5	200 mm diameter C.I. pipe	each cut	365.95
18.83.6	250 mm diameter C.I. pipe	each cut	455.05
18.83.7	300 mm diameter C.I. pipe	each cut	546.65
18.83.8	350 mm diameter C.I. pipe	each cut	635.75
18.83.9	400 mm diameter C.I. pipe	each cut	727.00
18.83.10	450 mm diameter C.I. pipe	each cut	816.45
18.83.11	500 mm diameter C.I. pipe	each cut	907.70
18.83.12	600 mm diameter C.I. pipe	each cut	1083.50
18.84	Providing & fixing chrome plated brass battery based infrared sensor operated pillar cock, having foam flow technology.		
18.84.1	15 mm nominal bore	each	7781.60
18.85	Providing and fixing Stainless Steel pipe and fitting of grade AISI 304 as per JIS standard 3448 complete with press type fitting (fitting shall be paid for separately) i/c fixing of the pipe with clamps at 1.00 m spacing including cutting and making good the walls including testing of joints complete as per direction of Engineer-in-charge. (The pipe length inserted in the fitting shall not be measured for payment)		
	<b>Internal work - Exposed on wall</b>		
18.85.1	15.88 mm outer dia pipe	metre	325.20
18.85.2	22.22 mm outer dia Pipe	metre	484.00
18.85.3	28.58 mm outer dia Pipe	metre	560.25
18.85.4	34.00 mm outer dia Pipe	metre	737.30
18.85.5	42.70 mm outer dia Pipe	metre	762.95
18.85.6	48.60 mm outer dia Pipe	metre	1000.35
18.86	Providing and fixing Stainless Steel pipe and fitting of grade AISI 304 as per JIS standard 3448 complete with press type fitting (fitting shall be paid for separately) i/c fixing of the pipe with clamps at 1.00m spacing and also including cutting of chases and making good the walls including testing of joints complete as per direction of Engineer -in-charge. (The pipe length inserted in the fitting shall not be measured for payment)		
	<b>Internal work - Concealed Pipe</b>		
18.86.1	15.88 mm outer dia .Pipes.	metre	478.65
18.86.2	22.22 mm Outer dia pipes	metre	637.40
18.87	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		

Code No.	Description	Unit	Rate ₹
	<b>Coupling/Socket</b>		
	18.87.1 For 15.88 mm outer dia pipe	each	78.95
	18.87.2 For 22.22 mm outer dia pipe	each	84.30
	18.87.3 For 28.58 mm outer dia pipe	each	119.10
	18.87.4 For 34.00 mm outer dia pipe	each	175.25
	18.87.5 For 42.70 mm outer dia pipe	each	211.40
	18.87.6 For 48.60 mm outer dia pipe	each	240.85
18.88	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
	<b>Reducer</b>		
	18.88.1 For 22.22 mm x 15.88 mm outer dia pipe	each	137.80
	18.88.2 For 28.58 mm x 15.88 mm outer dia pipe	each	188.65
	18.88.3 For 28.58 mm x 22.22 mm outer dia pipe	each	194.00
	18.88.4 For 34.00 mm x 15.88 mm outer dia pipe	each	246.20
	18.88.5 For 34.00 mm x 22.22 mm outer dia pipe	each	250.20
	18.88.6 For 34.00 mm x 28.58 mm outer dia pipe	each	254.20
	18.88.7 For 42.70 mm x 15.88 mm outer dia pipe	each	480.30
	18.88.8 For 42.70 mm x 22.22 mm outer dia pipe	each	484.35
	18.88.9 For 42.70 mm x 28.58 mm outer dia pipe	each	484.35
	18.88.10 For 42.70 mm x 34.00 mm outer dia pipe	each	517.80
	18.88.11 For 48.60 mm x 15.88 mm outer dia pipe	each	548.55
	18.88.12 For 48.60 mm x 22.22 mm outer dia pipe	each	548.55
	18.88.13 For 48.60 mm x 28.58 mm outer dia pipe	each	548.55
	18.88.14 For 48.60 mm x 34.00 mm outer dia pipe	each	548.55
	18.88.15 For 48.60 mm x 42.70 mm outer dia pipe	each	548.55
18.89	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
	<b>Slip Coupling/ Socket</b>		
	18.89.1 For 15.88 mm outer dia pipe	each	62.90
	18.89.2 For 22.22 mm outer dia pipe	each	84.30
	18.89.3 For 28.58 mm outer dia pipe	each	119.10



Code No.	Description	Unit	Rate ₹
18.89.4	For 34.00 mm outer dia pipe	each	175.25
18.89.5	For 42.70 mm outer dia pipe	each	211.40
18.89.6	For 48.60 mm outer dia pipe	each	227.45
18.90	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
	<b>Elbow 90°</b>		
18.90.1	For 15.88mm outer dia pipe	each	77.60
18.90.2	For 22.22 mm outer dia pipe	each	84.30
18.90.3	For 28.58 mm outer dia pipe	each	128.45
18.90.4	For 34.00 mm outer dia pipe	each	145.85
18.90.5	For 42.70 mm outer dia pipe	each	155.20
18.90.6	For 48.60 mm outer dia pipe	each	200.70
18.91	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
	<b>Reducing Elbow 90°</b>		
18.91.1	For 22.22 mm x 15.88 mm outer dia pipe	each	198.00
18.91.2	For 28.58 mm x 15.88 mm outer dia pipe	each	255.55
18.91.3	For 28.58 mm x 22.22 mm outer dia pipe	each	295.70
18.91.4	For 34.00 mm x 22.22 mm outer dia pipe	each	384.00
18.91.5	For 34.00 mm x 28.58 mm outer dia pipe	each	461.60
18.91.6	For 42.70 mm x 34.00 mm outer dia pipe	each	239.50
18.92	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
	<b>Equal Tee</b>		
18.92.1	For 15.88 mm outer dia pipe	each	212.75
18.92.2	For 22.22 mm outer dia pipe	each	309.05
18.92.3	For 28.58 mm outer dia pipe	each	365.25
18.92.4	For 34.00 mm outer dia pipe	each	584.70
18.92.5	For 42.70 mm outer dia pipe	each	913.80
18.92.6	For 48.60 mm outer dia pipe	each	1186.75
18.93	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		



Code No.	Description	Unit	Rate ₹
<b>Reducing Tee</b>			
18.93.1	For 22.22 mm x 15.88 mm outer dia pipe	each	239.50
18.93.2	For 28.58 mm x 15.88 mm outer dia pipe	each	365.25
18.93.3	For 28.58 mm x 22.22 mm outer dia pipe	each	365.25
18.93.4	For 34.00 mm x 15.88 mm outer dia pipe	each	584.70
18.93.5	For 34.00 mm x 22.22 mm outer dia pipe	each	584.70
18.93.6	For 34.00 mm x 28.58 mm outer dia pipe	each	584.70
18.93.7	For 42.70 mm x 15.88 mm outer dia pipe	each	913.80
18.93.8	For 42.70 mm x 22.22 mm outer dia pipe	each	913.80
18.93.9	For 42.70 mm x 28.58 mm outer dia pipe	each	913.80
18.93.10	For 42.70 mm x 34.00 mm outer dia pipe	each	913.80
18.93.11	For 48.60 mm x 15.88 mm outer dia pipe	each	1186.75
18.93.12	For 48.60 mm x 22.22 mm outer dia pipe	each	1186.75
18.93.13	For 48.60 mm x 28.58 mm outer dia pipe	each	1186.75
18.93.14	For 48.60 mm x 34.00 mm outer dia pipe	each	1186.75
18.93.15	For 48.60 mm x 42.70 mm outer dia pipe	each	1186.75
18.94	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
<b>Male Thread Tee</b>			
18.94.1	For 15.88 mm outer dia x 15 mm nominal dia threaded	each	239.50
18.94.2	For 22.22 mm outer dia x 15 mm nominal dia threaded	each	267.60
18.94.3	For 22.22 mm outer dia x 20 mm nominal dia threaded	each	274.30
18.94.4	For 28.58 mm outer dia x 15 mm nominal dia threaded	each	365.25
18.94.5	For 28.58 mm outer dia x 20 mm nominal dia threaded	each	365.25
18.94.6	For 28.58 mm outer dia x 25 mm nominal dia threaded	each	365.25
18.94.7	For 34.00 mm outer dia x 15 mm nominal dia threaded	each	584.70
18.94.8	For 34.00 mm outer dia x 20 mm nominal dia threaded	each	584.70
18.94.9	For 34.00 mm outer dia x 25 mm nominal dia threaded	each	584.70
18.94.10	For 34.00 mm outer dia x 32 mm nominal dia threaded	each	584.70
18.94.11	For 42.70 mm outer dia x 15 mm nominal dia threaded	each	913.80
18.94.12	For 42.70 mm outer dia x 20 mm nominal dia threaded	each	913.80
18.94.13	For 42.70 mm outer dia x 25 mm nominal dia threaded	each	913.80
18.94.14	For 42.70 mm outer dia x 32 mm nominal dia threaded	each	913.80
18.94.15	For 42.70 mm outer dia x 40 mm nominal dia threaded	each	913.80
18.94.16	For 48.60 mm outer dia x 15 mm nominal dia threaded	each	1186.75
18.94.17	For 48.60 mm outer dia x 20 mm nominal dia threaded	each	1186.75

Code No.	Description	Unit	Rate ₹
18.94.18	For 48.60 mm outer dia x 25 mm nominal dia threaded	each	1186.75
18.94.19	For 48.60 mm outer dia x 32 mm nominal dia threaded	each	1186.75
18.94.20	For 48.60 mm outer dia x 40 mm nominal dia threaded	each	1186.75
18.94.21	For 48.60 mm outer dia x 50 mm nominal dia threaded	each	1186.75
18.95	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
	<b>Female Thread Tee</b>		
18.95.1	For 15.88 mm outer dia x 15 mm nominal dia threaded	each	239.50
18.95.2	For 22.22 mm outer dia x 15 mm nominal dia threaded	each	267.60
18.95.3	For 22.22 mm outer dia x 20 mm nominal dia threaded	each	267.60
18.95.4	For 28.58 mm outer dia x 15 mm nominal dia threaded	each	365.25
18.95.5	For 28.58 mm outer dia x 20 mm nominal dia threaded	each	365.25
18.95.6	For 28.58 mm outer dia x 25 mm nominal dia threaded	each	365.25
18.95.7	For 34.00 mm outer dia x 15 mm nominal dia threaded	each	584.70
18.95.8	For 34.00 mm outer dia x 20 mm nominal dia threaded	each	584.70
18.95.9	For 34.00 mm outer dia x 25 mm nominal dia threaded	each	584.70
18.95.10	For 34.00 mm outer dia x 32 mm nominal dia threaded	each	584.70
18.95.11	For 42.70 mm outer dia x 15 mm nominal dia threaded	each	913.80
18.95.12	For 42.70 mm outer dia x 20 mm nominal dia threaded	each	913.80
18.95.13	For 42.70 mm outer dia x 25 mm nominal dia threaded	each	913.80
18.95.14	For 42.70 mm outer dia x 32 mm nominal dia threaded	each	913.80
18.95.15	For 42.70 mm outer dia x 40 mm nominal dia threaded	each	913.80
18.95.16	For 48.60 mm outer dia x 15 mm nominal dia threaded	each	1186.75
18.95.17	For 48.60 mm outer dia x 20 mm nominal dia threaded	each	1186.75
18.95.18	For 48.60 mm outer dia x 25 mm nominal dia threaded	each	1186.75
18.95.19	For 48.60 mm outer dia x 32 mm nominal dia threaded	each	1186.75
18.95.20	For 48.60 mm outer dia x 40 mm nominal dia threaded	each	1186.75
18.95.21	For 48.60 mm outer dia x 50 mm nominal dia threaded	each	1186.75
18.96	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
	<b>Female Thread Connector/ Adapter</b>		
18.96.1	For 15.88 mm outer dia x 15 mm nominal dia threaded	each	254.20
18.96.2	For 22.22 mm outer dia x 15 mm nominal dia threaded	each	307.75
18.96.3	For 22.22 mm outer dia x 20 mm nominal dia threaded	each	317.10

Code No.	Description	Unit	Rate ₹
18.96.4	For 28.58 mm outer dia x 15 mm nominal dia threaded	each	370.60
18.96.5	For 28.58 mm outer dia x 20 mm nominal dia threaded	each	382.65
18.96.6	For 28.58 mm outer dia x 25 mm nominal dia threaded	each	450.90
18.96.7	For 34.00 mm outer dia x 25 mm nominal dia threaded	each	547.20
18.96.8	For 34.00 mm outer dia x 32 mm nominal dia threaded	each	719.80
18.96.9	For 42.70 mm outer dia x 32 mm nominal dia threaded	each	770.65
18.96.10	For 42.70 mm outer dia x 40 mm nominal dia threaded	each	911.15
18.96.11	For 48.60 mm outer dia x 40 mm nominal dia threaded	each	1121.20
18.96.12	For 48.60 mm outer dia x 50 mm nominal dia threaded	each	1291.10
18.97	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge. <b>Male Thread Connector/ Adapter</b>		
18.97.1	For 15.88 mm outer dia x 15 mm nominal dia threaded	each	258.20
18.97.2	For 22.22 mm outer dia x 15 mm nominal dia threaded	each	303.70
18.97.3	For 22.22 mm outer dia x 20 mm nominal dia threaded	each	331.80
18.97.4	For 28.58 mm outer dia x 20 mm nominal dia threaded	each	418.75
18.97.5	For 28.58 mm outer dia x 25 mm nominal dia threaded	each	428.15
18.97.6	For 34.00 mm outer dia x 25 mm nominal dia threaded	each	616.80
18.97.7	For 34.00 mm outer dia x 32 mm nominal dia threaded	each	755.95
18.97.8	For 42.70 mm outer dia x 32 mm nominal dia threaded	each	868.30
18.97.9	For 42.70 mm outer dia x 40 mm nominal dia threaded	each	971.35
18.97.10	For 48.60 mm outer dia x 40 mm nominal dia threaded	each	1123.85
18.97.11	For 48.60 mm outer dia x 50 mm nominal dia threaded	each	1522.55
18.98	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge. <b>Valve Connector</b>		
18.98.1	For 15.88 mm outer dia x 15 mm nominal dia threaded	each	313.10
18.98.2	For 22.22 mm outer dia x 15 mm nominal dia threaded	each	369.25
18.98.3	For 22.22 mm outer dia x 20 mm nominal dia threaded	each	394.70
18.98.4	For 28.58 mm outer dia x 25 mm nominal dia threaded	each	567.30
18.98.5	For 34.00 mm outer dia x 32 mm nominal dia threaded	each	841.55
18.98.6	For 42.70 mm outer dia x 40 mm nominal dia threaded	each	1170.70
18.98.7	For 48.60 mm outer dia x 50 mm nominal dia threaded	each	1573.40

Code No.	Description	Unit	Rate ₹
18.99	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
	<b>Female Threaded Elbow 90°</b>		
18.99.1	For 15.88 mm outer dia x 15 mm nominal dia threaded	each	200.70
18.99.2	For 22.22 mm outer dia x 15 mm nominal dia threaded	each	255.55
18.99.3	For 22.22 mm outer dia x 20 mm nominal dia threaded	each	255.55
18.99.4	For 25.58 mm outer dia x 25 mm nominal dia threaded	each	274.30
18.99.5	For 34.00 mm outer dia x 32 mm nominal dia threaded	each	384.00
18.99.6	For 42.70 mm outer dia x 32 mm nominal dia threaded	each	639.55
18.99.7	For 42.70 mm outer dia x 40 mm nominal dia threaded	each	639.55
18.99.8	For 48.60 mm outer dia x 40 mm nominal dia threaded	each	913.80
18.99.9	For 48.60 mm outer dia x 50 mm nominal dia threaded	each	913.80
18.100	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
	<b>Male Threaded Elbow 90°</b>		
18.100.1	For 15.88 mm outer dia x 15 mm nominal dia threaded	each	255.55
18.100.2	For 22.22 mm outer dia x 15 mm nominal dia threaded	each	274.30
18.100.3	For 22.22 mm outer dia x 20 mm nominal dia threaded	each	274.30
18.100.4	For 28.58 mm outer dia x 25 mm nominal dia threaded	each	274.30
18.100.5	For 34.00 mm outer dia x 25 mm nominal dia threaded	each	384.00
18.100.6	For 34.00 mm outer dia x 32 mm nominal dia threaded	each	384.00
18.100.7	For 42.70 mm outer dia x 32 mm nominal dia threaded	each	639.55
18.100.8	For 42.70 mm outer dia x 40 mm nominal dia threaded	each	639.55
18.100.9	For 48.60 mm outer dia x 40 mm nominal dia threaded	each	913.80
18.100.10	For 48.60 mm outer dia x 50 mm nominal dia threaded	each	913.80
18.101	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
	<b>Cap</b>		
18.101.1	For 15.88 mm outer dia pipe	each	60.20
18.101.2	For 22.22 mm outer dia pipe	each	85.65
18.101.3	For 28.58 mm outer dia pipe	each	112.40
18.101.4	For 34.00 mm outer dia pipe	each	218.10
18.101.5	For 42.70 mm outer dia pipe	each	315.75
18.101.6	For 48.60 mm outer dia pipe	each	400.05

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
18.102	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge.		
	<b>Pipe Bridge</b>		
18.102.1	For 15.88 mm outer dia pipe	each	286.30
18.102.2	For 22.22 mm outer dia pipe	each	362.60
18.102.3	For 28.58 mm outer dia pipe	each	544.55

**SUB HEAD : 19.0**

**DRAINAGE**

### BASIC RATES (SH: 19.0 DRAINAGE)

Code No.	Description	Unit	Rate ₹
0101	Bhisti	day	617.00
0103	Blacksmith 2nd class	day	679.00
0114	Beldar	day	558.00
0115	Coolie	day	558.00
0123	Mason (brick layer) 1st class	day	738.00
0124	Mason (brick layer) 2nd class	day	679.00
0285	Brick Aggregate (Single size) : 63 mm nominal size	cum	650.00
0287	Brick Aggregate (Single size) : 40 mm nominal size	cum	650.00
0362	Brick bats	cum	450.00
0367	Portland Cement (OPC-43 Grade)	tonne	4940.00
0983	Fine sand (zone IV)	cum	900.00
1003	Mild steel round bar above 12 mm dia	quintal	4400.00
1006	Mild steel square bars	quintal	4500.00
1336	Clearing eye with chain and lid 100 mm dia	each	44.00
1337	Clearing eye with chain and lid 150 mm dia	each	50.00
1352	C.I. cover and frame 300x300 mm inside	each	477.00
1353	C.I. cover without frame 300x300 mm inside i/c cover of 4.50 kg	each	477.00
1354	Rectangular cover 455x610 mm with frame (low duty)	each	1400.00
1355	Rectangular cover 455x610 mm without frame (low duty)	each	910.00
1356	500 mm dia cover with frame (medium duty)	each	4400.00
1357	500 mm dia cover without frame (medium duty)	each	2300.00
1364	C.I. grating 100x100 mm	each	40.22
1366	C.I. grating 150x150 mm	each	54.42
1367	C.I. grating 180x180 mm	each	65.00
1617	S.C.I. soil, waste and vent single socketed pipe 1.80 metres long:100 mm dia	each	1135.00
1618	S.C.I. soil, waste and vent single socketed pipe 1.80 metres long:150 mm dia	each	1750.00
1621	S.C.I. plain bend 100 mm dia	each	258.00
1622	S.C.I. plain bend 150 mm dia	each	460.00
1628	S.C.I. plain single equal junctions 100x100x100 mm dia	each	360.00
1700	R.C.C. pipes NP2 class 100 mm dia	metre	200.00
1701	R.C.C. pipes NP2 class 150 mm dia	metre	212.00
1702	R.C.C. pipes NP2 class 250 mm dia	metre	350.00
1703	R.C.C. pipes NP2 class 300 mm dia	metre	445.00
1704	R.C.C. pipes NP2 class 450 mm dia	metre	750.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
1705	R.C.C. pipes NP2 class 500 mm dia	metre	925.00
1706	R.C.C. pipes NP2 class 600 mm dia	metre	1100.00
1707	R.C.C. pipes NP2 class 700 mm dia	metre	1485.00
1709	R.C.C. pipes NP2 class 800 mm dia	metre	1800.00
1710	R.C.C. pipes NP2 class 900 mm dia	metre	2500.00
1711	R.C.C. pipes NP2 class 1000 mm dia	metre	2900.00
1712	R.C.C. pipes NP2 class 1100 mm dia	metre	3200.00
1713	R.C.C. pipes NP2 class 1200 mm dia	metre	3510.00
1714	R.C.C. collars NP2 class 100 mm dia	each	30.00
1715	R.C.C. collars NP2 class 150 mm dia	each	35.00
1716	R.C.C. collars NP2 class 250 mm dia	each	50.00
1717	R.C.C. collars NP2 class 300 mm dia	each	55.00
1718	R.C.C. collars NP2 class 450 mm dia	each	100.00
1719	R.C.C. collars NP2 class 500 mm dia	each	115.00
1720	R.C.C. collars NP2 class 600 mm dia	each	140.00
1721	R.C.C. collars NP2 class 700 mm dia	each	150.00
1723	R.C.C. collars NP2 class 800 mm dia	each	200.00
1724	R.C.C. collars NP2 class 900 mm dia	each	235.00
1725	R.C.C. collars NP2 class 1000 mm dia	each	280.00
1726	R.C.C. collars NP2 class 1100 mm dia	each	300.00
1727	R.C.C. collars NP2 class 1200 mm dia	each	350.00
1728	RCC pipe 450 mm dia NP-3 spigot	metre	1496.00
1729	RCC pipe 600 mm dia NP-3 spigot	metre	1995.00
1730	RCC pipe 900 mm dia NP-3 spigot	metre	3150.00
1731	RCC pipe 1000 mm dia NP-3 spigot	metre	3885.00
1732	RCC pipe 1200 mm dia NP-3 spigot	metre	5040.00
1733	RCC pipe 1800 mm dia NP-3 spigot	metre	9450.00
1734	RCC pipe 450 mm dia NP-4 spigot	metre	1733.00
1735	RCC pipe 600 mm dia NP-4 spigot	metre	2310.00
1736	RCC pipe 900 mm dia NP-4 spigot	metre	4494.00
1737	RCC pipe 1000 mm dia NP-4 spigot	metre	5565.00
1738	RCC pipe 1200 mm dia NP-4 spigot	metre	6510.00
1739	RCC pipe 1800 mm dia NP-4 spigot	metre	13650.00
1854	Stoneware pipes grade A (60 cm long) 100 mm dia	each	55.00
1855	Stoneware pipes grade A (60 cm long) 150 mm dia	each	100.00
1856	Stoneware pipes grade A (60 cm long) 200 mm dia	each	200.00
1858	Stoneware pipes grade A (60 cm long) 250 mm dia	each	320.00



Code No.	Description	Unit	Rate ₹
1859	Stoneware pipes grade A (60 cm long) 300 mm dia	each	478.00
1881	Spun yarn	kg	50.00
1900	S.W. gully trap P type 100x100 mm	each	100.00
1902	S.W. gully trap P type 150x100 mm	each	130.00
1904	S.W. gully trap P type 180x150 mm	each	225.00
2201	Carriage of Bricks	1000 Nos	276.72
2209	Carriage of Cement	tonne	92.24
2224	Carriage of S.W. pipes 100 mm dia	100 metre	138.36
2225	Carriage of S.W. pipes 150 mm dia	100 metre	276.72
2226	Carriage of S.W. pipes 200 mm dia	100 metre	461.19
2228	Carriage of S.W. pipes 250 mm dia	100 metre	790.62
2229	Carriage of S.W. pipes 300 mm dia	100 metre	988.27
2260	Carriage of Brick aggregate	cum	112.79
2261	Carriage of Fine sand	cum	103.77
2272	Carriage of Stainless Steel pipes below 100 mm dia	tonne	92.24
2275	Carriage of R.C.C. pipes 100 mm dia	100 metre	226.82
2281	Carriage of R.C.C. pipes 150 mm dia	100 metre	378.03
2287	Carriage of R.C.C. pipes 250 mm dia	100 metre	873.84
2290	Carriage of R.C.C. pipes 300 mm dia	100 metre	1080.08
2299	Carriage of R.C.C. pipes 450 & 500 mm dia	100 metre	2520.19
2303	Carriage of R.C.C. pipes 600,700,750 & 800 mm dia	100 metre	3780.28
2331	Carriage of R.C.C. pipes 900 mm dia	100 metre	5670.42
2332	Carriage of R.C.C. pipes 1000 mm dia	100 metre	7560.57
2333	Carriage of R.C.C. pipes 1100 mm dia	100 metre	7560.57
2334	Carriage of R.C.C. pipes 1200 mm dia	100 metre	7560.57
2336	Carriage of R.C.C. pipe above 1200 mm dia and upto 1800 mm dia	100 metre	7560.57
2602	Common burnt clay F.P.S. (non modular) bricks class designation 7.5	1000 Nos	4500.00
3860	560 mm dia cover with frame (Heavy duty)	each	9000.00
3861	560 mm dia cover without frame (Heavy duty)	each	5000.00
7087	S.C.I. Tee 150 mm	each	570.00
7128	S.W. intercepting trap 100 mm dia	each	185.00
7129	S.W. intercepting trap 150 mm dia	each	240.00
7130	Rectangular shape 600x450 mm precast R.C.C. manhole cover with frame - L.D. - 2.5	each	675.00
7131	Square shape 450x450 mm precast R.C.C. manhole cover with frame - L.D. - 2.5	each	575.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
7132	Circular shape 450 mm dia precast R.C.C. manhole cover with frame - L.D. - 2.5	each	575.00
7133	Rectangular shape 500x500 mm precast R.C.C. manhole cover with frame - M.D. - 10	each	670.00
7134	Circular shape 500 mm dia precast R.C.C. manhole cover with frame- M.D.-10	each	575.00
7135	Circular shape 560 mm dia precast R.C.C. manhole cover with frame - H.D. - 20	each	880.00
7136	Circular shape 560 mm dia precast R.C.C. manhole cover with frame - E.H.D. - 35	each	1170.00
7354	Plastic encapsulated M.S. foot rest 30x20x15 cm	each	110.00
7380	Precast R.C.C. grating with frame 500x450 mm horizontal grating	each	620.00
7381	Precast R.C.C. grating with frame 450x100 mm vertical grating	each	235.00
8701	SS pipe 304 grades with press fit technology as per JIS 3448 standard 48.60 mm outer dia	metre	610.00
9977	Carriage	L.S.	2.00
9988	Carriage and sundries	L.S.	2.00
9999	Sundries	L.S.	2.00

## 19.0 DRAINAGE

Code No.	Description	Unit	Rate ₹
	<b>NOTE</b> :- The rates given for all the items under sub-head 'Drainage' are applicable to work executed in soils above sub- soil water level. Extra allowance has to be made for work under sub- soil water level.		
	<b>STONE WARE PIPES AND FITTINGS</b>		
19.1	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :		
19.1.1	100 mm diameter	metre	317.05
19.1.2	150 mm diameter	metre	500.20
19.1.3	200 mm diameter	metre	794.25
19.1.4	250 mm diameter	metre	1173.70
19.1.5	300 mm diameter	metre	1607.15
19.2	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design :		
19.2.1	100 mm diameter S.W. pipe	metre	817.00
19.2.2	150 mm diameter S.W. pipe	metre	999.15
19.2.3	200 mm diameter S.W. pipe	metre	1164.80
19.2.4	250 mm diameter S.W. pipe	metre	1346.95
19.3	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) up to haunches of S.W. pipes including bed concrete as per standard design :		
19.3.1	100 mm diameter S.W. pipe	metre	388.30
19.3.2	150 mm diameter S.W. pipe	metre	629.30
19.3.3	200 mm diameter S.W. pipe	metre	739.70
19.3.4	250 mm diameter S.W. pipe	metre	861.15
19.3.5	300 mm diameter S.W. pipe	metre	993.65
19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:		
19.4.1	100x100 mm size P type		
19.4.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	2307.00
19.4.1.2	With Sewer bricks conforming to IS : 4885	each	2311.05
19.4.2	150 x 100 mm size P type		
19.4.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	2317.40

Code No.	Description	Unit	Rate ₹
19.4.2.2	With sewer bricks conforming to IS : 4885	each	2321.45
19.4.3	180x150 mm size P type		
19.4.3.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	2409.60
19.4.3.2	With Sewer bricks conforming to IS : 4885	each	2413.65
19.5	Dismantling of old S.W. pipes including breaking of joints and bed concrete stacking of useful materials near the site within 50 m lead and disposal of unserviceable materials into municipal dumps :		
19.5.1	100 mm diameter	metre	63.45
19.5.2	150 mm diameter	metre	70.20
19.5.3	200 mm diameter	metre	74.65
19.5.4	250 mm diameter	metre	79.15
19.5.5	300 mm diameter	metre	83.60
19.5.6	350 mm diameter	metre	96.30
19.5.7	400 mm diameter	metre	105.25
19.5.8	450 mm diameter	metre	109.75
19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :		
19.6.1	100 mm dia. R.C.C. pipe	metre	415.75
19.6.2	150 mm dia. R.C.C. pipe	metre	462.60
19.6.3	250 mm dia. R.C.C. pipe	metre	754.45
19.6.4	300 mm dia. R.C.C. pipe	metre	863.65
19.6.5	450 mm dia. R.C.C. pipe	metre	1392.70
19.6.6	500 mm dia. R.C.C. pipe	metre	1656.95
19.6.7	600 mm dia. R.C.C. pipe	metre	1948.35
19.6.8	700 mm dia. R.C.C. pipe	metre	2533.05
19.6.9	800 mm dia. R.C.C. pipe	metre	3022.85
19.6.10	900 mm dia. R.C.C. pipe	metre	4090.55
19.6.11	1000 mm dia. R.C.C. pipe	metre	4800.35
19.6.12	1100 mm dia. R.C.C. pipe	metre	5393.75
19.6.13	1200 mm dia. R.C.C. pipe	metre	6046.80
19.7	Constructing brick masonry manhole in cement mortar 1:4 ( 1 cement : 4 coarse sand ) with R.C.C. top slab with <b>1:1.5:3 mix (1 cement : 1.5 coarse sand (zone- III) : 3 graded stone aggregate 20 mm nominal size)</b> , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone- III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making		

Code No.	Description	Unit	Rate ₹
	channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :		
19.7.1	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :		
19.7.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	10905.05
19.7.1.2	With Sewer bricks conforming to IS : 4885	each	10915.65
19.7.2	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) :		
19.7.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	22939.65
19.7.2.2	With Sewer bricks conforming to IS : 4885	each	22968.60
19.7.3	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (heavy duty) 560 mm internal diameter, total weight of cover and frame to be not less than 208 kg (weight of cover 108 kg and weight of frame 100 kg) :		
19.7.3.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	28632.25
19.7.3.2	With Sewer bricks conforming to IS : 4885	each	28657.15
19.8	Extra for depth for manholes :		
19.8.1	Size 90x80 cm		
19.8.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	7503.00
19.8.1.2	With Sewer bricks conforming to IS : 4885	metre	7533.80
19.8.2	Size 120x90 cm		
19.8.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	8994.60
19.8.2.2	With Sewer bricks conforming to IS : 4885	metre	9031.30
19.9	Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand), inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :		

Code No.	Description	Unit	Rate ₹
19.9.1	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :		
19.9.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	11038.10
19.9.1.2	With Sewer bricks conforming to IS : 4885	each	11033.75
19.10	Extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91 m to 1.67 m		
19.10.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	6448.40
19.10.2	With Sewer bricks conforming IS : 4885	metre	6474.15
19.11	Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :		
19.11.1	1.68 m deep with SFRC Cover and frame (heavy duty HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :		
19.11.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	21235.65
19.11.1.2	With Sewer bricks conforming IS : 4885	each	21254.90
19.12	Extra depth for circular type manhole 1.22 m internal dia (at bottom) beyond 1.68 m to 2.29 m :		
19.12.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	8368.40
19.12.2	With Sewer bricks conforming IS : 4885	metre	8402.00
19.13	Constructing brick masonry circular manhole 1.52 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6		

Code No.	Description	Unit	Rate ₹
	graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :		
19.13.1	2.30 m deep with SFRC Cover and frame (heavy duty HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :		
	19.13.1.1 With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	45459.15
	19.13.1.2 With Sewer bricks conforming IS : 4885	each	45531.90
19.14	Extra depth for circular type manhole 1.52 m internal dia (at bottom) beyond 2.30 m :		
	19.14.1 With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	19514.30
	19.14.2 With Sewer bricks conforming IS : 4885	metre	19601.35
19.15	Providing M.S. foot rests including fixing in manholes with 20x20x10 cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) as per standard design :		
	19.15.1 With 20x20 mm square bar	each	422.20
	19.15.2 With 20 mm diameter round bar	each	383.70
19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	each	463.05
19.17	Replacement of M.S. foot rests in manholes including dismantling concrete blocks and fixing with 20x20x10 cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size):		
	19.17.1 With 20x20 mm square bar	each	516.40
	19.17.2 With 20 mm diameter round bar	each	477.90



Code No.	Description	Unit	Rate ₹
19.18	Supplying and fixing C.I. cover without frame for manholes :		
19.18.1	455x610 mm rectangular C.I. cover (light duty) the weight of the cover to be not less than 23 kg	each	1326.25
19.18.2	500 mm diameter C.I. cover (medium duty) the weight of the cover to be not less than 58 kg	each	3202.90
19.18.3	560 mm diameter C.I. cover (heavy duty) the weight of the cover to be not less than 108 kg	each	6822.40
19.19	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality		
19.19.1	L D - 2.5		
19.19.1.1	Rectangular shape 600x450 mm internal dimensions	each	1228.90
19.19.1.2	Square shape 450 mm internal dimensions	each	1027.25
19.19.1.3	Circular shape 450 mm internal diameter	each	1027.25
19.19.2	M D - 10		
19.19.2.1	Square shape 450 mm internal dimension	each	1230.60
19.19.2.2	Circular shape 500 mm internal diameter	each	1035.60
19.19.3	H D - 20		
19.19.3.1	Circular shape 560 mm internal diameter	each	1471.50
19.19.4	EHD - 35		
19.19.4.1	Circular shape 560 mm internal dia	each	1859.50
19.20	Supplying and fixing C.I. cover 300x300 mm without frame for gully trap (standard pattern) the weight of cover to be not less than 4.5 kg	each	667.80
19.21	Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 (1 cement : 3 coarse sand), finished with a floating coat of neat cement and making necessary channels for the drain etc. complete :		
19.21.1	For pipes 100 to 250 mm diameter	each	623.50
19.21.2	For pipes 250 to 300 mm diameter	each	717.30
19.21.3	For pipes 350 to 450 mm diameter	each	1035.45
19.22	Providing sand cast iron drop connection externally for 60 cm drop from branch sewer line to main sewer manhole including inspection and cleaning eye with chain and lid, sand cast iron drop pipe and bend encased all-round with cement concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) with all centering and shuttering required, cutting holes in walls and making good with brick work in cement mortar 1:4 (1 cement : 4 coarse sand) plastered with cement mortar 1:3 (1 cement : 3 coarse sand) on inside of the manhole wall, lead caulked joints between sand cast iron pipes and fittings, stiff cement mortar 1:1 (1 cement : 1		



Code No.	Description	Unit	Rate ₹
	fine sand) joints between sand cast iron tee and S.W. pipe, making required channels complete as per standard design and specifications :		
	19.22.1 100 mm dia sand cast iron drop connection	each	9334.20
	19.22.2 150 mm dia sand cast iron drop connection	each	12833.35
19.23	Extra for depths beyond 60 cm of sand cast iron drop connection complete:		
	19.23.1 For 100 mm dia sand cast iron drop connection	metre	2632.40
	19.23.2 For 150 mm dia sand cast iron drop connection	metre	3418.90
19.24	Dismantling of manhole including R.C.C. top slab, C.I. cover with frame, including stacking of useful materials near the site and disposal of unserviceable materials within 50 m lead <b>as per direction of Engineer- charge :</b>		
	19.24.1 Rectangular manhole 90x80 cm and 45 cm deep	each	1815.85
	19.24.2 Rectangular manhole 120x90 cm and 90 cm deep	each	3196.30
	19.24.3 Rectangular arch type manhole 140x90 cm and 2.45 m deep	each	6046.60
	19.24.4 Circular manhole 122 cm diameter and 1.68 m deep	each	4624.55
19.25	Extra for depth of manholes dismantled :		
	19.25.1 Rectangular manhole 90x80 cm and beyond 45 cm depth	metre	1460.05
	19.25.2 Rectangular manhole 120x90 cm and beyond 90 cm depth	metre	1739.35
	19.25.3 Rectangular arch type manhole 140x90 cm and beyond 2.45 m depth (up to 4.25 m depth)	metre	1409.80
	19.25.4 Circular manhole 122 cm diameter and beyond 1.68 m depth (up to 2.29 m depth)	metre	1590.55
19.26	Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :		
	19.26.1 Rectangular manhole 90x80 cm with rectangular cover 600 x 450 mm of grade LD - 2.5	each	2457.95
	19.26.2 Rectangular manhole 120x90 cm with circular cover 500 mm dia of grade MD - 10	each	3871.15
	19.26.3 Rectangular manhole 120x90 cm with circular cover 560 mm dia of grade HD - 20	each	3600.25
	19.26.4 Circular manhole 140 cm dia with circular cover 600 mm dia of grade EHD - 35	each	297.60
19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :		
	19.27.1 With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	5209.10

Code No.	Description	Unit	Rate ₹
19.28	Constructing brick masonry road gully chamber 45x45x77.5 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand ) with precast R.C.C. vertical grating complete as per standard design :		
19.28.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	5794.85
19.29	Constructing brick masonry road gully chamber 110x50x77.5 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm precast R.C.C. horizontal grating with frame and vertical grating complete as per standard design :		
19.29.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	9849.15
19.30	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), R.C.C. top slab with <b>1:1.5:3 mix (1 cement : 1.5 Fine sand : 3 graded stone aggregate 20 mm nominal size)</b> , foundation concrete 1:5:10 (1 cement : <b>5 fine sand</b> : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand), finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design:		
19.30.1	Inside dimensions 455x610 mm and 45 cm deep for single pipe line :		
19.30.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	6061.95
19.30.2	Inside dimensions 500x700 mm and 45 cm deep for pipe line with one or two inlets :		
19.30.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	6879.00
19.30.3	Inside dimensions 600x 850 mm and 45 cm deep for pipe line with three or more inlets :		
19.30.3.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	8079.30
19.31	Extra for depth beyond 45 cm of brick masonry chamber :		
19.31.1	For 455x610 mm size		
19.31.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	3979.10
19.31.2	For 500x700 mm size		
19.31.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	5686.30
19.31.3	For 600x850 mm size		
19.31.3.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	6626.55

Code No.	Description	Unit	Rate ₹
19.32	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design.		
	19.32.1 With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	25278.75
19.33	Constructing soak pit 1.20x1.20x1.20 m filled with brickbats including S.W. drain pipe 100 mm diameter and 1.20 m long complete as per standard design.	each	2608.00
19.34	Providing and fixing S.W. intercepting trap in manholes with stiff mixture of cement mortar 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :		
	19.34.1 100 mm dia	each	365.65
	19.34.2 150 mm dia	each	494.75
19.35	Providing and laying Non Pressure NP-3 class (Medium duty) R.C.C. pipes including collars/spigot jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete		
	19.35.1 450 mm dia RCC pipes.	metre	2323.90
	19.35.2 600 mm dia RCC pipes.	metre	2984.55
	19.35.3 900 mm dia RCC pipes.	metre	4695.35
	19.35.4 1000 mm dia RCC pipes. (Laying by manual/ machanical means)	metre	5816.30
	19.35.5 1200 mm dia RCC pipes. (Laying by manual/ machanical means)	metre	7726.75
	19.35.6 1800 mm dia RCC pipes. (Laying by manual/ machanical means)	metre	14056.15
19.36	Providing and laying Non Pressure NP-4 class (Heavy duty) R.C.C. pipes including collars/spigot jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete		
	19.36.1 450 mm dia RCC pipes.	metre	2641.00
	19.36.2 600 mm dia RCC pipes.	metre	3406.00
	19.36.3 900 mm dia RCC pipes.	metre	6493.55
	19.36.4 1000 mm dia RCC pipes.(Laying by manual/ machanical means)	metre	8064.05
	19.36.5 1200 mm dia RCC pipes. (Laying by manual/ machanical means)	metre	9693.50
	19.36.6 1800 mm dia RCC pipes. (Laying by manual/ machanical means)	metre	19571.00

**SUB HEAD : 20.0**

**PILE WORK**

**BASIC RATES (SH: 20.0 PILE WORK)**

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
0015	Hire and running charges of Tripod and Mechanical Winch machine complete with power unit and accessories	day	1900.00
0017	Hire and running charges of tipper	day	1700.00
0018	Hire and running charges of loader	day	5000.00
0024	Hire and running charges of hydraulic piling rig with power unit etc. including complete accessories and shifting at site	day	30000.00
0025	Hire and running charges of light crane	day	3000.00
0026	Hire and running charges of bentonite pump	day	3500.00
0027	Hire and running charges of vibrating pile driving hammer complete with power unit and accessories	day	30000.00
0028	Hire and running charges of crane 20 tonne capacity	day	7000.00
0080	Hire and running charges of drill machine up to 400 mm dia (including cost of mobile oil, diesel consumption in ordinary soil and operator)	day	7500.00
0081	Pile Integrity testing equipment	day	3000.00
0114	Beldar	day	558.00
0130	Mistry	day	738.00
0160	Technician	day	775.00
0161	Helper (Technician)	day	558.00
7181	C.I. pile shoe	kg	48.00
7182	M.S. clamps for pile shoe of 35 kg per pile	kg	43.00
7183	Bentonite	tonne	2960.00
7246	Vertical load testing (initial) of piles in accordance with IS : 2911 (Part-IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification and up to 50 tonne capacity pile	per test	40000.00
7247	Vertical load testing (initial) of piles in accordance with IS : 2911 (Part-IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & above 50 tonne and up to 100 tonne	per test	45000.00
7248	Vertical load testing (initial) of piles in accordance with IS : 2911 (Part-IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & group of two or more up to 50 tonne	per test	50000.00

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
7249	Cyclic vertical load testing of piles in accordance with IS : 2911 (Part-IV) including preparation of pile head etc. for Single pile up to 50 tonne capacity	per test	15000.00
7250	Cyclic vertical load testing of piles in accordance with IS : 2911 (Part-IV) including preparation of pile head etc. for Single pile above 50 tonne capacity pile and up to 100 tonne capacity pile	per test	23000.00
7251	Cyclic vertical load testing of piles in accordance with IS : 2911 (Part-IV) including preparation of pile head etc. for Group of two piles up to 50 tonne capacity each	per test	29500.00
7252	Lateral load testing of single pile in accordance with IS : 2911 part -IV for determining safe allowable lateral load on pile up to 50 tonne capacity	per test	15000.00
7253	Lateral load testing of single pile in accordance with IS : 2911 part -IV for determining safe allowable lateral load on pile above 50 tonne capacity	per test	23600.00
9977	Carriage	L.S.	2.00
9999	Sundries	L.S.	2.00

## 20.0 PILE WORK

Code No.	Description	Unit	Rate ₹
20.1	Providing, driving with <b>hydraulic piling rigs with power units</b> and installing driven cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap) :		
20.1.1	400 mm dia piles	metre	2244.10
20.1.2	450 mm dia piles	metre	2735.65
20.1.3	500 mm dia piles	metre	3292.75
20.1.4	550 mm dia piles	metre	3601.45
20.1.5	750 mm dia piles	metre	6181.15
20.1.6	1000 mm dia piles	metre	10301.15
20.1.7	1200 mm dia piles	metre	13457.45
20.1.8	1500 mm dia piles	metre	19169.55
20.2	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap).  Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used .		
20.2.1	450 mm dia piles	metre	1806.15
20.2.2	500 mm dia piles	metre	2123.95
20.2.3	600 mm dia piles	metre	2911.10
20.2.4	750 mm dia piles	metre	4482.30
20.2A	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by Crawler mounted, telescopic boom hydraulic piling Rig all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap).		

Code No.	Description	Unit	Rate ₹
	Note: Truck Mounted rotary/TMR/Tube well boring machine shall not be used.		
20.2A.1	600 mm dia piles	metre	4225.60
20.2A.2	750 mm dia piles	metre	6118.15
20.2A.3	1000 mm dia piles	metre	10281.35
20.2A.4	1200 mm dia piles	metre	13588.90
20.2A.5	1500 mm dia piles	metre	19670.35
20.3	Boring with <b>hydraulic piling rigs with power units</b> , providing and installing cast in situ single under reamed piles of specified diameter and length below pile cap in M-25 cement concrete, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and the length of the pile to be embedded in pile cap etc. all complete. (Length of pile for payment shall be measured upto to the bottom of pile cap) :		
20.3.1	300 mm dia piles	metre	2387.40
20.3.2	400 mm dia piles	metre	2951.10
20.3.3	450 mm dia piles	metre	3287.30
20.3.4	550 mm dia piles	metre	3689.90
20.4	<b>Extra over single under ream for providing additional bulbs in under reamed piles, under specified diameter(only the nos. of extra bulbs are to be paid)</b>		
20.4.1	300 mm dia piles	each	1931.85
20.4.2	400 mm dia piles	each	2183.65
20.4.3	450 mm dia piles	each	2335.50
20.4.4	550 mm dia piles	each	2558.20
20.5	Providing, driving ( <b>with vibrating pile driving hammer complete with power units &amp; accessories</b> ) and installing driven Pre-cast reinforced cement concrete piles of specified diameter and length below the pile cap in M-25 cement concrete to carry safe working load not less than specified, with a central through preformed hole with M.S. black pipe of dia, 40 mm for grouting with cement sand grouting of mix 1:2 (1cement : 2 coarse sand) under sufficient positive pressure to ensure complete filling including centring, shuttering, driving and removing the steel casing pipe and lifting casing etc. complete but excluding the cost of steel reinforcement. (Length of pile for payment shall be measured from top of the shoe to the bottom of pile cap).		
20.5.1	400 mm dia piles	metre	3056.30
20.5.2	450 mm dia piles	metre	3853.80
20.5.3	500 mm dia piles	metre	4027.10
20.5.4	550 mm dia piles	metre	4593.10
20.5.5	750 mm dia piles	metre	8798.75
20.5.6	1000 mm dia piles	metre	12105.60



Code No.	Description	Unit	Rate ₹
20.6	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge.  <b>Note: 1.</b> Initial and Routine Load Test shall not be carried out by Dynamic method of testing. <b>Note: 2.</b> Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.		
20.6.1	Single pile upto 50 tonne Safe capacity		
20.6.1.1	Initial test (Test Load 2.5 times the Safe capacity)	per test	53517.50
20.6.1.2	Routine test (Test Load 1.5 times the Safe capacity)	per test	20069.05
20.6.2	Single pile above 50 tonne and upto 100 tonne Safe capacity		
20.6.2.1	Initial test (Test Load 2.5 times the Safe capacity)	per test	60207.20
20.6.2.2	Routine test (Test Load 1.5 times the Safe capacity)	per test	30772.55
20.6.3	Group of two or more piles upto 50 tonne Safe capacity		
20.6.3.1	Initial test (Test Load 2.5 times the Safe capacity)	per test	66896.90
20.6.3.2	Routine test (Test Load 1.5 times the Safe capacity)	per test	39469.15
20.7	Cyclic vertical load testing of pile in accordance with IS Code of practice IS:2911 (part IV) by Kentledge method including preparation of pile head etc for.		
20.7.1	Single pile		
20.7.1.1	Upto 50 tonne Safe capacity pile	per test	20069.05
20.7.1.2	Above 50 tonne and upto 100 tonne Safe capacity pile	per test	30772.55
20.7.2	Group of two or more piles		
20.7.2.1	Upto 400 tonne Safe capacity of group	per test	39469.15
20.8	Lateral load testing of single pile in accordance with IS Code of practice IS : 2911 (Part IV) for determining safe allowable lateral load on pile :		
20.8.1	Upto 50 tonne capacity pile	per test	20069.05
20.8.2	Above 50 tonne and upto 100 tonne capacity pile	per test	31575.35
20.9	Integrity testing of Pile using Low Strain/ Sonic Integrity Test/ Sonic Echo Test method in accordance with IS 14893 including surface preparation of pile top by removing soil, mud, dust & chipping lean		

Code No.	Description	Unit	Rate ₹
	concrete lumps etc. and use of computerised equipment and high skill trained personal for conducting the test & submission of results, all complete as per direction of Engineer-in-charge.	per test	938.90
	<b>Note :-</b> The inclusion of the above item in the schedule of work shall be judiciously decided by the technical sanctioning authority, keeping in view the quality control, type of soil strata & importance of the project.		

**SUB HEAD : 21.0**

**ALUMINIUM WORK**

## BASIC RATES (SH: 21.0 ALUMINIUM WORK)

Code No.	Description	Unit	Rate ₹
0100	Bandhani	day	617.00
0111	Carpenter 1st class	day	738.00
0112	Carpenter 2nd class	day	679.00
0114	Beldar	day	558.00
0116	Fitter (grade 1)	day	738.00
0119	Glazier	day	679.00
0123	Mason (brick layer) 1st class	day	738.00
0124	Mason (brick layer) 2nd class	day	679.00
0139	Skilled Beldar (for floor rubbing etc.)	day	617.00
0589	Chromium plated Brass screws 20 mm	100 Nos	160.00
0689	Anodised Aluminium butt hinges 100x75x4 mm	10 Nos	393.00
0992	Galvanised steel plain sheets	quintal	5000.00
2406	Float glass panes of nominal thickness 4 mm (weight not less than 10 kg/sqm)	sqm	300.00
2407	Float glass panes of nominal thickness 5 mm (weight not less than 12.50 kg/sqm)	sqm	500.00
2408	Float glass panes of nominal thickness 8 mm (weight not less than 20.00 kg/sqm)	sqm	610.00
2604	Weather/ structural non sag. Elastomeric PU sealant (600ml sausage) for joints in RCC/ Brick/ stone/ Wood/ Ceramic/ Gypsum/ Aluminum work complying to ASTM C 920, DIN 18540 - F & ISO 11600 incl. all taxes	each	532.00
2704	Aluminium Strip 40 mm wide and 2 mm thick	kg	240.00
7001	Brass 100mm mortice latch and lock with 6 levers without pair of handles	each	210.00
7019	Dash fastener / Chemical fastener	each	14.00
7048	Rawl plug 50 mm (designation 10 nos)	each	25.00
7306	Aluminium T or L sections	kg	190.00
7313	Expandable fastener with plastic sleeve and M.S. screws : 32 mm long	each	10.00
7347	Cadmium plated full threaded steel screws (30x4 mm dia)	100 Nos	27.00
7348	Aluminium washer 2 mm thick 15 mm dia	100 Nos	10.00
7388	Dash hold fastener 12.5 mm dia, 50 mm long with 6 mm dia bolt	each	11.00
7389	Anodising 15 microns on aluminium sections	kg	38.00
7390	EPDM Gasket for uPVC window/door	metre	19.00
7391	Anodising 25 microns on aluminium sections	kg	48.00
7392	Powder coating 50 microns on aluminium sections	kg	61.00
7393	Polyester powder coating 50 microns on aluminium sections	kg	67.00
7394	Double action hydraulic floor spring with stainless steel cover plate	each	1500.00
7395	6 mm dia G.I. adjustable hangers including clips (up to 1.2 m length)	each	20.00

Code No.	Description	Unit	Rate ₹
7396	Double action hydraulic floor spring with brass cover plate	each	1620.00
7477	Prelaminated particle board with one side decorative and other side balancing lamination, flat pressed 3 layer & graded (medium density) Grade i, Type II conforming to IS : 12823 (exterior grade) 12 mm thick	sqm	540.00
7480	Prelaminated particle board with both sides decorative lamination, flat pressed 3 layer & graded (medium density) Grade I, Type II conforming to IS : 12823 (exterior grade) 12 mm thick	sqm	575.00
8646	Weather Silicon sealant	cartridge	100.00
8647	Stainless steel screws 30 mm x4 mm	100 Nos	32.00
8648	Hermetically sealed double glazed unit made with 6 mm thick clear float glass both side having 12 mm air gap	sqm	2150.00
8649	Stainless steel (SS 304 grade) adjustable friction window stay 205 x 19 mm	each	172.00
8650	Stainless steel (SS 304 grade) adjustable friction window stay 255 x 19 mm	each	222.00
8651	Stainless steel (SS 304 grade) adjustable friction window stay 355 x 19 mm	each	195.00
8652	Stainless steel (SS 304 grade) adjustable friction window stay 510 x 19 mm	each	525.00
8653	Stainless steel (SS 304 grade) adjustable friction window stay 710 x 19 mm	each	900.00
8654	Masking tape	metre	1.95
8660	Aluminium casement window fastener (Anodised AC 15)	each	44.00
8661	Aluminium casement window fastener (powder coated )	each	47.00
8662	Aluminium casement window fastener (polyester powder coated)	each	46.00
8663	Aluminium round shape handle (anodised AC 15) outer dia 100 mm	each	53.00
8664	Aluminium round shape handle (powder coated) outer dia 100 mm	each	56.00
8665	Aluminium round shape handle (polyester powder coated) outer dia 100 mm	each	60.00
8666	Stainless steel screws 25 mm x4 mm	100 Nos	38.00
8674	Precoated galvanised steel gutter 600mm overall girth	metre	420.00
8676	Precoated galvanised steel barge board (upto 300mm )	metre	215.00
8678	1 mm thick 35 mm wide bright finished stainless steel piano hinges	metre	42.00
8774	Aluminium Grill as per IS 1868	kg	260.00
8776	Stainless steel dash fastener of 8 mm dia and 75 mm long bolt	each	15.00
8778	Toughened glass 12 mm thickness	sqm	1747.00
9977	Carriage	L.S.	2.00
9988	Carriage and sundries	L.S.	2.00
9999	Sundries	L.S.	2.00

## 21.0 ALUMINIUM WORK

Code No.	Description	Unit	Rate ₹
21.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :		
21.1.1	For fixed portion		
21.1.1.1	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	kg	423.95
21.1.1.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	kg	456.30
21.1.1.3	Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	kg	464.70
21.1.2	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)		
21.1.2.1	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	kg	513.40
21.1.2.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	kg	546.35
21.1.2.3	Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	kg	554.95
21.2	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.		
21.2.1	Pre-laminated particle board with decorative lamination on one side and balancing lamination on other side	sqm	997.70
21.2.2	Pre-laminated particle board with decorative lamination on both sides	sqm	1046.90

Code No.	Description	Unit	Rate ₹
21.3	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item):		
21.3.1	With float glass panes of 4.0 mm thickness (weight not less than 10 kg/ sqm)	sqm	999.60
21.3.2	With float glass panes of 5 mm thickness (weight not less than 12.50 kg/ sqm)	sqm	1296.40
21.3.3	With float glass panes of 8 mm thickness (weight not less than 20 kg/ sqm)	sqm	1462.35
21.4	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.		
21.4.1	With stainless steel cover plate minimum 1.25 mm thickness	each	2412.50
21.4.2	With brass cover plate minimum 1.25 mm thickness	each	2573.05
21.5	Providing and fixing powder coated aluminium work (minimum thickness of powder coating 50 micron) consisting of tee/ angle sections, of approved make conforming to IS : 733 in frames of false ceiling including aluminium angle cleats with necessary C.P. brass/ stainless steel sunk screws, aluminium perimeter angles fixed to wall with stainless steel rawl plugs @ 450 mm centre to centre and fixing the frame work to G.I. level adjusting hangers 6 mm dia. with necessary cadmium plated machine screws all complete as per approved architectural drawings and direction of the Engineer-in-charge (level adjusting hangers, ceiling cleats and expansion hold fasteners to be paid for separately).	kg	670.85
21.6	Providing and fixing 6 mm dia. G.I. level adjusting hangers (upto 1200mm length), fixed to roof slabs by means of ceiling cleats made out of G.I. flat 40x3mm size 60 mm long and stainless steel expandable dash fastener of 12.5 mm dia and 50 mm long, complete as per direction of Engineer-in-charge.	each	69.95
21.7	Providing and fixing machine moulded aluminium covering of approved pattern & design, made out of machine cut aluminium sheet and machine holed for receiving dash fastener, over expansion joints on vertical surfaces/ceiling floors, the fixing on plate in one row on one side of joint only shall be done with stainless steel dash fasteners of 8 mm dia and 75 mm long bolt including providing aluminium washers 2 mm thick & 15 mm dia , at a staggered pitch of 200mm centre to centre including drilling holes in the receiving surface and providing expandable plastic sleeves in holes etc. complete as per direction of Engineer-in-charge.		

Code No.	Description	Unit	Rate ₹
21.7.1	Anodised aluminium sheet 2.5mm thick (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	kg	582.05
21.7.2	Powder coated aluminium sheet 2.5mm thick (minimum thickness of powder coating 50 micron)	kg	614.35
21.8	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.		
21.8.1	Upto 5mm depth and 5 mm width	metre	79.45
21.9	Extra for applying additional anodic coating AC 25 instead of AC 15 to aluminium extruded sections.		
21.9.1	For fixed portion	kg	13.40
21.9.2	For shutters of doors, windows & ventilators	kg	13.40
21.10	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 6 mm thick clear float glass both side, having 12 mm air gap, including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	sqm	3905.35
21.11	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete.		
21.11.1	205 X 19 mm	each	255.75
21.11.2	255 X 19 mm	each	322.65
21.11.3	355 X 19 mm	each	286.50
21.11.4	510 X 19 mm	each	728.05
21.11.5	710 X 19 mm	each	1229.75
21.12	Providing and fixing aluminium tubular handle bar 32 mm outer dia, 3.0 mm thick & 2100 mm long with SS screws etc .complete as per direction of Engineer-in-Charge.		
21.12.1	Anodized (AC 15 ) aluminium tubular handle bar	each	512.30
21.12.2	Powder coated minimum thickness 50 micron aluminium tubular handle bar	each	562.60
21.12.3	Polyester powder coated minimum thickness 50 micron aluminium tubular handle bar	each	575.70
21.13	Providing and fixing <b>Brass 100mm mortice latch and lock with 6 levers without pair of handles</b> (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	each	458.55
21.14	Providing and fixing anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868. Minimum anodic coating of grade AC 15) sub frame work for windows and ventilators		



Code No.	Description	Unit	Rate ₹
	with extruded built up standard tubular sections of approved make conforming to IS: 733 and IS: 1285, fixed with dash fastener of required dia and size (Dash fastener to be paid for separately).	kg	354.75
21.15	Providing and fixing aluminium casement windows fastener of required length for aluminium windows with necessary screws etc. complete.		
21.15.1	Anodized (AC 15) aluminium	each	67.55
21.15.2	Powder coated minimum thickness 50 micron aluminium	each	71.55
21.15.3	Polyester powder coated minimum thickness 50 micron aluminium	each	70.25
21.16	Providing and fixing aluminium round shape handle of outer dia 100 mm with SS screws etc. complete as per direction of Engineer-in-charge		
21.16.1	Anodized (AC 15 ) aluminium	each	79.60
21.16.2	Powder coated minimum thickness 50 micron aluminium	each	83.60
21.16.3	Polyester powder coated minimum thickness 50 micron aluminium	each	88.95
21.17	Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @ 200 mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment).	kg	519.85
21.18	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & <b>double action hydraulic floor</b> spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge (Door handle, lock and stopper etc.to be paid separately).	sqm	4447.90
21.19	Filling the gap in between aluminium/ stone/ wood frame and adjacent RCC/Brick/ Stone/ wood/ Ceramic/ Gypsum work by providing weather/structural non sag elastomeric PU sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete, complying to ASTM C920, DIN 18540-F & ISO 11600		
21.19.1	Upto 5 mm depth and 5 mm width	metre	125.10
21.19.2	Upto 10 mm depth and 10 mm width	metre	170.55
21.19.3	Upto 20 mm depth and 20 mm width	metre	308.70

**SUB HEAD : 22.0**

**WATER PROOFING**

**BASIC RATES (SH : 22.0 WATER PROOFING)**

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	day	800.00
0012	Vibrator (Needle type 40 mm)	day	370.00
0101	Bhisti	day	617.00
0114	Beldar	day	558.00
0115	Coolie	day	558.00
0123	Mason (brick layer) 1st class	day	738.00
0124	Mason (brick layer) 2nd class	day	679.00
0125	Mason (for plain stone work) 2nd class	day	679.00
0128	Mate	day	617.00
0130	Mistry	day	738.00
0131	Painter	day	679.00
0155	Mason (average)	day	709.00
0159	Skilled torch operator for laying tack	day	738.00
0285	Brick Aggregate (Single size) : 63 mm nominal size	cum	650.00
0295	Stone Aggregate (Single size) : 20 mm nominal size	cum	1350.00
0296	Stone Aggregate (Single size) : 12.5 mm nominal size	cum	1350.00
0297	Stone Aggregate (Single size) : 10 mm nominal size	cum	1350.00
0313	Blown type petroleum bitumen of penetration 85/25 of approved quality	tonne	34000.00
0316	Bitumen solution primer of approved quality	litre	45.00
0318	Bitumen felt fibre base (vegetable or animal):As per IS 7193 Grade I	sqm	70.00
0319	Bitumen felt as per IS 7193 Grade II	sqm	80.00
0322	Bitumen felt :Type 3 grade 1	sqm	70.00
0351	Integral crystalline slurry	kg	238.00
0352	Integral crystalline admixture	kg	272.00
0353	Crystalline mortar	kg	215.00
0354	Integral crystalline dry shake	kg	360.00
0355	Swellable type water stop tape	metre	365.00
0356	Primer for swellable type water stop tape	litre	1540.00
0367	Portland Cement (OPC-43 Grade)	tonne	4940.00
0370	Coal (steam)	quintal	440.00
0982	Coarse sand (zone III)	cum	1350.00
1169	Kota stone slab 25mm thick (rough chiseled)	sqm	301.00
1177	Stone grit 6 mm and down size or pea sized gravel	cum	800.00
1213	Water proofing materials	kilogram	35.00
1241	Commercial LPG in cylinder	kg	82.00
2200	Carriage of Steam coal	tonne	120.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	103.77

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
2203	Carriage of Coarse sand	cum	103.77
2209	Carriage of Cement	tonne	92.24
2211	Carriage of Tar / Bitumen	tonne	103.77
2216	Carriage of Stone blocks white & red sand stone & kota stone slab	tonne	92.24
2260	Carriage of Brick aggregate	cum	112.79
3002	Polyvinyl chloride sheet 400 micron thick	sqm	40.00
7233	Fibre glass tissue reinforcement Type II Grade i	sqm	82.00
7427	Water stops Serrated with central bulb (225 mm wide, 8-11 mm thick)	metre	200.00
7428	Water stops Dumb bell with central bulb	metre	160.00
7429	Kickers	metre	185.00
8200	A.P.P. modified polymeric felt (two layers) 1.5 mm thick	sqm	80.00
8201	A.P.P. modified polymeric felt (two layers) 2 mm thick	sqm	100.00
8203	A.P.P. modified 2 mm thick membrane reinforced with glass fibre matt	sqm	126.67
8204	A.P.P. modified 3 mm thick membrane reinforced with glass fibre matt	sqm	190.00
8205	A.P.P. modified 3 mm thick membrane reinforced with polyester matt	sqm	205.00
8206	Bitumen primer for bitumen membrane	litre	80.00
8207	Geotextile 120 grams per sqm membrane	sqm	45.00
8501	Polymer modified cementation coating	kg	140.00
8502	Fibre glass cloth	sqm	25.00
8511	Fibre reinforced elastomeric liquid water proofing membrane	litre	198.69
8512	Cementitious water proofing coating with elastic polymers	kg	189.13
8513	Acrylic modified resin based texture	kg	36.00
9977	Carriage	L.S.	2.00
9999	Sundries	L.S.	2.00

## 22.0 WATER PROOFING

Code No.	Description	Unit	Rate ₹
22.1	<p>Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of :</p> <p>(i) 1st layer of 22 mm to 25 mm thick approved and specified rough stone slab over a 25 mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound.</p> <p>(ii) 2nd layer of 25 mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions.</p> <p>(iii) Finishing top with stone aggregate of 10 mm to 12 mm nominal size spreading @ 8 cu dm/sqm thoroughly embedded in the 2nd layer.</p>		
	22.1.1 Using rough kota stone.	sqm	1353.70
22.2	<p>Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25 mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20 mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20 mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :</p>		
	22.2.1 Using rough Kota stone	sqm	1738.00
22.3	<p>Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of:</p> <p>(i) 1st course of applying cement slurry @ 4.4 kg/sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface.</p> <p>(ii) 2nd course of 20 mm cement plaster 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface.</p> <p>(iii) 3rd course of applying blown or residual bitumen applied hot at 1.7 kg. per sqm of area.</p> <p>(iv) 4th course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm).</p>		
		sqm	705.70

Code No.	Description	Unit	Rate ₹
22.4	Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete :		
22.4.1	Serrated with central bulb (225 mm wide, 8-11 mm thick)	metre	283.20
22.4.2	Dumb bell with central bulb (180 mm wide, 8 mm thick)	metre	229.70
22.4.3	Kickers (320 mm wide, 5 mm thick)	metre	263.15
22.5	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying :		
	(a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours.		
	(b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours.		
	(The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.)	sqm	465.60
22.6	Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying:		
	(a) after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.		
	(b) laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm.		
	(c) third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around.		
	(d) fourth and final layer of brick tiling with cement mortar (which will be paid for separately.		
	(For the purpose of measurement the entire treated surface will be measured.)	sqm	523.05
22.7	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations:		
	(a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC		

Code No.	Description	Unit	Rate ₹
	slab including adjoining walls upto 300 mm height including cleaning the surface before treatment.		
	(b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand ) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.		
	(c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge.		
	(d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep.		
	(e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test.“All above operations to be done in order and as directed and specified by the Engineer-in-Charge :		
	22.7.1 With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	sqm	1398.50
22.8	Providing and laying four courses water proofing treatment with bitumen felt over roofs consisting of first and third courses of blown bitumen 85/25 or 90/15 conforming to IS : 702 applied hot @ 1.45 Kg per square metre of area for each course, second course of roofing felt type 3 grade-I (hessian based self finished bitumen felt) and fourth and final course of stone grit 6 mm and down size or pea sized gravel spread at 6 cubic decimeter per square metre, including preparation of surface but excluding grading complete with :		
	22.8.1 Bitumen felt (hessian base) type 3 grade I conforming to IS : 1322	sqm	411.00
22.9	Providing and laying six courses water proofing treatment with bitumen felt over roofs consisting of first, third and fifth course of blown bitumen 85/25 or 90/15 conforming to IS : 702 applied hot @ 1.45, 1.20 and 1.45 Kg per square metre of area respectively, second and fourth courses of roofing felt type 3 grade I conforming to IS : 1322 (Hessian based self finished bitumen felt) , sixth and final course of stone grit 6 mm and down size or pea sized gravel spread at 6 cubic decimeter per sqm including preparation of surface but excluding grading, complete.	sqm	644.25

Code No.	Description	Unit	Rate ₹
22.10	Providing and laying six courses water proofing treatment with bitumen felt over roofs consisting of first, third and fifth courses of blown or / and residual bitumen applied hot at 1.45, 1.20 and 1.70 kg per square metre of area respectively, second and fourth courses of roofing felt type 2 grade I (fibre base self finished bitumen felt) six and final courses of stone grit 6 mm and down size or pea sized gravel spread at 6 cubic decimeter per sqm including preparation of surface, excluding grading, complete.	sqm	734.25
22.11	Providing and laying six courses water proofing treatment with bitumen felt over roofs consisting of first, third and fifth courses of blown or / and residual bitumen applied hot at 1.45, 1.20 and 1.70 kg per square metre of area respectively, second and fourth courses of roofing felt type 2 grade II (glass fibre base self finished bitumen felt) and sixth and final course of stone grit 6 mm and down size or pea sized gravel spread at 6 cubic decimeter per sqm including preparation of surface but excluding grading, complete.	sqm	734.50
22.12	Supplying and applying bituminous solution primer on roof and / or wall surface at 0.24 litre per sqm.	sqm	46.60
22.13	Deduct for omitting in water proofing treatment final course of spreading stone grit 6 mm down size or pea sized gravel :		
22.13.1	at 6 cudm per sqm	sqm	14.85
22.13.2	at 8 cudm per sqm	sqm	18.70
22.14	Grading roof for water proofing treatment with		
22.14.1	Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	cum	6924.65
22.14.2	Cement mortar 1:3 (1 cement : 3 coarse sand)	cum	12859.50
22.14.3	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	11981.80
22.15	<b>Item Shifted to Sub Head 14 as item 14.86</b>		
22.16	<b>Item Shifted to Sub Head 14 as item 14.87</b>		
22.17	<b>Item Shifted to Sub Head 14 as item 14.88</b>		
22.18	<b>Item Shifted to Sub Head 14 as item 14.89</b>		
22.19	<b>Item Shifted to Sub Head 14 as item 14.90</b>		
22.20	<b>Item Shifted to Sub Head 14 as item 14.91</b>		
22.21	<b>Item Shifted to Sub Head 14 as item 14.92</b>		
22.22	Providing and mixing integral crystalline admixture for water proofing treatment to RCC structures like basement raft, retaining walls, reservoir, sewage & water treatment plant, tunnels / subway and bridge deck etc. at the time of transporting of concrete into the drum of the ready-mix truck, using integral crystalline admixture @ 0.80% (minimum) to the weight of cement content per cubic meter of concrete) or higher as recommended by the manufacturer's specification in reinforced cement concrete at site of work. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90%, compared with control concrete as per DIN 1048 and resistant to 16		



Code No.	Description	Unit	Rate ₹
	bar hydrostatic pressure. The crystalline admixture shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the Engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.	kg	387.20
22.22A	Providing and applying fibre reinforced elastomeric liquid water proofing membrane with resilient acrylic polymers having Sun Reflectivity Index (SRI) of 105 on top of concrete roof in three coats @10.76 litre/ 10 sqm. One coat of self-priming of elastomeric waterproofing liquid (dilution with water in the ratio of 3:1) and two coats of undiluted elastomeric waterproofing liquid (dry film thickness of complete application/system not less than 500 microns). The operation shall be carried out after scrapping and properly cleaning the surface to remove loose particles with wire brushes, complete in all respect as per the direction of Engineer-in-Charge.	sqm	415.65
22.23	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels / subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.		
	22.23.1 For vertical surface two coats @ 0.70 kg per sqm	sqm	484.45
	22.23.2 For horizontal surface one coat @1.10 kg per sqm.	sqm	373.40
22.23A	Providing & Applying polymer modified, flexible cementitious negative side waterproofing coating with elastic waterproofing polymers on interior wall plaster surface in three coats @14.35 kg /10 sqm. one coat of self priming of cementitious waterproofing polymer(dilution with water in the ratio of 1:1) and two coats of cementitious waterproofing polymer (dilution with water in the ratio of 3:1 ) after scrapping and properly cleaning the surface to remove pre-existing paint film & loose particles till plaster is visible, complete in all respect as per the direction of Engineer-in-Charge.	sqm	444.80
22.24	Providing and applying integral crystalline (dry shake) of hydrophilic in nature for waterproofing treatment to the RCC structures like basement raft, foundation slab, sewage & water treatment plant slab, warehouses floor, parking structures and water tank base slab etc. sprinkled @0.60kg per sqm or higher as recommended by the manufacturer's specification over the lean concrete of above cited structures. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more		

Code No.	Description	Unit	Rate ₹
	than 85%, compared control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline dry-shake shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the Engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.	sqm	327.65
22.24A	Providing & Applying high quality acrylic modified resin based texture of Dholpur/Red sand stone Pattern with anti algae and UV resistance properties to be applied as intermediate finish in desired pattern @ 43.04 kgs/10 sqm to form film of 1- 1.5 mm thickness after scrapping and properly cleaning the surface to remove loose particles from the plaster surface, followed by top coating with Premium Acrylic Smooth exterior paint with Silicone additives of required shade by two or more coats @ 1.43 litres/10 sqm, complete as the direction of Engineer -in-Charge.	sqm	424.25
22.25	Providing and applying crystalline mortar by mixing in the ratio of 4.5 : 1 (4.5 parts crystalline mortar : 1 part water) for the treatment of faulty construction joints, cracks, tie rod holes and spalled & honeycombed surface of RCC underground structures like basement, water tanks, bridge deck etc. to ensure water tightness. The crystalline mortar shall conform to the EN 1504-3 having compressive strength Class R4 $\geq$ 45 MPa and adhesive bond strength Class R3 $\geq$ 1.5 MPa. The work shall be carried out all complete as per specification and the direction of the Engineer-In-Charge. The product performance shall carry guarantee for 10 years against any leakage.		
22.25.1	For sealing cracks and faulty construction joints, routed out/making U-shape groove size 25x25mm and then primed the area with integral crystalline slurry @0.05kg/running metre and while the surface is tacky filled the groove upto surface with crystalline mortar @1.50kg/running metre. Once crystalline mortar is touch dry then finally applied two coats of integral crystalline slurry @0.05kg/running metre per coat.	metre	525.70
22.25.2	For patching of tie rod holes, prepared tie rod hole surface and then primed the area with integral crystalline slurry @0.070kg/sqm and while the surface is tacky repair and then filled the tie rod holes with crystalline mortar@0.040kg per hole. The crystalline mortar should be tightly rodded into tie rod holes or packed tightly (For 25x25x25 mm tie rod hole, use 0.040kg to fill the hole)	each hole	20.75
22.26	Providing and applying of swellable type water stop tape, 19mm x 25mm thick in linear meter (expansive nature) for construction joints treatment of RCC structure such as raft slab, retaining walls, water storage tank and at the junctions of raft slab with the retaining walls etc.. After cleaning the surface, one coat of required primer for swellable water stop tape shall be applied throughout the length of the joint @3.78 litre per 240 running meter. Over the primed surface swellable type water stop tape shall be placed. The work shall be carried out all complete as per specification and the direction of the Engineer-In-Charge. The product performance shall carry guarantee for 10 years against any leakage.	metre	552.20

**SUB HEAD : 23.0**

**RAIN WATER HARVESTING &  
TUBEWELLS**

**BASIC RATES (SH: 23.0 RAIN WATER HARVESTING & TUBEWELLS)**

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
0005	Hire charges of Diesel Truck - 9 tonne	day	2000.00
0020	Hydraulic Excavator (3D) with driver and fuel	day	7000.00
0040	Air compressor 250 cfm with two leads for pneumatic cutters / hammers	day	1600.00
0103	Blacksmith 2nd class	day	679.00
0113	Chowkidar	day	558.00
0114	Beldar	day	558.00
0115	Coolie	day	558.00
0123	Mason (brick layer) 1st class	day	738.00
0124	Mason (brick layer) 2nd class	day	679.00
0130	Mistry	day	738.00
0134	Rock Hole Driller	day	558.00
1235	Diesel	litre	73.50
2319	Carriage of spun iron S & S pipes 100 mm dia	100 metre	226.82
2321	Carriage of Spun iron S & S pipes 150 mm dia	100 metre	378.03
2322	Carriage of Spun iron S & S pipes 200 mm dia	100 metre	614.93
2343	Carriage of Ductile Iron pipes (k7) 100 mm dia	100 metre	226.82
2344	Carriage of Cast iron pipes 150 mm dia	100 metre	378.03
2345	Carriage of Cast iron pipes 200 mm dia	100 metre	614.93
7743	M.S. pipe 150 mm dia casing pipe	metre	1126.00
7744	M.S. pipe 200 mm dia casing pipe	metre	1400.00
7745	PVC blind pipe 150 mm dia as per IS: 12818	metre	508.62
7746	PVC blind pipe 200 mm dia as per IS: 12818	metre	788.12
7747	M.S. cap 150 mm dia	each	150.00
7748	M.S. cap 200 mm dia	each	200.00
7749	M.S bail plug 150 mm dia	each	200.00
7750	M.S bail plug 200 mm dia	each	220.00
7751	PVC slotted pipe 150 mm dia as per IS: 12818	metre	550.00
7752	PVC slotted pipe 200 mm dia as per IS: 12818	metre	840.00
7753	Stone Boulder 50 mm to 200 mm	cum	850.00
7754	Gravel 5 mm to 10 mm	cum	850.00
7755	Gravel 1.5 mm to 2 mm	cum	850.00

**SUB HEAD : 23.0 RAIN WATER HARVESTING & TUBEWELLS**

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
7756	Gravel 3 mm to 6 mm	cum	850.00
7757	M.S. pipe 100 mm dia casing pipe	metre	800.00
7758	uPVC blind pipe 100 mm dia as per IS: 12818	metre	442.00
7759	uPVC slotted pipe 100 mm dia as per IS: 12818	metre	480.00
7760	M.S. cap 100 mm dia	each	135.00
7761	M.S. bail plug 100 mm dia	each	160.00
7762	Precast R.C.C. perforated slab	each	875.00
7763	Water supply tanker of 5000 litre capacity	each	900.00
7764	M.S. socket 100 mm dia	each	125.00
7765	M.S. socket 150 mm dia	each	205.00
7766	M.S. socket 200 mm dia	each	265.00
7772	Pea Gravel	cum	950.00
9988	Carriage and sundries	L.S.	2.00
9999	Sundries	L.S.	2.00

## 23.0 RAIN WATER HARVESTING & TUBEWELLS

Code No.	Description	Unit	Rate ₹
23.1	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level.		
23.1.1	All types of soil		
23.1.1.1	300 mm dia	metre	512.30
23.1.1.2	350 mm dia	metre	560.30
23.1.1.3	400 mm dia	metre	717.20
23.1.2	Rocky strata including Boulders		
23.1.2.1	300 mm dia	metre	1223.20
23.1.2.2	350 mm dia	metre	1293.80
23.1.2.3	400 mm dia	metre	1538.95
23.2	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, beyond 90 metre & upto 150 metre depth below ground level.		
23.2.1	All types of soil		
23.2.1.1	300 mm dia	metre	597.65
23.2.1.2	350 mm dia	metre	664.05
23.2.1.3	400 mm dia	metre	896.50
23.2.2	Rocky strata including Boulders		
23.2.2.1	300 mm dia	metre	1349.95
23.2.2.2	350 mm dia	metre	1411.75
23.2.2.3	400 mm dia	metre	1808.50
23.3	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.		
23.3.1	100 mm nominal size dia	metre	600.35
23.3.2	150 mm nominal size dia	metre	690.75
23.3.3	200 mm nominal size dia	metre	1066.05

*SUB HEAD : 23.0 RAIN WATER HARVESTING & TUBEWELLS*

Code No.	Description	Unit	Rate ₹
23.4	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.		
23.4.1	100 mm nominal size dia	metre	651.45
23.4.2	150 mm nominal size dia	metre	746.15
23.4.3	200 mm nominal size dia	metre	1135.80
23.5	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	cum	1326.55
23.6	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	cum	1326.55
23.7	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge.	cum	1326.55
23.8	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	cum	1497.70
23.9	Providing and fixing factory made precast RCC perforated drain covers, having concrete of strength not less than M-25, of size 1000 x 450x50 mm, reinforced with 8 mm dia four nos longitudinal & 9 nos cross sectional T.M.T. hoop bars, including providing 50 mm dia perforations @ 100 to 125 mm c/c, including providing edge binding with M.S. flats of size 50 mm x 1.6 mm complete, all as per direction of Engineer-in-charge.	each	1210.85
23.10	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 mild steel screwed and socketed/plain ended casing pipes of required dia, conforming to IS: 4270, of reputed & approved make, including painted with outside surface with two coats of anticorrosive paint of approved brand and manufacture, including required hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer-in-charge.		
23.10.1	100 mm nominal size dia having minimum wall thickness 5.00 mm	metre	1187.95
23.10.2	150 mm nominal size dia having minimum wall thickness 5.00 mm	metre	1661.85
23.10.3	200 mm nominal size dia having minimum wall thickness 5.40 mm	metre	2062.05

**SUB HEAD : 23.0 RAIN WATER HARVESTING & TUBEWELLS**

Code No.	Description	Unit	Rate ₹
23.11	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed/ plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumestic paint of approved brand and manufacture, including hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer -in-charge.		
23.11.1	100 mm nominal size dia	metre	1268.75
23.11.2	150 mm nominal size dia	metre	1769.60
23.11.3	200 mm nominal size dia	metre	2171.05
23.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water samples & getting tested in approved laboratory, i/c disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	hour	857.60
23.13	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for borewell of:		
23.13.1	100 mm dia	each	189.65
23.13.2	150 mm dia	each	210.75
23.13.3	200 mm dia	each	280.95
23.14	Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tubewell as per IS: 2800 (part I), including necessary bolts & nuts of required size complete.		
23.14.1	100 mm clamp	each	1409.30
23.14.2	150 mm clamp	each	1489.80
23.14.3	200 mm clamp	each	1691.15
23.15	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).		
23.15.1	100 mm dia	each	227.45
23.15.2	150 mm dia	each	280.95
23.15.3	200 mm dia	each	307.75

**SUB HEAD : 23.0 RAIN WATER HARVESTING & TUBEWELLS**



**SUB HEAD : 24.0**

**CONSERVATION  
OF  
HERITAGE BUILDINGS**

**BASIC RATES (SH: 24.0 CONSERVATION OF HERITAGE BUILDINGS)**

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
0101	Bhisti	day	617.00
0103	Blacksmith 2nd class	day	679.00
0114	Beldar	day	558.00
0115	Coolie	day	558.00
0116	Fitter (grade 1)	day	738.00
0124	Mason (brick layer) 2nd class	day	679.00
0128	Mate	day	617.00
0131	Painter	day	679.00
0155	Mason (average)	day	709.00
0159	Skilled torch operator for laying tack	day	738.00
0773	Unslaked lime	quintal	300.00
1034	Bolts and nuts up to 300 mm in length	quintal	4800.00
1182	Surkhi	cum	700.00
2205	Carriage of Steel	tonne	92.24
4009	Mild steel tubes hot finished welded type	kg	57.00
6501	Sand zone V (Jamuna)	cum	1225.00
7346	Double coupler	each	46.00
7387	Spigot for standard jointing	kg	43.00
7397	Base Jack	each	145.00
7398	Challies	each	765.00
7399	Cup locks	each	48.00
7767	Stone cleaning chemical approved by ASI	litre	295.00
7768	Water repellent chemical approved by ASI	litre	1200.00
7769	Stone surface strengthening chemical approved by ASI	litre	900.00
7770	Turpentine oil	litre	55.00
7771	Liquid Ammonia 5%	litre	160.00
7775	Sodium pentachlorophenate	kg	550.00
9999	Sundries	L.S.	2.00

## 24.0 CONSERVATION OF HERITAGE BUILDINGS

Code No.	Description	Unit	Rate ₹
24.1	Raking out joints of stone masonry surface to the required width and depth, with due care and precaution, by mechanical / manual means, including preparing and cleaning the surface for re-pointing/ refilling of joints, including disposal of rubbish to the dumping ground within 50 metre lead.	sqm	51.70
24.2	Providing and fixing double scaffolding system (cup lock type) on the exterior side of building/structure, upto 25 metre height, above ground level, including additional rows of scaffolding in stepped manner as per requirement of site, made with 40mm dia M.S. tube, placed 1.5 metre centre to centre, horizontal & vertical tubes joint with cup & lock system with M.S. Tubes, M.S. tube challis, M.S. clamps and staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for execution of work of cleaning and/ or pointing and/ or applying chemical and removing it thereafter. The scaffolding system shall be stiffened with bracings, runners, connecting with the building etc, wherever required, if feasible, for inspection of work at required locations with essential safety features for the workmen etc., complete as per directions and approval of Engineer-in-charge.  <b>Note:-</b> (1) The elevational area of the scaffolding shall be measured for payment purpose. (2) The payment will be made once only for execution of all items for such works.	sqm	257.95
24.3	Cleaning the sand stone surface and removing dirt, dust, bird dropping, grease, oil, algae, fungus, monkey beats, vegetable growth etc., including providing, applying and washing the surface with liquid Ammonia Chemical of 5% solution and other chemical cleaning agent as approved by Archaeological Survey of India/ Engineer-in-charge, of approved brand and manufacturer, with the help of required scrubbers and also cleaning with machine operated water jet mixed with desired quantity of fine silica where ever required, without causing any scratching/ damage to the stone surface and finally washing the surface with clean water with the help of pressure jet machine, complete in all respect, including taking all precautions to safeguard ventilators, windows, doors etc. by suitable covering so as to avoid any damage to the building/structure, all as per direction of Engineer-in-charge (The rate is inclusive of all materials & labours involved except scaffolding).	sqm	158.15
24.4	Providing and applying antifungal wash treatment using 3% solution of sodium pentachlorophenate, of reputed brand and manufacturer, on cleaned sand stone surface at desired locations as per direction of Engineer-in-charge (The rate is inclusive of all materials & labours involved except scaffolding).	sqm	59.05
24.5	Ruled / Flush pointing on Red sand stone masonry surface with lime, surkhi and marble dust mortar in the ratio of 1:1.5:1/2 {One lime: 1.5 surkhi (50% red and 50% light yellow surkhi ) : 1/2 marble dust}. (The rate is inclusive of all materials & labours involved except scaffolding).	sqm	276.10

*SUBHEAD : 24.0 CONSERVATION OF HERITAGE BUILDINGS*

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
24.6	Ruled/ Flush pointing on White sand stone masonry surface with lime, surkhi and marble dust mortar in the ratio of 1:1.5:1/2 {One lime : 1.5 surkhi (15% dark red and 85% light yellow surkhi) : 1/2 marble dust}. (The rate is inclusive of all materials & labours involved except scaffolding).	sqm	276.10
24.7	Applying two or more coat of Ethyl Silicate chemical as approved by Archaeological Survey of India/ Engineer-in-charge, of approved brand and manufacturer, with brush or spray on the existing stone masonry surface till there is no further absorption of chemical by stone surface, including protecting the applied surface from direct sunlight by suitable means during application, all complete as per direction of the Engineer-in-Charge (The rate is inclusive of all materials & labours involved except scaffolding).	sqm	293.70
24.8	Applying breathable, non-reactive, antifungal, and water repellent Silane/Siloxane chemical as approved by Archaeological Survey of India/ Engineer-in-charge, of approved brand and manufacture, diluted with solvent mineral Turpentine oil in the ratio of 1:12 (One part of approved chemical :12 Part of Turpentine oil), on the existing sand stone masonry surface with two or more coats to give uniform application of chemical on the surface, all complete as per direction of Engineer-In-charge (The rate is inclusive of all materials & labours involved except scaffolding).	sqm	92.45

**SUB HEAD : 25.0**

**STRUCTURAL GLAZING  
ALUMINIUM COMPOSITE PANEL**

**BASIC RATES (SH: 25.0 STRUCTURAL GLAZING ALUMINIUM COMPOSITE PANEL**

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
2415	21 mm thick clear toughened laminated glass for fins with holes	sqm	6000.00
2605	Structural sealant - 6 mm x 12 mm	metre	30.00
2606	Spacer tape 6.4 mm thick x 6 mm wide	metre	20.00
2607	Weather Sealant - Non Staining (600 ml)	each	325.00
2608	Weather Sealant - Normal (300 ml)	each	98.00
2609	MS Brackets/Aluminium Alloy Brackets	kg	100.00
2610	Silicon Gasket in Kg (Above 50 g / m)	kg	465.00
2611	EPDM Gasket in Kg (Above 60 g / m)	kg	150.00
2612	Anchor Fastner - M10	each	10.00
2613	SS Bolt with washer of different sizes for structural glazing / ACP Cladding	each	35.00
2614	SS Screws of sizes for structural glazing / ACP Cladding	each	3.00
2615	Protective Tape	metre	20.00
2616	GI flashing - 1.2 mm Thick	kg	59.00
2617	6 mm thick High performance glass	sqm	1000.00
2618	6 mm thick clear heat strengthened glass	sqm	650.00
2619	6 mm thick clear heat strengthened glass	each	128.00
2620	ARMS GS HD - Top Hung -20"- Type P- Couple	pair	1350.00
2621	Connection Block for vision glass panel	each	35.00
2622	Curtain wall striker for vision glass panel	each	85.00
2623	Adjustable Fastening Pawl for vision glass panel	each	35.00
2624	Corner drive for vision glass panel	each	255.00
2625	Top wedge Block for vision glass panel	each	120.00
2626	Glass wool of density @ 48 Kg / cum with black glass tissue (BGT)	sqm	250.00
2627	SS Screws - # 8 x 19	each	6.00
2628	Weather Sealant - DC 789	cartridge	120.00
2629	Cement Board	sqm	235.00
2630	Baker rod	metre	5.00
2631	4 mm thick ACP	sqm	1100.00
2632	Fire Stop	metre	480.00
2634	GI/Aluminium Sheet (0.8 mm thick)	kg	55.00

*SUB HEAD : 25.0 STRUCTURAL GLAZING ALUMINIUM COMPOSITE PANEL*

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
7306	Aluminium T or L sections	kg	190.00
7392	Powder coating 50 microns on aluminium sections	kg	61.00
8559	stainless steel U channel of size (50x25x2 mm)	metre	160.00
8560	Non straining water resistant clear silicon	metre	65.00
8654	Masking tape	metre	1.95
8778	Toughened glass 12 mm thickness	sqm	1747.00
8945	4 Point facade glass bracket without flat head bolts	Nos	3318.00
8946	2 Point facade glass bracket (wall mounted without flat head bolt)	Nos	1659.00
8947	1 Point facade glass bracket (wall mounted without flat head bolt)	Nos	1300.00
8948	Flate head bolt for brackets of spider glazing	Nos	651.00
8949	400 mm long fin plate without fastners	pair	5931.00
9999	Sundries	L.S.	2.00

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*SUB HEAD : 25.0 STRUCTURAL GLAZING ALUMINIUM COMPOSITE PANEL*

## 25.0 STRUCTURAL GLAZING ALUMINIUM COMPOSITE PANEL

Code No.	Description	Unit	Rate ₹
25.1	<p>Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings, the aluminium quality as per grade 6063 T5 or T6 as per BS 1474, including super durable powder coating of 60-80 microns conforming to AAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. ( The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account).  <b>The weight of aluminium extruded section shall be taken for purpose of payment.</b></p>	kg	370.45
25.2	<p>Designing, fabricating, testing, protection, installing and fixing in position semi (grid) unitized system of structural glazing (with open joints) for linear as well as curvilinear portions of the building for all heights and all levels, including:</p> <p>(a) Structural analysis &amp; design and preparation of shop drawings for the specified design loads conforming to IS 875 part III (the system must passed the proof test at 1.5 times design wind pressure without any failure), including functional design of the aluminum sections for fixing glazing panels of various thicknesses, aluminium cleats, sleeves and splice plates etc. gaskets, screws, toggles, nuts, bolts, clamps etc., structural and weather silicone sealants, flashings, fire stop (barrier)-cum-smoke seals, microwave cured EPDM gaskets for water tightness, pressure equalisation &amp; drainage and protection against fire hazard including:</p> <p>(b) Fabricating and supplying serrated M.S. hot dip galvanised / Aluminium alloy of 6005 T5 brackets of required sizes, sections and profiles etc. to accommodate 3 Dimensional movement for achieving perfect verticality and fixing structural glazing system rigidly to the RCC/ masonry/structural steel framework of building structure using stainless steel anchor fasteners/ bolts, nylon separator to prevent bimetallic contacts with nuts and washers etc. of stainless steel grade 316, of the required capacity and in required numbers.</p> <p>(c) Providing and filling, two part pump filled, structural silicone sealant and one part weather silicone sealant compatible with the structural silicone sealant of required bite size in a clean and controlled factory / work shop environment, including double sided spacer tape, setting blocks and backer rod, all of approved grade, brand and manufacture, as per the approved sealant design, within and all around the perimeter for holding glass.</p> <p>(d) Providing and fixing in position flashings of solid aluminium sheet 1 mm thick and of sizes, shapes and profiles, as required as per the site conditions, to seal the gap between the building structure and all its interfaces with curtain glazing to make it watertight.</p> <p>(e) Making provision for drainage of moisture/ water that enters the curtain glazing system to make it watertight, by incorporating</p>		

*SUB HEAD : 25.0 STRUCTURAL GLAZING ALUMINIUM COMPOSITE PANEL*



Code No.	Description	Unit	Rate ₹
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principles of pressure equalization, providing suitable gutter profiles at bottom (if required), making necessary holes of required sizes and of required numbers etc. complete. This item includes cost of all inputs of designing, labour for fabricating and installation of aluminium grid, installation of glazed units, T&P, scaffolding and other incidental charges including wastages etc., enabling temporary structures and services, cranes or cradles etc. as described above and as specified. The item includes the cost of getting all the structural and functional design including shop drawings checked by a structural designer, dully approved by Engineer-in-charge. The item also includes the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working structural glazing as specified, cleaning and protection till the handing over of the building for occupation. In the end, the Contractor shall provide a water tight structural glazing having all the performance characteristics etc. all complete as required, as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer- in-Charge.

**Note:- 1.** The cost of providing extruded aluminium frames, shadow boxes, extruded aluminium section capping for fixing in the grooves of the curtain glazing and vermin proof stainless steel wire mesh shall be paid for separately under relevant items under this sub-head. However, for the purpose of payment, only the actual area of structural glazing (including width of grooves) on the external face shall be measured in sqm. up to two decimal places.

**Note:-2.** The following performance test are to be conducted on structural glazing system if area of structural glazing exceeds 2500 Sqm from the certified laboratories accredited by NABL(National Accreditation Board for Testing and Calibration Laboratories), Department of Science & Technologies, India. Cost of testing is payable separately.

The NIT approving authority will decide the necessity of testing on the basis of cost of the work, cost of the test and importance of the work. Performance Testing of Structural glazing system Tests to be conducted in the **NABL accredited lab or by any other accreditation body which operates in accordance with ISO / IEC 17011 and accredits labs as per ISO/ IEC 17025.**

1. Performance Laboratory Test for Air Leakage Test (-50pa to - 300pa) & (+50pa to +300pa) as per ASTM E-283-04 testing method for a range of testing limit 1 to 200 mVhr
2. Static Water Penetration Test. (50pa to 1500p) as per ASTM E- 331-09 testing method for a range up to 2000 ml.
3. Dynamic Water Penetration (50pa to 1500pa) as per AAMA 501.01- 05 testing method for a range upto 2000 ml
4. Structural Performance Deflection and deformation by static air pressure test (1.5 times design wind pressure without any failure) as per ASTM E-330-10 testing method for a range upto 50 mm

*SUB HEAD : 25.0 STRUCTURAL GLAZING ALUMINIUM COMPOSITE PANEL*

Code No.	Description	Unit	Rate ₹
	5. Seismic Movement Test (upto 30 mm) as per AAMA 501.4-09 testing method for Qualitative test, Tests to be conducted on site.		
	6. Onsite Test for Water Leakage for a pressure range 50 kpa to 240 kpa (35psi) upto 2000 ml	sqm	2949.30
25.3	<p>Providing, assembling and supplying vision glass panels (IGUs) comprising of hermetically-sealed 6-12- 6 mm insulated glass (double glazed) vision panel units of size and shape as required and specified, comprising of an outer heat <b>strengthened</b> float glass 6mm thick, of approved colour and shade with reflective soft coating on surface # 2 of approved colour and shade, an inner Heat strengthned clear float glass 6mm thick, spacer tube 12mm wide, dessicants, including primary seal and secondary seal (structural silicone sealant) etc. all complete for the required performances, as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge. The IGUs shall be assembled in the factory/ workshop of the glass processor.</p> <p>(Payment for fixing of IGU Panels in the curtain glazing is included in cost of item No.25.2)</p> <p>For payment, only the actual area of glass on face # 1 of the glass panels (excluding the areas of the grooves and weather silicone sealant) provided and fixed in position, shall be measured in sqm.</p> <p>(i) Coloured tinted float glass 6mm thick substrate with reflective soft coating on face # 2, + 12mm Airgap + 6mm Heat Strengthened clear Glass of approved make having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20 %, shading coefficient (0.25- 0.28) and U value of 3.0 to 3.3 W/m2 degree K etc. The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement.</p>	sqm	3250.95
25.4	Extra for openable side / top hung vision glass panels (IGUs) including providing and supplying at site all accessories and hardwares for the openable panels as specified and of the approved make such as heavy duty stainless steel friction hinges, min 4 -point cremone locking sets with stainless steel plates, handles, buffers etc. including necessary stainless steel screws/ fasteners, nuts, bolts, washers etc. all complete as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge.	sqm	3163.10
25.5	Providing, fabricating and supplying shadow box of required size and shape, for fixing in the spandrel portion of the structural glazing, in linear as well as curvilinear portions of the building by providing semi-rigid, inorganic, non-combustible fibre glass wool insulation 50 mm thick, conforming to IS: 8183 and BS: 3958 Part 5. The insulation layer shall have facing (factory bonded on surface # 1 of the fibre glass insulation layer), of black non-woven fibre glass tissue of nominal thickness 0.5 mm and nominal mass not less than 60 gm /sqm, made of randomly oriented glass fibres distributed in a binder by a		

*SUB HEAD : 25.0 STRUCTURAL GLAZING ALUMINIUM COMPOSITE PANEL*

Code No.	Description	Unit	Rate ₹
	wet-lay process including fixing 1.5 mm thick solid aluminum sheet backing using, 6 mm thick cement board including SS rivets, nuts, bolts, washers etc complete.	sqm	1883.55
25.6	<p>Providing and supplying Spandrel Glass Panels comprising of 6 mm thick heat strengthened monolithic float glass of approved colour and shade with reflective soft coating on surface # 2 of approved colour and shade so as to match the colour and shade of the IGUs in the vision panels etc. ,all complete for the required performances as specified, as per the Architectural drawings, as per the approved shop drawings, as specified, and as directed by the Engineer- in-Charge.</p> <p>For payment, only the actual area of glass on face # 1 of the glass panels (but excluding the area of grooves and weather silicone sealant) provided and fixed in position, shall be measured in sqm. (Payment for fixing of Spandrel Glass Panels in the curtain glazing is included in cost of relevent Item*).“(i) Coloured tinted float glass 6mm thick substrate with reflective soft coating on face # 2, having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20 %, shading coefficient (0.25- 0.28) and U value of 3.0 to 3.3 W/m2 K etc. . The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement.</p>	sqm	2127.95
25.7	<b>Item Shifted to Sub Head 8 as Item no 8.32</b>		
25.8	<p>Design supply &amp; installation of suspended Spider Glazing system designed to withstand the wind pressure as per IS 875 (Part-III). The Suspended System held with Spider Fittings of SS-316 Grade Steel of approved manufacturer with glass panel having 12 mm thick clear toughened glass held together with SS- 316 Grade Stainless steel Spider &amp; bolt assembly with laminated glass fins 21 mm thick. The Glass fins and glass panel assembly shall be connected to Slab/ beams by means of SS- 316 Grade stainless steel brackets &amp; Anchor bolts and at the bottom using SS channel of 50x25x2mm using fastener &amp; anchor bolts, non staining weather sealants of approved make, Teflon/ nylon bushes and separators to prevent bi-metallic contacts, all complete to perform as per specification and approved drawings. The complete system to be designed to accommodate thermal expansion &amp; seismic movements etc. The joints between glass panels (6 to 8 mm) and gaps at the perimeter &amp; in U channel of the assembly to be filled with non staining weather sealant, so as to make the entire system fully water proof &amp; dust proof.</p> <p>The rate shall include all design, Engineering and shop drawing including approval from structural designer, labour, T&amp;P, scaffolding, other incidental charges including wastage, enabling temporary services all fitting fixers nut bolts, washer, Buffer plates, fastener, anchors, SS channel laminated glass etc. all complete. For the purpose of payment, actual elevation area of Glazing including thickness of joints and the portion of Glass panel inside the SS channel shall be measured.</p>	sqm	8130.45

**SUB HEAD : 25.0 STRUCTURAL GLAZING ALUMINIUM COMPOSITE PANEL**

**SUB HEAD : 26.0**

**NEW TECHNOLOGIES AND  
MATERIALS**

## BASIC RATES (SH: 26.0 NEW TECHNOLOGIES AND MATERIALS)

Code No.	Description	Unit	Rate ₹
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	day	800.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc.	cum	210.00
0011	Hire charges of Pump set of capacity 4000 litres/hour	day	700.00
0012	Vibrator (Needle type 40 mm)	day	370.00
0014	Front end loader capacity 1.00 cum	day	6000.00
0028	Hire and running charges of crane 20 tonne capacity	day	7000.00
0030	Generator 250 KVA	day	2500.00
0031	Steam curing by using boiler /Heater	cum	500.00
0032	Stressing Machine (jack with pump)	day	11500.00
0034	Cutting saw machine	day	1350.00
0035	Strands Roller machinery for laying strands	day	3500.00
0036	Bed master (Pulling strands)	day	3000.00
0037	Mobile crane	day	7500.00
0044	Cost for crane upto 40 tonne capacity	day	8000.00
0067	Cost for crane upto 80 tonne capacity	day	15000.00
0070	Generator 100 KVA/125 KVA	hour	250.00
0072	Cost for crane having capacity 50MT	day	8500.00
0086	Compressor, gun, rubber pipes & other accessories- hire charge of plant & machinery i/c necessary fuel	day	4000.00
0088	Hire charges of Drill machine upto 30 mm dia	day	160.00
0089	Hire charges of sand blasting equipment	day	160.00
0090	Hire charges of compressor	day	420.00
0091	Welding charges of shear key to existing reinforcement	each	5.00
0092	Hire charges of plant and Machinery that can inject 350 kg/day	day	200.00
0100	Bandhani	day	617.00
0101	Bhisti	day	617.00
0102	Blacksmith 1st class	day	738.00
0103	Blacksmith 2nd class	day	679.00
0111	Carpenter 1st class	day	738.00
0112	Carpenter 2nd class	day	679.00
0113	Chowkidar	day	558.00
0114	Beldar	day	558.00
0115	Coolie	day	558.00
0116	Fitter (grade 1)	day	738.00
0117	Assistant Fitter or 2nd class Fitter	day	679.00
0119	Glazier	day	679.00
0122	Mason (for plaster of paris work) 1st class	day	738.00
0123	Mason (brick layer) 1st class	day	738.00
0124	Mason (brick layer) 2nd class	day	679.00

*SUB HEAD : 26.0 NEW TECHNOLOGIES AND MATERIALS*

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
0125	Mason (for plain stone work) 2nd class	day	679.00
0126	Mason (for ornamental stone work) 1st class	day	738.00
0127	Driver for (Road roller, concrete mixer, Trucks etc.)	day	738.00
0128	Mate	day	617.00
0129	Sewer man	day	558.00
0130	Mistry	day	738.00
0131	Painter	day	679.00
0132	Rock Excavator	day	558.00
0133	Rock Breaker	day	558.00
0134	Rock Hole Driller	day	558.00
0135	Stone Chiseller	day	617.00
0138	Sprayer (for bitumen, tar etc.)	day	617.00
0139	Skilled Beldar (for floor rubbing etc.)	day	617.00
0141	White Washer	day	617.00
0154	Nozzel man/ gun man	day	738.00
0155	Mason (average)	day	709.00
0156	Carpenter (average)	day	709.00
0157	Operator (Pile/ Special machine)	day	738.00
0159	Skilled torch operator for laying tack	day	738.00
0160	Technician	day	775.00
0161	Helper (Technician)	day	558.00
0164	Security guard without gun (8 hours shift duty per day)	day	617.00
0165	Security guard with gun (8 hours shift duty per day)	day	679.00
0238	6 mm thick heavy duty fiber cement board	sqm	470.00
0239	8mm thick heavy duty fiber cement board	sqm	300.00
0240	9 mm thick heavy duty fiber cement board	sqm	625.00
0241	12.5 mm thick Gypsum plaster board	sqm	170.00
0244	Factory made light weight composite non asbestos fibre reinforced aerated cement sandwiched wall/roof panel (50mm thick). The outer face on both sides of the panels will be non asbestos fibre cement board (minimum 4mm thick) confirming to IS 14862:2000	sqm	634.00
0245	Factory made light weight non asbestos fibre reinforced aerated cement sandwiched wall/roof panel (75mm thick). The outer face on both sides of the panels will be non asbestos fibre cement board (minimum 5mm thick) confirming to IS 14862:2000	sqm	789.00
0246	2mm thick sim pad	each	10.00
0247	5mm thick sim pad	each	15.00
0248	10mm thick sim pad	each	25.00
0367	Portland Cement (OPC-43 Grade)	tonne	4940.00
0637	Bright finished or black enameled mild steel screws 40 mm	100 Nos	60.00

**SUB HEAD : 26.0 NEW TECHNOLOGIES AND MATERIALS**

Code No.	Description	Unit	Rate ₹
0764	Calcium silicate base compound for jointing calcium silicate tiles	kg	26.00
0982	Coarse sand (zone III)	cum	1350.00
0983	Fine sand (zone IV)	cum	900.00
0993	FY-1860 grade wire strands	quintal	5700.00
1012	Pregalvanized high tensile steel confirming to IS:277-199	kg	90.00
1021	Hard drawn steel wire fabric 75 x 25 mm mesh of weight not less than 7.75 kg/sqm	sqm	430.00
1023	Galvanised steel J or L hooks 8 mm dia	10 Nos	120.00
1027	Erection Bolts ( Minimum 04 nos for each element)	each	25.00
1159	Stone dust	cum	1100.00
1190	Second class teak wood in planks	10 cudm	791.00
1208	Bitumen washer	100 Nos	30.00
1209	G.I. plain washer thick	100 Nos	35.00
1217	GI Wire mesh 100x100 mm	kg	75.00
1218	Shear stud	each	50.00
1223	Steel weld mesh	sqm	150.00
1235	Diesel	litre	73.50
1246	Silicon based Joint Sealant for Tiles	kg	160.00
1247	Rubber base Adhesive	kg	223.00
1248	Epoxy based sealing Compound	kg	535.00
1249	Acrylic based sealing compound	kg	500.00
1250	Non woven reinforcement Tape	metre	0.14
1251	M-60 grade cemetitious grout (Non Shrink)	kg	28.00
1252	Cementitious polymer base adhesive confirming to EOTA ETAG 004 (European Technical Approval)	kg	34.00
1253	Polypropylene mechanical fastener with plastic pin confirming to EOTA ETAG 014 (European Technical Approval) having dia 10mm & L=200mm	each	30.00
1254	Moisture cure Polyurethane Foam	750 ml	600.00
1255	PVC Corner Bead of size 25mmx25mm fixed with glass fibre mesh (100mm x 100mm)	metre	90.00
1256	Cementitious polymer base coat confirming to EOTA ETAG 004 (European Technical Approval)	kg	40.00
1257	Fiberglass mesh with alkali-resistant coating having mass per unit area ?145 g/m <sup>2</sup> , mesh size: 3.9x4.0 mm ±10%	sqm	75.00
1316	50mmx50mm hardwood plug	each	75.00
2201	Carriage of Bricks	1000 Nos	276.72
2203	Carriage of Coarse sand	cum	103.77
2204	Carriage of Timber	cum	118.59
2205	Carriage of Steel	tonne	92.24
2209	Carriage of Cement	tonne	92.24
2261	Carriage of Fine sand (1 Part badarpur sand : 2 parts jamuna sand)	cum	103.77
2358	Carriage of Bamboo Mat corrugated sheets and accessories	tonne	11500.00
2491	Pre laminated both side solid foam uPVC profile (45x20mm)	metre	130.00
2492	Solid foam uPVC sheet 20mm thick pre laminated on both side	sqm	2090.00
2493	PVC edge beading	metre	31.00
2494	Expandable fastner with plastic sleeve	each	5.00
2635	GI Screws of gauge 10, length 25 mm for fixing cement fibre board to C section	each	3.00

SUB HEAD : 26.0 NEW TECHNOLOGIES AND MATERIALS



Code No.	Description	Unit	Rate ₹
2636	GI Screws of gauge 10, length 45 mm for fixing cement fibre board to C section	each	3.00
2637	Vapour barrier	sqm	175.00
7009	12.5 mm thick tapered edge gypsum plain borad	sqm	155.00
7025	Self tapping pan head nickel coated mild steel screws of size 13 x 3.2 mm	1000 Nos	525.00
7026	Fibre joint tape 50 mm wide (90 metre) roll	each roll	165.00
7274	Glass wool 50 mm thick	sqm	238.00
7318	Plasticizer / super plasticizer	kg	36.00
7336	Lock Bar (E 250) - 10 thick MS Plate	kg	76.00
7367	Galvanised M.S. sheet 0.5 mm thick pressed channel section of size 50x32 mm	metre	57.00
7368	GFRG Panel of 124 mm thick	sqm	847.46
7369	Galvanised M.S. sheet 0.50 mm thick pressed stud : 48x34x 36 mm	metre	71.00
7383	12 mm dia 50 mm long wedge type expanded zinc alloy dash fastener	each	7.00
7388	Dash hold fastener 12.5 mm dia, 50 mm long with 6 mm dia bolt	each	11.00
7776	Concrete paver block of grade M-30 made of C&D waste (60mm thickness)	sqm	317.22
7911	Chemical Rust Remover	litre	210.00
7912	Hire charges of Drill machine upto 30 mm dia	day	160.00
7913	Epoxy	kg	585.00
7914	SBR Polymer	kg	190.00
7915	Woven PVC cloth	sqm	25.00
7916	Hire charges of sand blasting equipment	day	420.00
7917	Hire charges of compressure	day	645.00
7918	25mm thick cement concrete shotcrete(guniting) with compressor	sqm	105.00
7921	Adhesive chemical	ml	2.00
7922	Bit of drilling machine for Hole upto 30mm dia	each	500.00
7923	GI injection nipple 12mm dia, 75mm long	each	42.00
7924	Blowing compressed air for cleaning holes upto 30mm dia	each	10.00
7925	L shaped 100mm long, 10mm dia mild steel shear key	kg	67.00
7927	Acrylic Polymer chemical for cracks	kg	31.00
7929	Shear loops (6mm dia GI wire rope) (For vertical joints) 6 nos on each side	each	192.00
7930	dowel tubes (Corrugated GI pipes 50 to 80mm dia) (For horizontal joints)	metre	120.00
7931	Hooks for lifting (Alloy steel) having 2.5 tonne capacity	each	250.00
7996	Factory made EPS light weight composite sandwiched wall/ roof panel (50mm thick) having core material of EPS granule balls/beads (conforming to IS 4671:1984 and shall have density		

*SUB HEAD : 26.0 NEW TECHNOLOGIES AND MATERIALS*



Code No.	Description	Unit	Rate ₹
	not less than 15kg per cum). The outer face on both sides of the panels will be non asbestos fiber cement board confirming to IS 14862:2000 or Calcium silicate board confirming to EN 14306:2009 of 5mm thick each.	sqm	735.25
7997	Factory made EPS light weight composite sandwiched wall/ roof panel (60mm thick) having core material of EPS granule balls/beads (conforming to IS 4671:1984 and shall have density not less than 15kg per cum). The outer face on both sides of the panels will be non asbestos fiber cement board confirming to IS 14862:2000 or Calcium silicate board confirming to EN 14306:2009 of 5mm thick each	sqm	845.00
7998	Factory made EPS light weight composite sandwiched wall/ roof panel (75mm thick) having core material of EPS granule balls/beads (conforming to IS 4671:1984 and shall have density not less than 15kg per cum). The outer face on both sides of the panels will be non asbestos fiber cement board confirming to IS 14862:2000 or Calcium silicate board confirming to EN 14306:2009 of 5mm thick each	sqm	1047.46
7999	Factory made EPS light weight composite sandwiched wall/ roof panel (90mm thick) having core material of EPS granule balls/beads (conforming to IS 4671:1984 and shall have density not less than 15kg per cum). The outer face on both sides of the panels will be non asbestos fiber cement board confirming to IS 14862:2000 or Calcium silicate board confirming to EN 14306:2009 of 5mm thick each	sqm	1268.00
8000	Factory made EPS light weight composite sandwiched wall/ roof panel (100mm thick) having core material of EPS granule balls/beads (conforming to IS 4671:1984 and shall have density not less than 15kg per cum). The outer face on both sides of the panels will be non asbestos fiber cement board confirming to IS 14862:2000 or Calcium silicate board confirming to EN 14306:2009 of 5mm thick each	sqm	1512.37
8013	Factory made EPS Core wallpanel /roof panel sandwiched between two Engineered welded wire fabric mesh of 3 mm dia G.I. wire mesh,with 50 mm pitch in both the directions, kept at 120-135 mm gap and interconnected by the zig zag G.I. wire of 3 mm dia at alternate row by welding.	sqm	1650.00
8015	Expanded poly ethylene Foam sheet 4mm thick of Density 40kg/m <sup>3</sup>	sqm	18.00
8016	High Density expanded poly ethylene (EPE) Foam 1mm thick	sqm	8.50
8019	GI sheet 0.8 mm thick confirming to IS 277:1992	kg	75.00
8020	Factory made EPS Core wall panel /roof panel sandwiched between two Engineered welded wire fabric mesh of 3 mm dia G.I. wire mesh, with 50 mm pitch in both the directions, connected by G.I. wire of 3mm dia at alternate row by welding	sqm	600.00
8021	Bamboo wood Tile Flooring 14mm thick of minimum size 1800mm x130mm	sqm	3470.00
8022	Bamboo wood Quarter Round 18mm thick of size 1900mm x 18mm	metre	112.00

SUB HEAD : 26.0 NEW TECHNOLOGIES AND MATERIALS

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate ₹</b>
8023	Bamboo wood door reducer 14mm thick of size 1900mm x 44mm	metre	255.00
8024	Bamboo wood Skirting 14mm thick of Size 1900mm x 85mm	metre	300.00
8025	Bamboo wood Tile Wall Cladding 10mm thick of size 1900mm x 135mm	sqm	3385.00
8026	Bamboo wood T-mold 14mm thick of size 1900mm x 44mm	metre	250.00
8027	Bamboo wood Threshold 14mm thick of size 1900mm x 44mm	metre	255.00
8028	Bamboo wood shutter of doors	10 cudm	1700.00
8029	Bamboo wood panelling (10mm thick)	10 cudm	1680.00
8030	Superior class Bamboo wood door frame 65 mm thick,	10 cudm	1675.00
8031	Aluminium sheets Grade 5052, 4 mm thick for wall panel/deck panel/WRB panel/Kicker Panels/door closing panels ( for form work)	sqm	8500.00
8032	Aluminium sheets Grade 5052, 4 mm thick for Internal Corner/ Column Corners/ ( for form work)	sqm	11500.00
8033	Aluminium sheets Grade 5052, 4 mm thick for Mid Soldier/End soldier (for form work)	sqm	32000.00
	Accessories for aluminium form work		
8034	External corner 2050 mm	each	1400.00
8035	External corner 825 mm	each	590.00
8036	soldier tie 370mm	each	290.00
8037	Adjustable prop-2.0 x2.0 m	each	1080.00
8038	Pin-50	each	15.00
8039	Pin-127	each	55.00
8040	wedge	each	14.00
8041	wall tie-150 (355 mm )	each	45.00
8042	Polythene Sleeve 90 x 150mm	each	3.00
8043	Polythene Roll - 150mm Long.	each	6.00
8044	Vertical Soldier -1100mm	each	365.00
8045	Wall Attached Bracket 600x1000mm	each	985.00
8046	Allignment Pipe - 3.00 Mtr.	each	995.00
8047	Allignment Bracket	each	475.00
8048	Tie Rod for Bracket - 500mm	each	115.00
8049	Anchor Wing Nut Ø100 mm	each	64.00
8050	Debit Pin - 250mm	each	60.00
8051	PVC Pipe Ø20mm - 150mm long	each	5.00
8052	PVC Cone	each	5.00
8053	Bolt+Nut - 16 x 80 mm	each	30.00
8054	Flat Washer Ø16, 3mm thik	each	5.00
8055	Bolt+Nut - 16 x 30 mm	each	18.00

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Code No.	Description	Unit	Rate ₹
8056	Door spacer 45x45x5-1135mm Long	each	360.00
8057	Door spacer 45x45x5-1135mm Long	each	315.00
8144	Bamboo Mat corrugated sheets 3.5 to 4mm thick conforming to IS 15476:2004	sqm	2648.00
8145	Bamboo Mat Ridge cap 3.5 to 4mm thick conforming to IS 15476:2004	metre	2570.00
8146	3mm thick Bamboo Mat Board conforming to IS 13958:1994	sqm	1508.00
8147	4mm thick Bamboo Mat Board conforming to IS 13958:1994	sqm	1738.00
8148	6mm thick Bamboo Mat Board conforming to IS 13958:1994	sqm	2098.00
8149	9mm thick Bamboo Mat Board conforming to IS 13958:1994	sqm	2688.00
8150	12mm thick Bamboo Mat Board conforming to IS 13958:1994	sqm	3115.00
8210	Stainless steel screws 50 mm	100 Nos	270.00
8211	Stainless steel screws 40 mm	100 Nos	215.00
8212	Stainless steel screws 30 mm	100 Nos	190.00
8214	Stainless steel screws 20 mm	100 Nos	125.00
8215	Stainless steel butt hinges 125x64x1.9 mm IS : 12817 marked	10 Nos	265.00
8216	Stainless steel butt hinges 100x58x1.9 mm IS : 12817 marked	10 Nos	235.00
8217	Stainless steel butt hinges 75x47x1.8 mm IS : 12817 marked	10 Nos	160.00
8218	Stainless steel butt hinges 50x37x1.5 mm IS : 12817 marked	10 Nos	135.00
8226	Concealed zinc coated hinges 19-20 mm thick with mounting plate	10 Nos	420.00
8514	40 mm long S.S screws with plastic rawl plugs	100	40.00
8515	Galvanized MS 8 mm outer diameter M-6 dash fastener 50mm long	each	31.00
8516	ZMB 60/equivalent	kg	105.00
8517	ZMB thinner	litre	205.00
8518	Zycoprime / equivalent	litre	210.00
8519	Zycosil / equivalent	litre	1800.00
8520	Elastobar / equivalent	kg	300.00
8552	Mineral fibre beveled tegular edged ceiling tiles 595 x595mm, 16 mm thick	sqm	830.00
8553	Mineral fibre beveled tegular edged ceiling tiles 595 x595mm, 16 mm thick with bio-block conforming to ISO 5 (class 100) specifications.	sqm	920.00
8554	Mineral fiber beveled tegular edged ceiling tiles 595 x595mm, 20 mm thick.	sqm	1040.00
8555	G.I main runner 15 x32 mm of 3000 mm length, 0.33 mm thick	each	185.00
8556	G.I cross-T 15 x32 mm of 1200 mm length, 0.33 mm thick	each	78.00
8557	G.I cross-T 15 x32 mm of 600 mm length, 0.33 mm thick	each	35.00
8558	G.I hanger rod 6mm dia fully threaded upto 1000 mm length	each	26.00
8559	Stainless steel U Channel of size (50x25x2mm)	metre	160.00

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Code No.	Description	Unit	Rate ₹
8560	Non staining water resistant clear silicon	metre	65.00
8561	Extruded polystyrene rigid insulation board 50 mm thick	sqm	525.00
8562	Expanded Polystyrene insulation board 120 mm thick conforming to IS 4671-1984, Fire retardant property self-extinguishing type as per EN 13501-1	sqm	800.00
8563	15 mm thick, light weight, integral densified micro look edged, false ceiling tiles of size 595x595 mm.	sqm	720.00
8564	15 mm thick, light weight, fully perforated square/butt edge integral densified, false ceiling tiles of size 595x595 mm.	sqm	900.00
8565	Galvanised MS hanger rod 6 mm dia MS fully threaded up to 1000mm length	each	26.00
8566	Powder coated steel section main-T ceiling sections 15x42x0.40 mm (3000 mm long)	each	235.00
8567	Galvanized mild steel perimeter wall angle 22x19x0.40 mm (3000mm long)	each	115.00
8568	Powder coated Galvanised Iron intermediate cross-T section 15x42x0.40 mm (1200 mm long)	each	95.00
8569	Powder coated Galvanized Iron intermediate cross-T section 15x42x0.40mm (600 mm long )	each	47.00
8570	GI Main T ceiling section 30x25x0.3 mm (3 metre long)	each	187.00
8571	GI Perimeter wall angle 25x25x0.4 mm (3 metre long)	each	157.00
8572	GI Intermediate cross T section 25x25x0.3 mm (1.2 metre long)	each	72.00
8573	GI Intermediate cross T section 25x25x0.3 mm (0.6 metre long)	each	34.00
8579	Cold form light gauge Steel C-section of thickness 0.75mm i/c zink coating/sliting etc.	kg	130.00
8580	Wastage of cold form light gauge steel	kg	17.00
8581	12 mm thick micro tegular edged semi perforated GRG (Glass Fibre Reinforced Gypsum) false celing tiles of Size 595x595 mm	sqm	510.00
8582	12 mm thick micro tegular edged fully perforated GRG (Glass Fibre Reinforced Gypsum) false celing tiles of Size 595x595 mm	sqm	600.00
8583	10 mm thick square edge fully perforated GRG(Glass Fibre Reinforced Gypsum) false celing tiles of Size 595x595 mm	sqm	750.00
8587	Galvanized iron intermediate cross-T section 15x32x0.33 mm (600mm long)	each	35.00
8588	Galvanised MS hanger rod 6mm dia MS fully threaded up to 1000mm length	each	26.00
8589	Calcium Silicate tegular edged celling tiles 595x595 mm and 15 mm thick on edges	sqm	685.00
8590	Galvanised Steel main Tee ceiling section Size 24x38x0.33 mm (3 metre long)	each	120.00
8591	Galvanised Steel perimeter wall Angle Size 24 x 24 x 0.40 mm (3.00 metre long)	each	65.00

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Code No.	Description	Unit	Rate ₹
8592	Galvanised Steel intermediate cross T section Size 24 x 25 x 0.33mm (1.2 metre long)	each	40.00
8593	Galvanised Steel intermediate cross T section Size 24 x 25 x 0.33mm (0.6 metre long)	each	20.00
8594	Galvanised Steel soffit cleat size 25x35x1.60 mm	each	4.00
8595	Wooden screws with plastic rawl plugs 35x8 mm	each	1.00
8596	Galvanised MS 8mm outer diameter M-6 dash fastener 25mm long	each	32.00
8597	GI Metal Tile Clip in Plain Beveled edge global white colour tiles of size 600x600 mm and 0.5 mm thick	sqm	677.00
8598	GI Metal Tile Clip in Perforated Beveled edge global white colour tiles of size 600x600 mm and 0.5 mm thick	sqm	782.00
8604	Spring T-section 24x34x0.45 mm (3.00 meter long)	metre	190.00
8605	C Wall angle section 20x30x20x0.50 mm (3.00 meter long)	metre	95.00
8606	Main C Carrier Size 10x38x10x0.70 mm (3.00 meter long)	metre	115.00
8607	Spring T-connector	each	5.00
8608	C Carrier Connector	each	11.00
8609	C Suspension Clip	each	8.00
8610	Wire Coupling Clip	each	9.00
8611	Main T ceiling sections 24x38x0.3 mm (3 metre long)	each	115.00
8612	Perimeter wall angle 24 x 24 x 0.3 mm (3 metre long)	each	80.00
8613	Intermediate cross T-Section 24x25x0.3 mm (1.2 m long)	each	35.00
8614	Intermediate cross T-Section 24x25x0.3 mm (0.6 m long)	each	17.00
8615	Hanger rod 4 mm thick	each	8.00
8616	Adjustment clip 85x30x0.8 mm	each	5.00
8617	Soffit cleat (Size 27x37x25x1.60 mm)	each	4.00
8618	Dash fastener 6 mm dia 50 mm long	each	8.00
8619	Galavanised MS L-shape level adjuster of size 85x25x2 mm	each	15.00
8658	Precast C&D waste concrete block	1000 Nos	25150.00
8659	Water proof ply 12 mm thick	sqm	517.00
8684	White sand stone gang saw cut 30 mm thick	sqm	560.00
8761	Scaffolding net made of high density polyethylene UV stabilized having density 100gm/ sqm.	sqm	21.50
8956	Bi-Axial Extruded GeoGrids of Minimum Tensile Strength 15 kN/m in the longitudinal and transverse direction	sqm	100.00
8957	Bi-Axial Extruded GeoGrids of Minimum Tensile Strength 20kN/m in the longitudinal and transverse direction	sqm	115.00
8958	Bi-Axial Extruded GeoGrids of Minimum Tensile Strength 30kN/m in the longitudinal and transverse direction	sqm	185.00
8959	Bi-Axial Extruded GeoGrids of Minimum Tensile Strength 40kN/m in the longitudinal and transverse direction	sqm	275.00

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Code No.	Description	Unit	Rate ₹
8960	Geosynthetic Drainage with two filtering nonwoven geotextiles having a "W" configuration as longitudinal parallel channels. Minimum thickness to be 7.2mm, with two filtering UV stabilized polypropylene nonwoven geotextile of minimum thickness of 0.75mm having pores of 150 micron and tensile strength of 8.0 kN/m and having plane flow capacity of 2.1 L / (m.s) at hydraulic gradient of 1.0 & 20 kPa pressure, tensile strength of 18 kN/m , with mass per unit area of 740 gsm.	sqm	530.00
8961	Geosynthetic Drainage Composite having thermobonding a draining core - HDPE geonet comprises of two sets of parallel overlaid ribs integrally connected to have a rhomboidal shape with a polyethylene film and a nonwoven geotextile having mass per unit area 130 g/m2 and tensile strength of 8.0 kN/m having in plane flow capacity of 0.7 L / (m.s) at hydraulic gradient of 1.0 & 20 kPa pressure and tensile strength of 13.5 kN/m , with mass per unit area of 830 gsm,	sqm	630.00
8962	Synthetic Geogrid having Ultimate tensile strength- 100 kN/m	sqm	220.00
8963	Synthetic Geogrid Ultimate tensile strength- 150 kN/m	sqm	230.00
8964	Synthetic Geogrid Ultimate tensile strength- 200 kN/m	sqm	320.00
8965	Synthetic Geogrid Ultimate tensile strength- 250 kN/m	sqm	355.00
8966	Synthetic Geogrid Ultimate tensile strength- 300kN/m	sqm	365.00
8967	Synthetic Geogrid Ultimate tensile strength- 350kN/m	sqm	370.00
8968	Synthetic Geogrid Ultimate tensile strength- 400kN/m	sqm	475.00
8969	Synthetic Geogrid Ultimate tensile strength- 500kN/m	sqm	535.00
8970	Synthetic Geogrid Ultimate tensile strength- 600kN/m	sqm	550.00
8971	Synthetic Geogrid Ultimate tensile strength- 700kN/m	sqm	685.00
8972	Synthetic Geogrid Ultimate tensile strength- 800kN/m	sqm	750.00
8973	Synthetic Geogrid Ultimate tensile strength- 900kN/m	sqm	900.00
8974	Synthetic Geogrid Ultimate tensile strength- 1000kN/m	sqm	1025.00
8975	Synthetic Geogrid Ultimate tensile strength- 1100kN/m	sqm	1000.00
8976	Synthetic Geogrid Ultimate tensile strength- 1200kN/m	sqm	1088.00
8977	Aluminium profile industrial troughed sheet of Alloy 31500/31000/40800, conforming to IS 1254, IS 737, IS 2676, 0.71 mm thick, the profile detail width 1044/920 mm, cover width 1000/875 mm.	sqm	600.00
8978	Aluminium profile industrial troughed sheet of Alloy 31500/31000/40800, conforming to IS 1254, IS 737, IS 2676, 0.91 mm thick, the profile detail width 1044/920 mm, cover width 1000/875 mm.	sqm	785.00
9977	Carriage	L.S.	2.00
9988	Carriage and sundries	L.S.	2.00
9999	Sundries	L.S.	2.00

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## 26.0 NEW TECHNOLOGIES AND MATERIALS

Code No.	Description	Unit	Rate ₹
26.1	Providing & fixing in position Phenol bonded Bamboowood flooring with planks of sizes 14mm thick, 1800mm length (minimum) and 130 mm wide(minimum), in approved colour, texture and finish, having Performance Appraisal Certificate (PAC) issued by Building Materials & Technology Promotion Council (BMTPC). The flooring shall be fixed with tongue and groove interlocking system, with underlayment of 4mm thick expanded polyethylene foam sheets having density 40kg/cum, over prepared surface with necessary quarter round planks of size 1900mm x 18mm and door reducer of size 1900mm x 44mm, wherever required. The <b>bamboowood</b> planks shall have minimum density of 1000 Kg/cum & minimum Hardness 1000 Kgf. with Eco friendly UV coating, all complete as per direction of the Engineer in-charge.	sqm	5279.10
26.2	Providing & fixing in position Phenol bonded Bamboowood in wall skirting with planks of sizes 14mm thick, 1900mm length (minimum) and 85mm wide(minimum), in approved colour, texture and finish, having Performance Appraisal Certificate (PAC) issued by Building Materials & Technology Promotion Council (BMTPC). The skirting shall be fixed with SS screws & rawl plugs, over underlayment of 4mm thick, expanded polyethylene foam sheets having 40kg/cum density over prepared surface. The <b>bamboowood</b> planks shall have minimum density of 1000Kg/cum & minimum Hardness 1000 Kgf. with Eco friendly UV coating, all complete as per direction of the Engineer in-charge.	sqm	5162.75
26.3	Providing & fixing in position Phenol bonded Bamboowood wall cladding at all height with planks of sizes 10mm thick, 1800mm length (minimum) and 130 mm wide (minimum), in approved colour, texture and finish, having Performance Appraisal Certificate (PAC) issued by Building Materials & Technology Promotion Council (BMTPC), with necesasary profiled edges fixed with 40mm SS screws 5 nos in each tile to frame work made of second class teak wood of size 20x15 mm in centre of each tile and bottom and top of work height, 40x15mm placed at ends of each tile. The cladding shall be laid over backlayment of 1.00 mm thick expanded polyethylene foam of density 40kg/cum in two layers, first layer on wall surface before fixing wooden frame and second layer on frame under cladding. The <b>bamboowood</b> planks shall have minimum density of 1000 Kg/cum & minimum Hardness 1000 Kgf. with Eco friendly UV coating, all complete as per direction of the Engineer in-charge.	sqm	5559.40
26.4	Providing & fixing in position Phenol bonded Bamboowood panelled or panelled and glazed shutters for doors windows, clerestorey windows with pre-molded 30mm thick planks, in approved colours, texture & finishe. It shall have 10mm wide, 25mm deep grove to fit in panels. The bamboo wood shall have minimum density of 1000 Kg/cum, minimum Hardness 1000 Kgf. All styles and rails shall have profiled interlocking system locked in place by bamboo pins, all complete as per direction of Engineer in charge. (The panelling will be paid for separately).	sqm	5460.25

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Code No.	Description	Unit	Rate ₹
26.5	Providing & fixing in position Phenol bonded Bamboowood panelling of 10mm thick, in 25 to 40 mm thick panelled or panelled & glazed shutters for doors, windows, clerestorey windows, in approved colour, texture & finish. The <b>bamboowood</b> planks shall have minimum density of 1000 Kg/cum & minimum Hardness 1000 Kgf. The panels shall have profiled interlocking system locked in place with bamboo pins all complete as per direction of the Engineer in-charge. (area of opening for panel inserts excluding portion inside grooves or rebates to be measured)	sqm	3561.70
26.6	Providing & fixing in position 65 mm thick factory made door frame of Phenol bonded Bamboo wood (superior class, interior use), in approved colour, texture and finish. The bamboo wood shall have minimum density of 1000 Kg/cum, minimum hardness 1000 Kgf. The door frame shall have tenon & mortise interlocking system, to be fixed to the wall with 100 mm size G.I screws all a complete as per direction of Engineer-in charge.	cudm	254.00
26.6A	<b>Providing, erecting, laying and fixing in position in 3.5 to 4 mm thick bamboo mat corrugated sheet (BMCS) as per IS: 15476-2004 in roofing with self drilling screws along with EPDM washers complete or with galvanized iron J or L hooks 8mm dia G.I. plain and bitumen washers etc, all complete as per direction of Engineer-in-Charge.</b>	sqm	5128.90
26.6B	<b>Providing and fixing in position ridges of 3.5 to 4 mm thick bamboo mat ridge cap (BMRC) as per IS: 15476-2004 in roofing with self drilling screws along with EPDM washers complete or with galvanized iron J or L hooks 8mm dia G.I. plain and bitumen washers etc, all complete as per direction of Engineer-in-Charge.</b>	metre	4147.25
26.6C	<b>Providing and fixing at all height false ceiling of 4mm thick phenol bonded Bamboo Mat board (595x595mm) conforming to IS:13958-1994 including providing and fixing of frame work made of GI angle 25x25x0.4 mm thick all around suitably fixed to wall with the help of dash fastener and hanger frame (600x600 c/c) made GI slotted Tee having powder coating on bottom side (30x25x0.3 mm thick for main member &amp; 25x25x0.3 mm for cross member) connected to ceiling with 2.64mm GI wire and anchor fastener at every junction and also including cost of making openings for light fittings, grills, diffusers, cut outs made with frame of perimeter channels suitably fixed all complete as per direction of Engineer-in-charge.</b>	sqm	3271.75
26.6D	<b>Providing and fixing at Bamboo Mat board conforming to IS:13958-1994 for partition to frame by bucking or studding with screws etc. complete (Frames, backing or studding to be paid separately)</b>		
26.6D.1	3mm thickness	sqm	2396.20
26.6D.2	4mm thickness	sqm	2741.30
26.6D.3	6mm thickness	sqm	3269.00
26.6D.4	9mm thickness	sqm	4141.80
26.6D.5	12mm thickness	sqm	4763.65

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Code No.	Description	Unit	Rate ₹
26.6E	<b>Providing and fixing at all height wall panelling with phenol bonded Bamboo Mat board conforming to IS:13958-1994 including providing and fixing to frame work made of 50mm x 50mm hardwood plugs including cutting brick work and fixing in cement mortar and making good the wall etc. and also providing and fixing wooden moulded corner beading of triangular shape to the junction of panelling etc. with iron screws all complete as per direction of Engineer-in-Charge.</b>		
	<b>26.6E.1 9mm thickness</b>	<b>sqm</b>	<b>4443.65</b>
	<b>26.6E.2 12mm thickness</b>	<b>sqm</b>	<b>5066.55</b>
26.7	Providing and fixing 50 mm thick extruded polystyrene rigid insulation board of required size between cavity wall, complying with ISO 4898:2008 & ASTM C 578-08b - type VI, having thermal conductivity of 0.0289 W/m K as per ASTM C 578 (measured as per IS 3346), compressive strength of > 350 kPa listed as per ASTM D 1621, density of 34-36 kg/m <sup>3</sup> as per ASTM D 1622, water absorptions ≤ 1% by volume as per ASTM D 2842, oxygen index of 24.1 to 28.1 listed as per ASTM D 2863, cell size 0.4 mm of dia (max) as per ASTM D 3576. Fire retardent property as per DIN 4102, Part 1 of class B2 and as per ASTM E84 class A, fixed with suitable water based adhesive and fastener, complete in all respect as per the direction of Engineer- in-Charge.	sqm	807.20
26.8	Providing and fixing 50 mm thick extruded polystyrene rigid insulation board of required size underdeck on ceiling surface, complying with ISO 4898:2008 & ASTM C 578-08b - type VI, having thermal conductivity of 0.0289 W/m K as per ASTM C 578 (measured as per IS 3346), compressive strength of > 350 kPa listed as per ASTM D 1621, density of 34-36 kg/cum as per ASTM D 1622, water absorptions ≤ 1% by volume as per ASTM D 2842, oxygen index of 24.1 to 28.1 listed as per ASTM D 2863, cell size 0.4 mm of dia (max) as per ASTM D 3576. Fire retardent property as per DIN 4102, Part 1 of class B2 and as per ASTM E84 class A, fixed with suitable water based adhesive and fastener, complete in all respect as per the direction of Engineer-in-Charge.	sqm	871.20
26.9	Providing and fixing factory made solid Foam uPVC profile for kitchen cabinet frame (45 x 20 mm) of approved shade, quality and make. The profile shall be laminated on both sides, made from rigid foam sheets (Single extruded) having density 600 Kg/cum and the exposed edges sealed with PVC edge beading of same shade and colour. The frame shall be fire retardent with necessary screw holding capacity. Frame shall be fixed to wall using Expendable Fastner with necessary stainless steel screws, all complete as per direction of Engineer-in-charge.	metre	377.00
26.10	Providing and fixing factory made Kitchen Cabinet Shutter/Partition 20 mm nominal thickness of approved shade, quality and make, made from rigid foam sheets (Single extruded) having density 600 Kg/cum and laminated on both side by laminate Sheet/PVC foil lamination. The exposed edges shall be sealed with PVC edge beading of same shade and colour. The shutter shall be fire retardent		

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Code No.	Description	Unit	Rate ₹
	having necessary screw holding capacity. Shutter shall be fixed to frame using approved hinges with necessary stainless steel screws, all complete as per direction of Engineer-in-charge.	sqm	4535.30
26.11	Providing and fixing concealed hinge of approved quality for 19-20mm thick door with stainless steel screws complete :	each	105.25
26.12	Supplying & laying of bi-axial extruded high modulus polypropylene geogrid coforming to MORTH SPECIFICATION for base/sub-base reinforcement having minimum tensile strength 15kN/m in the longitudinal and transverse direction, with 5kN/m and 7kN/m tensile strength at 2% and 5% strain respectively in the longitudinal and transverse direction, junction efficiency not less than 95% and with 38mm X 38mm mesh opening.	sqm	171.35
26.13	Supplying & laying of bi-axial extruded high modulus polypropylene geogrid coforming to MORTH SPECIFICATION for base/sub-base reinforcement having minimum tensile strength 20kN/m in the longitudinal and transverse direction, with 7kN/m and 14kN/m tensile strength at 2% and 5% strain respectively in the longitudinal and transverse direction, junction efficiency not less than 95% and with 38mm X 38mm mesh opening.	sqm	193.45
26.14	Supplying & laying of bi-axial extruded high modulus polypropylene geogrid coforming to MORTH SPECIFICATION for base/sub-base reinforcement having minimum tensile strength 30kN/m in the longitudinal and transverse direction, with 10.5kN/m and 21kN/m tensile strength at 2% and 5% strain respectively in the longitudinal and transverse direction, junction efficiency not less than 95% and with 38mm X 38mm mesh opening.	sqm	296.45
26.15	Supplying & laying of bi-axial extruded high modulus polypropylene geogrid coforming to MORTH SPECIFICATION for base/sub-base reinforcement having minimum tensile strength 40kN/m in the longitudinal and transverse direction, with 14kN/m and 28kN/m tensile strength at 2% and 5% strain respectively in the longitudinal and transverse direction, junction efficiency not less than 95% and with 38mm X 38mm mesh opening.	sqm	428.90
26.16	Supplying & laying of drainage composite for use behind walls, between two different fills, alongside drains of road, below concrete lining of canals etc. Geocomposite for planar drainage, realized by thermobonding a draining core in extruded monofilaments with two filtering nonwoven geotextiles that may also be working as separation or protecting layers. The draining three dimensional core will have a "W" configuration as longitudinal parallel channels. Minimum thickness to be 7.2mm, with two filtering UV stabilized polypropylene nonwoven geotextile of minimum thickness of 0.75mm characteristic opening size (O90) of 110 micron and tensile strength of 8.0 KN/m that will be working as separation or protecting layer, geocomposite having in plane flow capacity of 2.1 L / (m.s) at hydraulic gradient of 1.0 & 20 kPa pressure and tensile strength of 18 kN/m , with mass per unit area of 740 gsm, supplied in the form of roll for easy transportation to site of work as per detailed specification all complete as per directions of Engineer in charge.	sqm	804.20

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Code No.	Description	Unit	Rate ₹
26.17	Supplying & laying of drainage composite for use behind walls, between two different fills, alongside drains of road, below concrete lining of canals etc. having thermobonding a draining core - HDPE geonet comprises of two sets of parallel overlaid ribs integrally connected to have a rhomboidal shape with a polyethylene film and a nonwoven geotextile having mass per unit area 130 gsm and tensile strength of 8.0 kN/m that will be working as separation or protecting layer, geocomposite having in plane flow capacity of 0.7 L / (m.s) at hydraulic gradient of 1.0 & 20 kPa pressure and tensile strength of 13.5 kN/m , with mass per unit area of 830 gsm, at easily accessible location including top and bottom, with all leads and lifts, manpower and machinery, materials, labour etc. complete and as directed by Engineer - In - Charge.	sqm	951.35
26.18	Supplying and laying high strength flexible geogrids (HSFG) as soil reinforcement / basal reinforcement as per MORTH 3100 and IRC 113, made of high tenacity polyester core with polyethylene coating with Minimum Long Term Design Strength (LTDS) of more than 50% of ultimate tensile strength at 30 degree Celcius corresponding to 12 % strain .		
26.18.1	Ultimate tensile strength- 100 kN/m	sqm	347.95
26.18.2	Ultimate tensile strength- 150 kN/m	sqm	362.70
26.18.3	Ultimate tensile strength- 200 kN/m	sqm	495.15
26.18.4	Ultimate tensile strength- 250 kN/m	sqm	546.65
26.18.5	Ultimate tensile strength- 300 kN/m	sqm	561.35
26.18.6	Ultimate tensile strength- 350 kN/m	sqm	568.70
26.18.7	Ultimate tensile strength- 400 kN/m	sqm	723.25
26.18.8	Ultimate tensile strength- 500 kN/m	sqm	811.55
26.18.9	Ultimate tensile strength- 600 kN/m	sqm	833.65
26.18.10	Ultimate tensile strength- 700 kN/m	sqm	1032.30
26.18.11	Ultimate tensile strength- 800 kN/m	sqm	1128.00
26.18.12	Ultimate tensile strength- 900 kN/m	sqm	1348.75
26.18.13	Ultimate tensile strength- 1000 kN/m	sqm	1532.70
26.18.14	Ultimate tensile strength- 1100 kN/m	sqm	1495.90
26.18.15	Ultimate tensile strength- 1200 kN/m	sqm	1625.40
26.19	Providing at all heights, levels and locations Aluminium profile industrial troughed sheet of Alloy 31500/31000/40800, conforming to IS 1254, IS 737, IS 2676. The sheet shall be fixed using self drilling/ self tapping SS screws of size 5.5x65 mm with EPDM seal complete upto required pitch in horizontal, vertical or curved surfaces i/c cutting to size and shape where required as per specifications, detail drawings and direction of Engineer-in-Charge. The rate shall be inclusive of all screws, seal, ridge, labour, scaffolding, machinery for fixing and approved sealant where required etc. but excluding the cost of purlins, rafters and trusses.		

**SUB HEAD : 26.0 NEW TECHNOLOGIES AND MATERIALS**

Code No.	Description	Unit	Rate ₹
26.19.1	0.71 mm thick, the profile detail width 1044/920 mm, cover width 1000/875 mm.	sqm	976.05
26.19.2	0.91 mm thick, the profile detail width 1044/920 mm, cover width 1000/875 mm.	sqm	1239.55
<b>26.20</b>	<b>Item Shifted to Sub Head 14 as Item no 14.93</b>		
<b>26.21</b>	<b>Item Shifted to Sub Head 14 as Item no 14.94</b>		
26.22	Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595mm of approved texture, design and patterns having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum). Non combustible as per BS:476 (part-4), fire performance as per BS:476 (part 6 &7), humidity resistance of 100%, thermal conductivity < 0.043 W/m K as per ASTM 518:1991, in true horizontal level suspended on interlocking metal T-Grid of hot dipped galvanised iron section of 0.33mm thick (galvanized @ 120 grams per sqm including both sides) comprising of main-T runners of size 24x38 mm of length 3000 mm, cross - T of size 24x32 mm of length 1200 mm and secondary intermediate cross-T of size 24x32 mm of length 600mm to form grid module of size 600 x 600 mm, suspended from ceiling using galvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 50 mm long, 8 mm outer diameter M-6 dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 85x25x25x2 mm. Galvanised iron perimeter wall angle of size 24x24x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450 mm center to center and 40 mm long dry wall S.S screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge.		
26.22.1	With 15 mm thick tegular edged light weight calcium silicate false ceiling tiles.	sqm	1688.80
26.23	Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595 mm of approved texture, design and patterns having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum). Non combustible as per BS:476 (part-4), fire performance as per BS:476 (part 6 &7), humidity resistance of 100%, thermal conductivity < 0.043 W/m K as per ASTM 518:1991, in true horizontal level suspended on interlocking metal powder coated T-Grid of hot dipped galvanised iron section of 0.40 mm thick on Silhouette profile, rotary stiched double webbed white with 6mm reveal profile (white/black), comprising of main-T runners of size 15x42mm of length 3000 mm, cross - T of size 15x42 mm of length 1200 mm and secondary intermediate cross-T of size 15x42 mm of length 600mm to form grid module of size 600 x 600 mm, suspended from ceiling using galvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 50 mm long, 8 mm outer diameter M-6 dash fasteners, 6 mm dia fully threaded hanger		

*SUB HEAD : 26.0 NEW TECHNOLOGIES AND MATERIALS*

Code No.	Description	Unit	Rate ₹
	rod upto 1000 mm length and L-shape level adjuster of size 85x25x2 mm. Galvanised iron perimeter wall angle of size 22x19x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450 mm center to center and 40mm long dry wall S.S screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge.		
26.23.1	With 15 mm thick integral densified micro edge light weight calcium silicate false ceiling tiles	sqm	1952.70
26.24	Providing and fixing in position wall panelling at all heights with integral densified calcium silicate panels/tiles of size 595 x 595mm, having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum). Non combustible as per BS:476 (part-4), fire performance as per BS:476 (part 6 &7), humidity resistance of 100%, thermal conductivity <0.043 W/m K as per ASTM 518:1991, comprising of a frame made from especially fabricated galvanised mild steel sheet 0.50 mm thick pressed section (galvanizing @120 grams per sqm including both sides) i.e.vertical studs of size 48 x 34 x 36 mm are placed at 600mm center to center in a floor and ceiling channel section of size 50 x 32mm fixed to the floor and soffit at 600mm centers using 12mm dia,50mm long wedge type expanded zinc alloy dash fastner with 10mm bolt. This same channel is then to be fixed in horizontal direction at 600mm center to center so as to form a grid of 600mm x 600mm. Glasswool of 50mm thickness is then to be inserted in the slots and finally calcium silicate non combustible panels/tiles are to be screw fixed with self tapping pan head nickel coated mild steel screws of size 13 x 3.2mm on to this grid leaving an even groove of 1 mm between the panels. The joints between the panels are to be duly jointed and finished using recommended jointing calcium silicate based compound and fiber joint tape roll 50mm wide (90 metre )roll and two coats of primer suitable for panelling as per manufacturer's specification as per direction of Engineer-in-Charge all complete.		
26.24.1	With 15 mm thick fully perforated square/butt edge light weight calcium silicate panels/ tiles	sqm	2736.80
26.25	Providing and fixing 15 mm thick false ceiling tiles at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595 mm of approved texture, design and patterns having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum). Non combustible as per BS:476 (part-4), fire performance as per BS:476 (part 6 &7), humidity resistance of 100%, thermal conductivity < 0.043 W/m K as per ASTM 518:1991, in true horizontal level on the existing frame work consisting of T-sections and Lsections suitably fixed according to tile size as per direction of Engineer-in-charge.	sqm	1379.10
26.26	Providing & fixing false ceiling at all heights with GRG (Glass Fibre Reinforced Gypsum) false ceiling tiles of Size 595x595 mm of approved texture, design and patterns having moisture content less than 2%, humidity resistance of 99%, NRC0.50 to 0.75 as per IS 8225:1987, Non combustible as per BS 476 (part 4)-1970 and light		

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Code No.	Description	Unit	Rate ₹
	reflectance of 85% (minimum) to be laid in true horizontal level suspended on inter-locking metal T-Grid of hot dipped galvanized iron section of 0.33mm thick (galvanized @ 120 grams per sqm including both sides) comprising of main-T runners of size 15x32 mm of length 3000 mm, cross - T of size 15x32 mm of length 1200 mm and secondary intermediate cross-T of size 15x32 mm of length 600mm to form grid module of size 600 x 600 mm, suspended from ceiling using galvanized mild steel items (galvanizing @ 80 grams per sqm) i.e. 50 mm long, 8 mm outer diameter M-6 dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 85x25x2 mm. Galvanized iron perimeter wall angle of size 24x24x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450 mm center to center and 40 mm long dry wall wood screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge.		
26.26.1	With semi perforated 12 mm thick micro tegular edged GRG false ceiling tiles.	sqm	1572.85
26.26.2	With fully perforated 12 mm thick micro tegular edged or 10 mm thick square edged GRG false ceiling tiles.	sqm	1699.30
26.27	Providing and fixing mineral fibre false ceiling tiles at all heights of size 595X595mm of approved texture, design and pattern. The tiles should have Humidity Resistance (RH) of 99%, Light Reflectance $\geq$ 85%, Thermal Conductivity $k = 0.052 - 0.057$ w/m K, Fire Performance as per (BS 476 pt - 6 &7) in true horizontal level suspended on interlocking T-Grid of hot dipped all round galvanized iron section of 0.33 mm thick (galvanized @120 gsm) comprising of main T runners of 15x32 mm of length 3000 mm, cross T of size 15x32mm of length 1200 mm and secondary intermediate cross T of size 15x32 mm of length 600 mm to form grid module of size 600x600 mm suspended from ceiling using galvanized mild steel item (galvanised@80gsm) 50 mm long 8mm outer diameter M-6 dash fasteners, 6 mm diameter fully threaded hanger rod up to 1000 mm length and L-shape level adjuster of size 85x25x2 mm, spaced at 1200 mm centre to centre along main 'T'. The system should rest on periphery walls /partitions with the help of GI perimeter wall angle of size24x24X3000 mm made of 0.40 mm thick sheet, to be fixed to the wall with help of plastic rawl plug at 450 mm centre to centre & 40 mm long dry wall S.S. screws. The exposed bottom portion of all T-sections used in false ceiling support system shall be pre-painted with polyester baked paint, for all heights. The work shall be carried out as per specifications, drawings and as per directions of the engineer-in-charge.		
26.27.1	With 16 mm thick beveled tegular mineral fibre false ceiling tile (NRC 0.55 to 0.6	sqm	2000.85
26.27.2	With 20 mm thick beveled tegular mineral fibre false ceiling tile (NRC 0.7)	sqm	2296.85
26.27.3	With 16 mm thick beveled tegular mineral fibre Anti-microbial false ceiling tile <b>confirming to ISO 5 (class 100) specifications</b>	sqm	2128.25

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Code No.	Description	Unit	Rate ₹
<b>REPAIR AND REHABILITATION ITEMS</b>			
26.28	Chipping of unsound/weak concrete material from slabs, beams, columns etc. with manual Chisel and/ or by standard power driven percussion type or of approved make including tapering of all edges, making square shoulders of cavities including cleaning the exposed concrete surface and reinforcement with wire brushes etc. and disposal of debris for all lead and lifts all complete as per direction of Engineer-In-Charge		
26.28.1	75mm average thickness	sqm	287.10
26.28.2	50mm average thickness	sqm	194.60
26.28.3	25 mm average thickness	sqm	96.50
26.29	Cleaning of reinforcement from rust from the reinforcing bars to give it a total rust free steel surface by using alkaline chemical rust remover of approved make with paint brush and removing loose particles after 24 hours of its application with wire brush and thoroughly washing with water and allowing it to dry, all complete as per direction of Engineer-In-Charge.		
26.29.1	Bars upto 12 mm diameter	metre	5.90
26.29.2	Bars above 12 mm diameter	metre	11.80
26.30	Drilling suitable holes in reinforced or plain cement concrete with power driven drill machine to a minimum depth of 100mm upto 200mm in RCC beams, lintels, columns and slabs to introduce steel bars for sunshades/balconies including fixing the steel bars in position using epoxy resin anchor grout of approved make but excluding the cost of reinforcement, all complete as per direction of Engineer-In-Charge.		
26.30.1	Upto and including 12mm dia.	each	113.05
26.31	Providing, mixing and applying bonding coat of approved adhesive on chipped portion of RCC as per specifications and direction of Engineer-In-charge complete in all respect.		
26.31.1	SBR Polymer (@10% of cement weight) modified cementitious bond coat @ 2.2 kg cement per sqm of surface area mixed with specified proportion of approved polymer	sqm	117.30
26.31.2	Epoxy bonding adhesive having coverage 2.20 sqm/kg of approved make	sqm	388.50
26.32	Providing, mixing and applying SBR polymer (of approved make) modified Cement mortar in proportion of 1:4 (1 cement: 4 graded coarse sand with polymer minimum 2% by wt. of cement used) as per specifications and directions of Engineer-in-charge.  Note: Measurement and payment: The pre-measurement of thickness shall be done just after the surface preparation is completed and Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding / tapping with a blunt metal instrument and/or the 75mm size cube crushing strength at the end of 28 days to be not less than 30 N/Sqmm2).		
26.32.1	12 mm average thickness.	sqm	304.10

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Code No.	Description	Unit	Rate ₹
	26.32.2 25 mm average thickness in 2 layers.	sqm	471.00
	26.32.3 50 mm average thickness in 3 layers.	sqm	942.00
26.33	<p>Providing, mixing and applying SBR polymer (of approved make @ minimum 2% by wt. of cement used) modified plain/reinforced cement concrete for structural members having minimum characteristic compressive strength [with ordinary portland cement, coarse sand and graded stone aggregate of 10mm maximum size in proportion as per design criteria] with specified average thickness.</p> <p>Note: Rates shall be for finished surface area of concrete and shall include the cost of labour, concrete and appropriate approved Super-Plasticiser for rendering concrete as flowable and SBR polymer but shall exclude cost of reinforcement, bond coat, Shear Keys, centering and shuttering, strutting, propping etc (Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding/tapping with a blunt metal instrument)</p>		
	26.33.1 50mm thick in Grade M 25 with cement content not less than 330 kg per cum	sqm	539.90
	26.33.2 75mm thick in Grade M 25 with cement content not less than 330 kg per cum	sqm	809.80
26.34	<p>Providing and laying SBR Polymer modified (of approved make @ minimum 2% by wt. of cement used) plain/reinforced concrete jacket for the structural members e.g. columns, pillars, piers, beams etc with concrete having the specified minimum characteristic compressive strength [with ordinary portland cement, coarse sand and graded stone aggregate of 10mm maximum size in proportion as per design criteria] with specified average thickness all-round existing core of RCC member.</p> <p>Note: Rates shall be for finished surface area of concrete and shall include the cost of making holes in existing RCC slab, if required, for pouring concrete in shuttering mould of jacket and appropriate approved Super-Plasticiser for rendering concrete as flowable self compacting and SBR polymer but shall exclude cost of reinforcement, bond coat, Shear Keys, centering and shuttering, strutting, propping etc (Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding/tapping with a blunt metal instrument)</p>		
	26.34.1 50mm thick in Grade M 25 with cement content not less than 330 kg per cum	sqm	539.90
	26.34.2 75mm thick in Grade M 25 with cement content not less than 330 kg per cum	sqm	809.80
	26.34.3 100mm thick in Grade M 25 with cement content not less than 330 kg per cum	sqm	1079.75

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Code No.	Description	Unit	Rate ₹
26.35	Providing and injecting approved grout in proportion recommended by the manufacturer into cracks/honey-comb area of concrete/masonry by suitable gun/pump at required pressure including cutting of nipples after curing etc. complete as per directions of Engineer-in-Charge.  (The payment shall be made on the basis of actual weight of approved grout injected.)		
26.35.1	Stirrer mixed Acrylic Polymer of approved make @ 2% of weight of cement used) modified Cement slurry made with non shrink compound in concrete/RCC work	kg	97.30
26.35.2	Stirrer mixed SBR Polymer (of approved make) modified Cement slurry made with Shrinkage Compensating Cement in concrete/RCC work.	kg	101.55
26.35.3	Epoxy injection grout in concrete/RCC work of approved make	kg	792.30
26.36	Providing, erecting, maintaining and removing temporary protective screens made out of specified fabric with all necessary fixing arrangement to ensure that it remains in position for the work duration as required by the Engineer-in-charge.		
26.36.1	Wooven PVC cloth	sqm	45.50
26.37	Cleaning of exposed concrete surface of sticking material including loose and foreign material by sand blasting with coarse sand followed by and including cleaning with oil free air blast as per direction of Engineer in charge.	sqm	289.90
26.38	Shotcreting R.C.C. columns, beams and slabs etc. in layers with approved design mix concrete having the specified minimum characteristic compressive strength [with ordinary portland cement, coarse sand and graded stone aggregate of 10 mm maximum size in proportion as per design criteria] including the cost of centering and shuttering at edges and corners etc. as directed by Engineer-in-Charge  Note: Rates shall include the providing necessary ground wires etc. The levelling gauges, if used, shall be paid for separately. Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding/tapping with a blunt metal instrument.		
26.38.1	25mm thick in Grade M 25 with cement content not less than 330 kg per cum	sqm	635.65
26.38.2	50mm thick in Grade M 25 with cement content not less than 330 kg per cum	sqm	1009.70
26.38.3	75mm thick in Grade M 25 with cement content not less than 330 kg per cum	sqm	1445.30
26.39	Providing and inserting 12mm dia galvanised steel injection nipple in honey comb area and along crack line including drilling of holes of required diametre (20mm to 30mm) up to depth from 30mm to 80mm		

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Code No.	Description	Unit	Rate ₹
	at required spacing and making the hole & crack dust free by blowing compressed air, sealing the distance between injection nipple with adhesive chemical of approved make and allow it to cure complete as per direction of Engineer-In-Charge.	each	191.20
26.40	Providing and fixing hard drawn steel wire fabric of size 75 x25 mm mesh or other suitable size wire mesh to be fixed & firmly anchored to the concrete surface by means of "L" shaped mild steel shear key welded with existing reinforcement including the cost of materials, labour, tool & plants as approved by Engineer-in-charge.	sqm	801.70
<b>NEW TECHNOLOGY ITEMS</b>			
26.41	Designing, providing, installing and fixing factory finished custom designed cold form Light Gauge Steel Framed super structure comprising of steel wall panel, trusses, purlins etc manufactured out of minimum 0.75 mm thick steel sheet as per design requirements. The steel sheet shall be galvanized (AZ-150gms Aluminium Zinc Alloy coated steel having minimum yield strength 300-550 Mpa) conforming to AISI specifications and IBC 2009 for cold formed steel framing and construction and also as per IS: 875-1987, ISO 800-1984 and IS:801- 1975. The wind load shall be as per provisions of IS 875 (part -III). LGSFS frame shall be designed as per IS: 801 using commercially available software such as Frame CAD Pro-11.7/ STAAD PRO-V8i/ArchitekV2.5.16/ Revit architecture-2011 or equivalent. Proper usage of Connection Accessories like Heavy Duty Tension Ties, Light Duty Hold-ons, Twist Straps (to connect truss with wall frames), Strong Tie, Tie Rod, H-Brackets, Boxing Sections, L-Shaped Angles for better structural stability. The framing section shall be cold form C-type having minimum web depth 89 mm x 39mm flange x 11mm lip in required length as per structural design requirement duly punched with dimple/slot at required locations as per approved drawings. The slots will be along centre line of webs and shall be spaced minimum 250mm away from both ends of the member. The frame can be supplied in panelized or knock down condition in specific dimensions and fastened with screws extending through the steel beyond by minimum of three exposed threads. All self drilling tapping screws for joining the members shall have a Type II coating in accordance with ASTM B633(13) or equivalent corrosion protection of gauge 10 & 12, TPI 16 & 8 of length 20mm. The frames shall be fixed to RCC slab or Tie beam over Neoprene rubber using self expanding carbon steel anchor bolt of dia as per approved drawings. design subject to minimum 12mm diameter and 121mm length conforming to AISI 304 and 316 at 500mm c/c with minimum embedment of 100mm in RCC (RCC to be paid separately) and located not more than 300mm from corners or termination of bottom tracks complete in all respects. The item also includes the submission of stability reports duly examined and issued by any NIT/IIT. The rate includes the concept design, detailed design, fabrication of sections, transportation, installation and all required fixing arrangement at site as described above.	kg	217.50

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Code No.	Description	Unit	Rate ₹
26.42	Providing and fixing of external wall system on Light gauge steel frame work with . Outer face having 6mm thick heavy duty fiber cement board fixed on 9mm thick heavy duty fiber cement board conforming to IS 14862:2000, category IV type A (High pressure steam cured) as per standard sizes fixed with self-drilling / taping screws / fasteners @ 60cm c/c of approved make. A groove of 2 mm to 3mm shall be maintained and grooves shall be sealed with silicon based sealant. The board shall be fixed in a staggered pattern.Screws shall be of counter sunk rib head of 1.60mm to 4 mm thick of 8 to 10 gauge of length varying from 25 to 45 mm and internal face 12.5mm thick gypsum plaster board fixed on 8mm thick fiber cement board conforming to IS 14862:2000 of category III type B (High pressure steam cured) as per standard sizes fixed with self-drilling / taping screws / fasteners @ 60cm c/c of approved make, proper taping and jointing to be done using fiber mesh tape and epoxy and acrylic based jointing compound for seamless finish.(cost of frame work to be paid for separately).	sqm	3418.95
26.43	Providing and fixing internal wall panels on Light gauge steel frame work with 12.5mm thick gypsum plaster board conforming IS 2095:2011 fixed on 8mm thick fiber cement board conforming to IS 14862:2000 of category III type B (High pressure steam cured) as per standard sizes fixed with self-drilling / taping screws / fasteners @ 60cm c/c of approved make, Screws shall be of counter sunk rib head of 1.60mm to 4 mm thick of 8 to 10 gauge of length varying from 25 to 45 mm. Proper taping and jointing to be done using fiber mesh tape and epoxy and acrylic based jointing compound for seamless finish.(cost of frame work to be paid for separately)	sqm	2118.95
26.44	Providing and fixing in all exterior face panels breathable vapour barrier underneath the cement fiber board as per National Building Code 2009 complete as per direction of Engineer-in-charge.	sqm	293.95
26.45	Supplying and installation of moisture resistant/fire resistant 6 mm thick Heavy duty fiber cement board (High pressure steam cured) conforming to IS 14862:2000 of category III type B as per standard sizes fixed with self-drilling / taping screws. Screws shall be of counter sunk rib head of 1.60mm to 4 mm thick of 8 to 10 gauge of length varying from 25 to 45 mm.	sqm	1179.30
26.46	Providing and fixing in position, 200 mm thick factory made Expanded Polystyrene Core (EPS Core) wall panels consisting of EPS core sandwiched between two Engineered sheets of welded wire fabric mesh duly finished with shotcrete materials on outer faces. The fabric mesh shall be made of 3 mm dia G.I. wire mesh with 50 mm pitch in both the directions and on both faces of the wall, kept at 120-135 mm gap and connected by the zig zag G.I. wire of 3 mm dia at alternate row by welding (at an angle ranging from 50-70 degree) . The EPS core shall consist of 100 mm thick EPS of density not less than 20 kg/ per cum. Both the outer faces of the panel shall be finished by applying the layer of 50 mm thick cement mortar 1:3 {1 cement: 3 coarse sand (not having more than 40% stone chips of size upto 6 mm)} with the help of shotcreting/guniting equipment		

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Code No.	Description	Unit	Rate ₹
26.47	<p>etc at a pressure not less than 1 bar (100Kn/m<sup>2</sup>) and both surfaces finished with trowel. Fixing operations of wall panels shall be completed in all respect as per drawings and specifications and under the overall direction of the Engineer-in-charge.</p> <p>Providing and fixing in position, 230mm thick factory made Expanded Polystyrene Core (EPS Core) roof/floor panels made of 3 mm dia G.I. wire mesh with 50 mm pitch in both the directions and on both faces of panel, kept at 120-135 mm gap and connected by the zig zag G.I. wire of 3 mm dia at alternate row by welding (at an angle ranging from 50-70 degree). The EPS core shall consist of 100 mm thick EPS of density not less than 20kg/ per cum. The bottom side of the panel shall be finished by applying a layer of 60-65 mm thick cement mortar 1 : 3 {1 cement: 3 coarse sand (not having more than 40% stone chips of size upto 6 mm)} A with the help of shotcreting equipment etc at a pressure of not less than 1 bar (100Kn/m<sup>2</sup>) and surface finished with trowel. The top face of the panel shall be provided and finished by applying 70-75 mm thick layer of cement concrete 1:1.5:3 (1 cement :1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size). Fixing operations of roof/floor panels shall be completed in all respect as per drawings and specifications and under the overall direction of the Engineer-in-charge.</p>	sqm	3854.60
26.48	<p>Providing and fixing of customized aluminium formwork for monolithic construction RCC members with a repetitive usage of 100 times using grade 5052 aluminium of panel sheets of minimum 4 mm thick and grade 6061 (Type-6) aluminium for extruded sections. The form work includes of beam components i.e. beam side panel, prop head for soffit beam, beams soffit panel, beam soffit bulk head and deck components i.e. deck panel, deck prop, prop length, deck mid, soffit length, deck beam bar and wall components i.e. wall panel, rocker, kiker and internal soffit corner, external soffit corner, external corner, internal corner etc. The panels are held in position by a simple pin and wedge system that passes through holes in the out side rib of each panel. The tolerance of finished panels to be (-1 mm), and shall conform to IS 14687-1999. Pins and wedges to be made of high grade mild steel, all complete as per direction of Engineer-in- charge. (Cost of RCC work shall be paid separately) in-charge.</p>	sqm	4144.95
26.49	<p><b>Providing and fixing in position factory made EPS cement sandwich wall/roof/floor light weight solid core panels made of core material of EPS granule balls/beads (conforming to IS 4671:1984 and shall have density not less than 15kg per cum) adhesive, cement, sand, flyash and other bonding material in mortar state processed to form in a preset mould. The outer face on both sides of the panels will be non asbestos fiber cement board confirming to IS 14862:2000 or Calcium silicate board confirming to EN 14306:2009 of 5mm thick each. Panel shall be laid on 6mm thick cement mortar (1 cement: 2 fine sand) mixed with chemical adhesive of 0.5kg per 50kg of cement or shall be preferably fixed into 'C' channel made of 1.2mm thick MS plate screwed/fastened to the slab/column/ beam etc. The panel shall fixed vertically with tongue and groove joint and horizontally locked with steel bar between each other and floors and filled with cement mortar and adhesive. Panels should be used as floor &amp; roofing with additional structural support, steel or RCC depending upon the design. All the operation shall be completed in all respect as per drawings, Manufacturers specifications and under the overall direction of Engineer-in-Charge (Cost of all the material is included except "C channel" which will be paid seperately).</b></p>	sqm	202.45

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Code No.	Description	Unit	Rate ₹
26.49.1	Non load bearing panels 50mm thick of required size	sqm	1166.85
26.49.2	Non load bearing panels 60mm thick of required size	sqm	1321.00
26.49.3	Non load bearing panels 75mm thick of required size	sqm	1605.45
26.49.4	Non load bearing panels 90mm thick of required size	sqm	1915.25
26.49.5	Non load bearing panels 100mm thick of required size	sqm	2258.55
26.50	Providing and fixing in position factory made non asbestos fibre reinforced aerated cement sandwich wall/roof/floor light weight solid core panels made of light weight cement concrete core composed of OPC cement, pulverized flyash, quick lime, cotton pulp & Gypsum in mortar state mixed with aeration agent in a preset mould. The outer face on both sides of the panels will be non asbestos fibre cement board confirming to IS 14862:2000. These solid wall panels are installed using Galvanized iron steel tracks/C channel of 1mm thick of required sizes as recommended by manufacturer's and fixed to floor and RCC soffit in plumb to each other with steel screw/ fasteners. The panel shall be fixed vertically with tongue & groove joint with cement based polymer modified jointing compound. The exposed surface finished with fibre mesh/glass fibre tape with polymer based jointing compound having superior flexibility. Panels should be used as floor & roofing with additional structural support, steel or RCC depending upon the design. All the operation shall be completed in all respect as per drawings, Manufacturers specifications and under the overall direction of Engineer-in-Charge (Cost of all the material is included except "tracks/C channel" which will be paid separately).		
26.50.1	Non load bearing panels 50mm thick of required size (minimum 4mm thick fibre cement board)	sqm	1317.95
26.50.2	Non load bearing panels 75mm thick of required size (minimum 5mm thick fibre cement board)	sqm	1535.70
26.51	Supplying of standard quality GFRG panel of 124 mm thickness with modular cavities purchased from GFRG panel manufacturing plant in the country, cut to required wall sizes and floor/ roof slab sizes in correct length and height, including cutting of door, window and ventilator opening as per the cutting drawing prepared by architects /design engineers for the construction of GFRG building and loaded in stillages for transportation to the construction site. Cost of panel includes security deposits, hire charges of stillages & jaws, cost of transportation in trucks/ lorries without any damages upto 300kms including all leads and lifts from GFRG manufacturing plant to construction site and unloading at site using suitable fork lift/ crane. (Payment shall be made on the basis of area of one side of panel without reduction of opening of door/ window / ventilator).		
	For transportation above 300kms, additional charges to be paid.	sqm	1305.60

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Code No.	Description	Unit	Rate ₹
26.52	Erection of GFRG Panels in walls in all floors using suitable crane as per instructions of Engineer-in-Charge, as per cutting drawings and structural drawings, in perfect line and plumb, above RCC plinth beam/GFRG panel below and provide necessary lateral/ slanting support to keep the wall panel in safe position, providing & tying of Reinforcement as per structural drawings and applying a coat of water repellent coating Zycosil/equivalent or equivalent product (1 Zycosil/ equivalent compound :10 water ) to saturation level over RCC plinth beam to provide water proofing treatment to joint between wall panel & plinth beam as per the guide lines / instruction by the engineer in charge. (Cost of reinforcement, water proofing of walls and plinth beam/GFRG panel below joints and installation of door/ window frames before filling of concrete shall be paid separately). The rate quoted shall include making provision for laying of lintels, beams, sunshades, staircase beams, lofts, plumbing work, electrical conduits and any structural insertion etc., as per the drawing and direction of the engineer in charge. The payment shall be made based on the actual exposed area (one side only) of the panel.The work shall be carried out as per the Special Conditions For Glass Fibre Reinforced Gypsum (GFRG) Structures mentioned in NIT.Note: i) When cutting panel, "A" side is to be for outside or external surface of respective external wall and B side is to be for internal surface of wall ii)Erection of panel is to be with reference to both building plan & cutting drawing by following notational mark indicated in the cutting drawing as well as notional mark written on each panel cut as per cutting drawing	sqm	266.55
26.53	Filling of empty cavities (as shown in the structural design drawing) with quarry dust mixed with 5% cement (by volume). After initial infill of 50 mm thick with M25 concrete at base/ bottom of cavities to seal off, infill wall panel cavities in 3 stages as detailed below, (i) 1st pour / infill to be limited to 0.3 to 0.50 m height from bottom of the panel.(ii) 2nd Pour/ infill: infilling shall be done only after 90 minutes interval between successive pours. The maximum height of infill shall be restricted to 1.5m height or up to the top level of door / window.(iii) 3rd pour/infill: After an interval of 90 minutes of second pour, infill or pour the balance height up to the bottom of embedded RCC tie beam. Pour enough water just required to dampen the dry mix enough to form cake form after each stage.(cost of laying M25 concrete shall be paid separately)(If any rain falls in between any stages of concrete pour, make sure to cover the panel top to prevent ingress of water or water falling into the cavities. In case of water collection over the concrete inside the panel, drill 10mm hole in GFRG panel immediately above concrete filled level to drain out water before pour/in-fill of balance concreting)	cum	2346.15
26.54	Laying of GFRG panel as roof / floor slab panel and staircase panel using suitable crane as per instructions of Engineer-in-		

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Code No.	Description	Unit	Rate ₹
	Charge, including providing support system with 25mm x 300mm-400 mm wide plywood, as runner with proper prop below proposed micro beams including		
	(a) Cutting of top flange of panel to 180 mm wide (leaving 25mm projection on either side) to provide RCC embedded micro beam as per cutting drawings and structural drawings.		
	(b) Reinforcement for micro beams and tie beams to be provided in position with proper anchorage as per structural drawings.		
	(c) Provision for Electrical cabling, fan hooks and laying of pipes for plumbing work.		
	(d) Concreting of Tie beam, micro beam and top of GFRG panels (50 mm thick) with M-25 cement concrete mix using coarse aggregate of size less than 20 mm including laying of 10 gauge 100x100 size weld mesh with 25 mm effective cover from the panel top.	sqm	285.15
26.55	Supplying and fixing 10 Gauge weld mesh of size 100mm x100 mm for floor/roof slab concrete screed over the micro beams as reinforcement. The weld mesh shall be fixed as per drawing.	sqm	233.70
26.56	Application of ZMB 60/equivalent solution (100 Kg ZMB 60/equivalent, 1 litre ZMB Nano Thinner, 20 litre water & 1 Litre Zycoprime/equivalent = 122 litre/kg) over already applied coat of Zycosil/equivalent & Zycoprime/equivalent solution on the top of all the RCC plinth beams by brush/spray coat before erection of GFRG over RCC plinth beams in GF. In the case of upper floors 150 mm wide on floor slab for all the external walls, bath/toilet/wet areas (3 hrs drying time) before erection of wall panel on upper floors including erection of parapet wall.	sqm	286.00
26.57	After erection of GFRG wall panels, seal all GFRG wall joints with paper tape temporarily. Water proofing treatment of vertical joints with Zycosil/equivalent water proofing Solution (1 litre of Zycosil/equivalent & 20 litres of water stirred first & 2 litres of Zycoprime/equivalent added and stirred (total 23 litres)) with 50 ml syringe till the gap and in filled concrete is completely saturated. After removing the paper seal, seal off the vertical joints with water proofing material "Grout RW/equivalent" (Sealing cost excluded.)	metre	81.25
26.58	Filling of joints between RCC plinth beam / floor slab and wall panel of external walls, toilet / bath room / wet areas walls on all floor and parapet wall over roof slab, stair case head room at the time of erection of GFRG panels with Grout RW/equivalent sealant compound after the erection of panel before the infill of concrete in panel cavities and fine finish. This applies for all horizontal and vertical joints between GFRG wall and slab panels.	metre	39.60
26.59	Water proofing treatment of Vertical joints (of external side and internal side) between door frame, window & ventilator frames (on all four sides) of outer wall over the Zycosil/equivalent & Zycoprime/equivalent solution already applied (before the installation of door / window / ventilator frames in position) and fine finish with Grout RW/equivalent.	metre	40.40

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Code No.	Description	Unit	Rate ₹
26.60	Water proofing treatment of RCC sunshade with Zycosil/ equivalent water proofing Solution (1 litre of Zycosil/equivalent & 20 litres of water stirred first & 2 litres of Zycoprime/equivalent added and stirred (total 23 litres)) till it meets the saturation level and testing as per RILEM or by water drops test in which water drops do not absorb but drops remain or rolls.	sqm	131.50
26.61	In-filling / sealing of joint between RCC lintel cum sunshade and wall (on external side) in all floors by pushing in Grout RW/equivalent in paste form and coving 20 mm x 20 mm after applying a coat of Zycosil/equivalent & zycoprime/equivalent solution before cement plastering of top, bottom and sides of RCC sunshade.	metre	40.40
26.62	Designing, Providing, installing and fixing factory finished customized design pregalvanized high tensile steel joists manufactured from G350 Z275 confirming to IS:277-1992, minimum coating of galvanizing 275 gm/sqm, minimum yield stress 35 MPa & minimum tensile strength of 380 MPa placed 1.23 metre apart to support the load of slab etc as per the design & directions of Engineer-in-Charge.	kg	139.65
26.63	Providing and fixing special adjustable lockbars of mild steel E-250 to support the temporary plywood for work between joists during construction as per design & directions of the Engineer-in-charge.	kg	20.55
26.64	Centering and shuttering with 12mm thick shuttering plywood confirming to IS 4990:2011 and removal of form at all heights. Plywood will be supported on lock bars.		
	26.64.1 Suspended floors, roofs, landings, balconies and access platform.	sqm	87.95
26.65	Providing and fixing roofing consist of 0.8 mm thick galvanized steel deck sheet confirming to IS 277:1992 used as permanent shuttering over which MS wire mesh 3mm laid at 100x100 mm grid including edge trim covered with concrete. This metal deck will be supported on structural steel beam with shear studs. (Structural steel like Beam, column, joists etc. & concrete of different grade as per design will be paid separately).	sqm	1451.70
26.66	Providing and fixing in position, 130 mm thick factory made Expanded Polystyrene Core (EPS Core) wall panels consisting of EPS core sandwiched between two Engineered sheets of welded wire fabric mesh duly finished with shortcrete materials on outer faces. The fabric mesh shall be made of 3 mm dia zinc coated G.I. wire mesh with 50 mm pitch in both the directions and on both faces of the wall and connected by GI wire of 3mm dia at alternate row by welding. The EPS core shall consist of 60 mm thick EPS of density not less than 16 kg/ per cum. Both the outer faces of the panel shall be finished by applying the layer of 35 mm thick cement mortar 1:3 {1 cement: 3 coarse sand (not having more than 40% stone chips of size upto 6 mm)} with the help of shotcreting/guniting equipment		

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Code No.	Description	Unit	Rate ₹
	etc at a pressure not less than 1 bar (100KN/m <sup>2</sup> ) and both surfaces finished with trowel. Fixing operations of wall panels shall be completed in all respect as per drawings and specifications and under the overall direction of the Engineer-in-charge.	sqm	2318.90
26.67	Providing and fixing of external thermal insulation and composite system with First layer of self-extinguishing type Expanded Polystyrene (EPS) insulation boards of 120 mm thick ( max 1mX0.5m section), confirming to IS 4671:1984, having thermal conductivity of 0.034 W/mK, (measured as per IS 3346-1980), density of 20-24 kg/m <sup>3</sup> measured as per IS 5688-1982, Fire retardant property self-extinguishing type as per EN 13501-1, bonded with special polymer modified cementitious adhesive confirming to EOTA ETAG 004 (European Technical Approval) formulated to bond polystyrene insulation boards to typical mineral substrate (according to ETAG 004) and Polypropylene mechanical fasteners with plastic pin confirming to EOTA ETAG 014 (European Technical Approval) having dia 10mm & L=200mm on finished level wall and the junction between two adjacent EPS boards to be sealed with low expansion moisture cure Polyurethane Foam. Second layer consists of Fiberglass mesh covered with alkali-resistant coating, mass per unit area $\geq 145$ gm/m <sup>2</sup> , mesh size: 3.9x4.0 mm $\pm 10\%$ embedded in special polymer modified cementitious Base Coat with hydrophobes and the corners will be protected with Corner-beads with alkali-resistant mesh wings at least 10 cm wide, mesh mass per unit area min 145 gm/m <sup>2</sup> . The surface will be levelled, finished, made smooth complete in all respect as per manufactures specification and as per directions of Engineer-in-Charge.	sqm	3366.60
26.68	Providing and laying factory made Precast concrete solid blocks of 200 mm thickness of grade M10 made of C&D waste from approved manufacturer in foundation and plinth in:		
	26.68.1 Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	5808.25
26.69	Providing and laying factory made Precast concrete solid blocks of 200 mm thickness of grade M10 made of C&D waste from approved manufacturer in superstructure above plinth level up to floor V level		
	26.69.1 Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	7590.90
26.70	Providing and laying half block masonry with factory made Precast concrete solid blocks of 100 mm thickness of grade M10 made of C&D waste from approved manufacturer in foundation and plinth in:		
	26.70.1 Cement mortar 1:4(1 cement : 4 coarse sand)	sqm	695.40
26.71	Providing and laying half block masonry with factory made Precast concrete solid blocks of 100 mm thickness of grade M10 made of C&D waste from approved manufacturer in superstructure above plinth level up to floor V level:		
	26.71.1 Cement mortar 1:4 (1 cement : 4 coarse sand)	sqm	853.75

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Code No.	Description	Unit	Rate ₹
26.72	Providing and laying 60mm thick factory made cement concrete paver block of approved shape and colour of M -30 grade made of C&D waste by block making machine with vibratory compaction laid in required pattern and including over 50mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.	sqm	748.60
<b>PREFAB/PRECAST TECHNOLOGY</b>			
26.73	Fabrication & Manufacturing of Prestressed Hollow Core slab (Hollow area 25 to 30%) of different thickness & modular width 1200 mm in Controlled Factory Environment with approved methodology informing to IS 10297- 1982 conforming to IS : 10297-1982 by using long line casting method having arrangement of proper steel bed. Concreting should be done by batch mixing plant capable of producing zero slump concrete, transported through automatic shuttels of standard make & layed on bed with the help of extruder/Slipformer, finishing, curing and also provision of steam curing. Cutting, making necessary cutout/holes of required sizes for services in slab element after achieving required strength, yard handling & stacking all complete as per approved shop drawings & design mix as per the direction of the Engineer-in-charge. (Cost of strands should be paid separately).  Note : Excess/ less cement over the specified cement content used as per design mix is payable / recoverable separately.		
26.73.1	Concrete Grade-M-40 (cement content 400 kg )		
26.73.1.1	100 mm thick hollow core slab	metre	1152.35
26.73.1.2	120 mm thick hollow core slab	metre	1348.50
26.73.1.3	150 mm thick hollow core slab	metre	1642.75
26.73.1.4	200 mm thick hollow core slab	metre	2003.80
26.73.1.5	250 mm thick hollow core slab	metre	2461.85
26.73.1.6	300 mm thick hollow core slab	metre	2919.95
26.73.1.7	350 mm thick hollow core slab	metre	3378.00
26.73.1.8	400 mm thick hollow core slab	metre	3836.05
26.73.2	Extra for using M-50 (Cement content 425 kg) instead of M-40		
26.73.2.1	100mm thick hollow core slab	metre	17.30
26.73.2.2	120mm thick hollow core slab	metre	20.80
26.73.2.3	150mm thick hollow core slab	metre	25.95
26.73.2.4	200mm thick hollow core slab	metre	32.30
26.73.2.5	250mm thick hollow core slab	metre	40.40
26.73.2.6	300mm thick hollow core slab	metre	48.50
26.73.2.7	350mm thick hollow core slab	metre	56.55
26.73.2.8	400mm thick hollow core slab	metre	64.65

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Code No.	Description	Unit	Rate ₹
26.73.3	Extra for using M-60 (Cement content 440 kg) instead of M-40		
26.73.3.1	100mm thick hollow core slab	metre	27.70
26.73.3.2	120mm thick hollow core slab	metre	33.20
26.73.3.3	150mm thick hollow core slab	metre	41.55
26.73.3.4	200mm thick hollow core slab	metre	51.70
26.73.3.5	250mm thick hollow core slab	metre	64.65
26.73.3.6	300mm thick hollow core slab	metre	77.60
26.73.3.7	350mm thick hollow core slab	metre	90.50
26.73.3.8	400mm thick hollow core slab	metre	103.45
26.74	<b>Fabrication and manufacturing of solid precast concrete element with provisions of shear keys, connecting loops, dowel tubes and proper lifting accessories for walls, beams, slabs, stairs, column etc, of various thickness, shape and size of different concrete grades manufactured in controlled factory environment with approved methodology including moulds (Pallet system, Tilts form, table moulds, battery moulds, vertical moulds, beam moulds, column moulds, staircase moulds, Facade mould, etc.), mixing, transporting and placing of concrete, vibrating, curing, finishing, making necessary cutout/ holes of required sizes for services, yard handling &amp; stacking all complete as per IS 11447:1985 and as per approved shop drawings and design mix as per the direction of Engineer-in-Charge (Cost of reinforcement, Mechanical, Electrical and Plumbing inserts will be paid separately).</b>		
26.74.1	Concrete grade M-35 (Cement content 370 kgs)	cum	14554.65
26.74.2	Extra for using M-40 (Cement content 400 kg) instead of M-35	cum	230.90
26.74.3	Extra for using M-50 (Cement content 425 kg) instead of M-35	cum	423.30
26.74.4	Extra for using M-60 (Cement content 440 kg) instead of M-35	cum	538.75
26.75	<b>Providing &amp; laying in position Prestressing steel strands (low relaxation) on hollow core bed by using mechanical pulling arrangement like Rabbit/ Bed master including all accessories for Stressing &amp; destressing operations as per approved make conforming to IS1343 &amp; grade FY-1860 etc, complete as per drawings and direction of Engineer -in-charge.</b>	kg	144.55
26.76	<b>Transportation of Precast Elements by flat bed Trailor (Double / Triple axle 40ft Length with proper accessories like A frame etc) from factory, including the cost of loading , unloading &amp; stacking at site with the help of required capacity cranes.</b>		
26.76.1	Lead within 15km	MT	444.05
26.76.2	Add/Deduct over item 26.76.1 for every additional lead of 5 km	MT	97.20

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Code No.	Description	Unit	Rate ₹
26.77	Erection & Installation of Precast/Prestressed Concrete elements in correct & final position with proper line level and plumb at site making all arrangements (i.e cranes, push-pull jacks & all another T & P for lifting Placing & Alignment of elements, within erection tolerance as per IS 15916 as per approved shop drawings and all complete as per the direction of Engineer-in-Charge but excluding the cost of sim pads, non shrink grout and steel works i.e hangers. All work up to fifth floor.		
26.77.1	Prestressed hollow core Slab up to 200 mm thickness	sqm	160.85
26.77.2	Prestressed hollow core slab above 200 mm up to 400 mm thickness	sqm	277.15
26.77.3	Solid concrete wall elements	cum	2147.55
26.78	Providing & Applying weather proof sealant on outer joints of approved make confirming to IS & directed by Engineer-in-charge.		
26.78.1	Sealant 25mmx10mm at joints	metre	137.00
26.79	Providing & Laying of levelling sim pads required sizes (5x5cm to 10x10cm) of PVC / Rubber to adjust level of bearing surface of supporting members as per the direction of Engineer in charge.		
26.79.1	2mm thick	each	23.65
26.79.2	5 mm thick	each	30.35
26.79.3	10 mm thick	each	43.70
26.80	Providing & Grouting of dowel tubes / Shear keys / Joints of precast members with M-60 grade cementitious grout (Non Shrink) of approved make by suitable means ( Free flowing / pump),curing etc. Complete as per directions of Engineer-in-charge. (The payment shall be made on the basis of actual weight of approved grout injected.)		
26.80.1	Stirrer mixed cementitious grout (non shrink) of approved make in dowel tubes / Shear keys / Joints of precast members.	kg	74.25
26.81	Providing and fixing Scaffolding net of required width made of high density Polyethylene UV stabilized knitted on warp knitting machines having density 100gm/sqm and shading coefficient minimum 75% around the construction site/ for vertical extension as per requirement including fastening/tying with building/scaffolding pipes or with any other fixtures etc. complete as per direction of Engineer-in-Charge. (One time payment shall be made for providing Scaffolding net from start of work till completion of work including shifting if any. The Scaffolding net shall be the property of the contractor on completion of the work)	sqm	24.20

SUB HEAD : 26.0 NEW TECHNOLOGIES AND MATERIALS

# **COEFFICIENTS FOR CEMENT CONSUMPTION**

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 3.0 MORTAR

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
3.1	Cement Mortar 1:1 (1 cement : 1 fine sand).	cum	10.20
3.2	Cement mortar 1:2 (1 cement : 2 fine sand).	cum	6.80
3.3	Cement mortar 1:3 (1 cement : 3 fine sand).	cum	5.10
3.4	Cement mortar 1:4 (1 cement : 4 fine sand).	cum	3.80
3.5	Cement mortar 1:5 (1 cement : 5 fine sand).	cum	3.10
3.6	Cement mortar 1:6 (1 cement : 6 fine sand).	cum	2.50
3.7	Cement mortar 1:2 (1 cement : 2 coarse sand).	cum	6.80
3.8	Cement mortar 1:3 (1 cement : 3 coarse sand).	cum	5.10
3.9	Cement mortar 1:4 (1 cement : 4 coarse sand).	cum	3.80
3.10	Cement mortar 1:5 (1 cement : 5 coarse sand).	cum	3.10
3.11	Cement mortar 1:6 (1 cement : 6 coarse sand).	cum	2.50
3.12	Cement mortar 1:2 (1 cement : 2 stone dust).	cum	6.80
3.13	Cement mortar 1:2 (1 cement : 2 marble dust).	cum	6.80
3.14	Cement mortar 1:5 (1 cement : 5 marble dust).	cum	3.10
3.15	White cement mortar 1:2 (1 white cement : 2 marble dust).	cum	6.80*
3.16	White cement mortar 1:3 (1 white cement : 3 marble dust).	cum	5.10*
3.17	White cement mortar 1:5 (1 white cement : 5 marble dust).	cum	3.10*

\* white cement

# 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

## 4.0 CONCRETE WORK

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
<b>CEMENT CONCRETE (CAST - IN- SITU)</b>			
4.1	P/L cement concrete - all works upto plinth level :		
4.1.2	1:1½:3 (1 Cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size)	cum	4.00
4.1.3	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	3.20
4.1.4	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 40 mm nominal size)	cum	3.20
4.1.5	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	cum	2.20
4.1.6	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size)	cum	2.20
4.1.8	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)	cum	1.70
4.1.10	1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)	cum	1.30
4.1.11	1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size)	cum	1.30
4.1.12	1:2:3½:9 (1 ordinary portland cement : 2 Fly ash : 3½ coarse sand : 9 graded stone aggregate 40 mm nominal size)	cum	1.70
4.1.13	1:2½:4:11 (1 ordinary portland cement : 2½ fly ash : 4 coarse sand : 11 graded stone aggregate 40 mm nominal size)	cum	1.30
4.2	P/L cement concrete in retaining walls, return walls etc.		
4.2.2	1:1½:3 (1 cement:1½ coarse sand:3 graded stone aggregate 20 mm nominal size)	cum	4.00
4.2.3	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	3.20
4.2.5	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	cum	2.20
4.2.8	1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)	cum	1.30
4.4	P/L cement concrete in kerbs, steps etc.:		
4.4.1	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	cum	4.00

COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 4.0 CONCRETE WORK

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
<b>CEMENT CONCRETE (PRE-CAST)</b>			
4.5	P/L precast cement concrete string or lacing courses, copings etc.:		
4.5.1	1:1½:3 (1 cement:1½ coarse sand:3 graded stone aggregate 20 mm nominal size)	cum	4.05
4.6	P/L precast cement concrete in kerbs, edgings etc.:		
4.6.1	1:1.5:3 ( 1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	cum	4.05
4.7	P/L precast cement concrete solid blocks:		
4.7.1	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	cum	4.56
4.8	P/L precast cement concrete hollow blocks:		
4.8.1	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	cum	2.899
4.9	Precasting and placing in position 125 mm dia Bollards 600 mm high.	each	0.097
<b>DAMP- PROOF COURSE</b>			
4.10	P/L D.P.C. 40 mm thick with C.C. (1:2:4).	sqm	0.13
4.11	P/L D.P.C. 50 mm thick with C.C. (1:2:4)	sqm	0.16
<b>MISCELLANEOUS</b>			
4.17	Making plinth protection 50 mm thick of cement concrete 1:3:6	sqm	0.11
4.19	P/L Ready mixed concrete using flyash:		
4.19.1	All works upto plinth level		
4.19.1.1	M-15 grade plain cement concrete	cum	2.40
4.19.1.2	M-10 grade plain cement concrete	cum	2.20
4.19.2	All works above plinth and upto floor V level		
4.19.2.1	M-15 grade plain cement concrete	cum	2.40
4.19.2.2	M-10 grade plain cement concrete	cum	2.20
4.20	P/L ready mix plain cement concrete		
4.20.1	All works upto plinth level		
4.20.1.1	M-15 grade plain cement concrete	cum	2.40
4.20.1.2	M-10 grade plain cement concrete	cum	2.20
4.20.2	All works above plinth and upto floor V level		
4.20.2.1	M-15 grade plain cement concrete	cum	2.40
4.20.2.2	M-10 grade plain cement concrete	cum	2.20



## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 5.0 REINFORCED CEMENT CONCRETE

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
<b>CAST-IN-SITU</b>			
5.1	P/L R.C.C. upto plinth level :		
5.1.2	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	cum	4.00
5.1.3	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	3.2
5.2	R.C.C work in walls etc.:		
5.2.2	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	cum	4.00
5.3	R.C.C. (1:1.5:3) work in beams etc.	cum	4.00
5.4	R.C.C. (1:1.5:3) work in kerbs, steps etc.	cum	4.00
5.5	R.C.C. (1:1.5:3) work in arches, domes etc.	cum	4.00
5.6	R.C.C. (1:1.5:3) work in chimneys & shafts.	cum	4.00
5.7	R.C.C. (1:1.5:3) work in well-steining.	cum	4.00
5.8	R.C.C. (1:1.5:3) work in vertical and horizontal fins individually or forming box louvers, facias and eaves boards.	cum	4.00
<b>PRE - CAST R.C.C.</b>			
5.12	P/F precast R.C.C. (1:1.5:3) work in string courses, bands, copings, bed plates, anchor blocks, plain window sills etc.	cum	4.00
5.13	P/F precast R.C.C. (1:1.5:3) in small lintels not exceeding 1.5m clear span.	cum	4.00
5.14	P/F precast R.C.C. (1:1.5:3) in mouldings as in cornices, windows sills etc.	cum	4.00
5.15	P/F precast R.C.C. (1:1.5:3) in lintels, beams and bressumers etc.	cum	4.00
5.16	P/F precast R.C.C. (1:1.5:3) in shelves.	cum	4.05
5.17	P/F precast R.C.C. (1:1.5:3) in vertical & horizontal fins individually or forming box louvers.	cum	4.00
5.18	Fixing precast cement concrete Jali (1:2:4).		
5.18.1	50 mm thick	100 sqm	1.64*
5.18.2	40 mm thick	100 sqm	1.64*
5.18.3	25 mm thick	100 sqm	1.64*

\* Cement for fixing only.

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
<b>ENCASING ROLLED STEEL SECTION</b>			
5.19	Encasing rolled steel sections, in beams and columns, with cement concrete (1:1.5:3).	cum	4.00
5.20	Encasing rolled steel section in grillages with cement concrete (1:1.5:3).	cum	4.00
<b>MISCELLANEOUS</b>			
5.23	Smooth finishing of exposed surface of R.C.C. work with 6 mm thick cement mortar (1:3).	100 sqm	3.67
5.24	Rendering smooth the top of suspended floors, landings and staircases with cement mortar (1:2).	100 sqm	4.17
5.27	Providing and filling in position bitumen mix filler.	cum	0.032
<b>DESIGN MIX CONCRETE</b>			
5.33	P/L Design mix concrete (M-25).	cum	3.30*
5.34	Extra for providing richer mixes at all floor levels :		
5.34.1	Providing M-30 grade concrete instead of M-25 grade B.M.C/ R.M.C.	cum	0.10*
5.34.2	Providing M-35 grade concrete instead of M-25 grade B.M.C./ R.M.C.	cum	0.20*
5.34.3	Providing M-40 grade concrete instead of M-25 grade B.M.C./ R.M.C.	cum	0.30*
5.36	P/F precast R.C.C. in waffle units.	cum	4.16*
5.37	P/L RMC manufactured in fully automatic batching plant M-25 grade R.C.C.	cum	3.30*
5.40	P/L design mix cement concrete M-25 using Fly ash.	cum	3.30*
<b>* Actual weight for design mix will be worked out taking into consideration the cement requirement as per particular mix design</b>			
5.47.1	P/F factory made precast RCC M-40 doors & windows	metre	0.049
5.47.2	P/F factory made precast RCC M-40 doors & windows	metre	0.044
5.47.3	P/F factory made precast RCC M-40 doors & windows	metre	0.041
5.48	Providing and laying RCC for construction of piers abutments portal frames etc.	cum	4.80
5.49	Constructing cast insitu RCC diaphragm wall by providing .....	cum.	4.14

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 6.0 MASONRY WORK

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
6.1	Brick work in foundation & plinth with non modular bricks.		
6.1.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	0.95
6.1.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	0.625
6.2	Brick work in foundation & plinth with modular bricks.		
6.2.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	0.836
6.2.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	0.55
6.3	Brick work with machine moulded perforated bricks.		
6.3.1	With non modular bricks.	cum	0.625
6.3.2	With modular bricks.	cum	0.55
6.4	Brick work in superstructure		
6.4.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	0.95
6.4.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	0.625
6.7	Half brick masonry in cement mortar (1:3) for closing cavity 5 to 7.5 cm wide in cavity wall.	100 metre	3.86
6.8	Brick work 7 cm in cement mortar (1:3).	100 sqm	9.23
6.9 & 6.10	Brick work in plain & gauged arches in cement mortar (1:3).	cum	1.28
<b>HALF BRICK MASONRY</b>			
6.12 & 6.13	Half brick masonry in foundations & plinth and superstructure.		
6.12.1 & 6.13.1	Cement mortar 1:3 (1 cement : 3 coarse sand)	100 sqm	14.28
6.12.2 & 6.13.2	Cement mortar 1:4 (1 cement : 4 coarse sand)	100 sqm	10.64
<b>BRICK TILE WORK</b>			
6.16	Tile brick masonry in foundation and plinth. :		
6.16.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	1.52
6.16.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	1.00
6.17 & 6.18	Tile brick masonry with m/c moulded tiles in cement mortar 1:6 (1 cement : 6 coarse sand).	cum	1.00
6.20 & 6.21	Tile brick masonry with tile bricks in plain/gauged arches work in in cement mortar (1:4).	cum	1.33
6.22	Tile brick masonry work 5 cm thick in cement mortar (1:3).	100 sqm	7.65

*COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 6.0 MASONRY WORK*

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
<b>HONEY COMB WORK</b>			
6.23	Honey-comb brick work 10/11.4 cm thick in cement mortar 1:4.	100 sqm	6.56
<b>EXPOSED BRICK WORK</b>			
6.26	Brick work with selected bricks in cement mortar (1:6).	cum	0.625
6.27	Brick work with modular bricks in cement mortar (1:6).	cum	0.55
6.28	Brick work with machine moulded modular bricks in cement mortar (1:6).	cum	0.55
6.29	Brick work with m/c moulded F.P.S. bricks in cement mortar (1:6).	cum	0.625
6.30	Brick work with machine moulded perforated F.P.S. bricks in cement mortar (1:6).	cum	0.625
6.31	Brick work with machine moulded perforated modular bricks in cement mortar (1:6).	cum	0.55
6.32	Brick work with clay flyash F.P.S. brick		
6.32.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	0.95
6.32.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	0.625
6.34	Brick work with non modular fly ash bricks in		
6.34.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	0.95
6.34.2	Cement mortar 1:6 (1 cement : 6 Coarse sand)	cum	0.625
6.35	Brick work with modular calcium silicate bricks machine moulded in		
6.35.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	0.836
6.35.3	Cement mortar 1:6 (1 cement : 6 Coarse sand)	cum	0.55
6.36	Brick work with modular extruded burnt fly ash clay sewer bricks in :		
6.36.1	Cement Mortar 1:4 ( 1 cement : 4 coarse sand)	cum	0.836
6.37	Brick work with modular extruded burnt fly ash clay sewer bricks in cement mortar (1:3).	cum	1.275
6.38	Autoclaved aerated cement blocks masonry with 100mm thick AAC blocks in cement mortar (1:4).	cum	0.57
6.44	Brick edging 7 cm wide in cement mortar (1:4).	100 metre	0.137
6.45	Half brick masonry with non modular <b>fly ash bricks.</b>		
6.45.1	Cement mortar 1:3 (1 cement :3 coarse sand).	100 sqm	14.28
6.45.2	Cement mortar 1:4 (1 cement :4 coarse sand).	100 sqm	10.64

# 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

## 7.0 STONE WORK

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
<b>RANDOM RUBBLE MASONRY</b>			
7.1 & 7.2	Random rubble masonry with cement mortar (1:6).	cum	0.825
<b>COURSED RUBBLE MASONRY</b>			
7.6	Coursed rubble masonry (first sort) with :		
7.6.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	0.750
7.7	Coursed rubble masonry (second sort) with :		
7.7.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	0.750
<b>ASHLAR MASONRY</b>			
7.12	Stone work in plain ashlar in cement mortar (1:6) including pointing with white cement mortar (1:2).	cum	0.54
7.13 & 7.14	Stone work plain ashlar in arches/domes in cement mortar (1:3) including pointing with white cement mortar (1:2).	cum	1.07
7.15	Stone work ashlar punched in cement mortar 1:6) including pointing with white cement mortar (1:2).	cum	0.54
<b>SUNK, MOULDED, CARVED ASHLAR MASONRY</b>			
7.20	Stone work sunk and / or moulded including pointing with white cement mortar (1:2).	cum	0.54
<b>MISCELLANEOUS STONE WORK</b>			
7.26	P/F stone dowels 10x5x2.50 cm in cement mortar (1:2) .	each	0.007
7.28	P/F sloping chajja of stone 40 mm thick and upto 80 cm wide in cement mortar (1:4) i/c pointing in white cement mortar (1:2).	100 sqm	5.59
7.29	P/F horizontal chajja of stone 40 mm thick and upto 80 cm projection in cement mortar (1:4) i/c pointing in white cement mortar (1:2).	100 sqm	4.94 + 0.03*
7.30	P/F 30 mm red sand stone sun-shade with cement mortar 1:4 including finishing complete.	100 sqm	2.19
7.31	Providing and fixing red sand stone brackets 55x22.5x45cm.	100nos	3.02
7.32	Stone work, plain in copings, cornices, string courses etc. in Cement mortar 1:6 including pointing with white cement mortar (1:2).	cum	0.54
7.38	Stone tile work for wall lining with 12 mm thick bed in cement mortar (1:3).	sqm	10.44 + 1.70*
	* White cement		

COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 7.0 STONE WORK

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 8.0 CLADDING WORK

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
8.1	Marble work 18 mm thick for wall lining in cement mortar 1:3 including pointing with white cement mortar 1:2.	100 sqm	8.16 + 1.63*
8.2	P/F 18mm thick gang saw cut mirror polished pre moulded and prepolished) machine cut for kitchen platforms, vanity counters etc. laid over 20mm thick base cement mortar 1:4.	100 sqm	9.12
8.4	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	100 metre	1.27
8.7	P/F cramps in RCC/ CC backing with cement mortar 1:2 .		
8.7.1	Gunmetal cramps	kg	0.0635
8.7.2	Stainless steel cramps	kg	0.0701
8.9	Stone tile work for wall lining over 12mm thick bed of cement mortar (1:3) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete.	100 sqm	10.44 + 1.90*
8.11	P/F machine cut mirror/edge polished	100 sqm.	8.16 + 3.30*
8.14	Stone work (machine cut edges) for wall lining etc. (veneer work) in cement mortar (1:3) including pointing in white cement mortar (1:2).	100 sqm	9.18 + 1.56*
8.15	P/F stainless steel cramps in stone wall lining in cement mortar (1:2).	kg	0.07
8.16	P/F copper pins 7.5 cm long 6 mm diameter in stone wall lining in cement mortar (1:2).	each	0.007
8.17	Wall lining butch work with Dholpur stone 40 mm thick, in cement mortar (1:3) including ruled pointing in cement mortar (1:2).	100 sqm	15.50 + 1.70*
8.18	Stone work ( machine cut edges) for wall lining with grout of 12 mm thick in cement mortar (1:3) and jointed with Cement mortar (1:2).	100 sqm	13.744
8.21	P/F structural steel frame (for dry stone cladding) embedded in brick wall with cement concrete block (1:2:4)	100kg	1.05
8.23	P/F 50x50x50 mm 2nd class teak wood plugs in cement mortar 1:3.	100 nos.	0.01
8.25	P/F 2nd class teak wood plain lining with wooden plugs	100 sqm	0.055
8.31	P/F 1st quality ceramic glazed wall tiles over 12 mm thick bed of cement Mortar (1:3) <b>with grey cement slurry @ 3.3 kg/ sqm</b>	sqm	0.1044

\* White cement

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 9.0 WOOD AND P.V.C. WORK

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
<b>MISCELLANEOUS - WOOD WORK</b>			
9.46	P/F curtain rods of 1.25mm thick chromium plated brass brackets with wooden plugs, etc.	100 metre	0.01
9.47	Providing and fixing nickel plated M.S. pipe curtain rods with nickel plated brackets.	100 metre	0.01
9.53	Providing 40x5 mm flat iron hold fast 40 cm long with cement concrete block 30x10x15cm 1:3:6 mix. 100 nos 1.10	100 nos	1.10

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 10.0 STEEL WORK

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
10.4	P/F 1 mm thick M.S. sheet sliding-shutters with frame.	100 sqm	0.35
10.5	P/F 1 mm thick M.S. sheet door with frame.	100 sqm	0.35
10.6	Supplying and fixing rolling shutters.	100 sqm	0.35
10.10.1 & 10.11.1	Fixing standard steel glaze door windows etc.	100 kg	0.13
10.13.1	P/F 'T' iron froms for doors windows & ventilators	100 kg	0.11
10.15	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with 15x3 mm lugs 10 cm long embedded in cement concrete blocks 15x10x10 cm of 1:3:6 mix.	100 kg	0.28



# 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

## 11.0 FLOORING

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
11.1	Brick on edge flooring.		
11.1.1	1:4 (1 cement : 4 coarse sand)	sqm	0.1850
11.1.2	1:6 (1 cement : 6 coarse sand)	sqm	0.1285
11.3	Cement concrete flooring 1:2:4.		
11.3.1	40mm thick with 20mm nominal size stone aggregate	sqm	0.17
11.4	52 mm thick cement concrete flooring.	sqm	0.231
11.5	62 mm thick cement concrete flooring.	sqm	0.263
11.6	Cement plaster skirting with cement mortar (1:3).	sqm	0.14
11.7	Cement concrete pavement with C.C. (1:2:4).	cum	3.20
<b>TERRAZO FLOORING</b>			
11.9	40 mm thick marble chips flooring with under layer 34 mm thick cement concrete (1:2:4).		
11.9.1	Dark shade pigment with ordinary cement	sqm	0.1695
11.9.2	Light shade pigment with white cement	sqm	0.129+0.0405*
11.9.3	Medium shade pigment with 50% white cement and 50% ordinary cement	sqm	0.1492+0.0202*
11.9.4	White cement without any pigment	sqm	0.129+0.0202*
11.9.5	Light shade pigment with ordinary cement	sqm	0.1695
11.9.6	Ordinary cement without any pigment	sqm	0.1695
11.10	40 mm thick marble chips flooring with under layer 31 mm thick cement concrete 1:2:4.		
11.10.1	Dark shade pigment with Ordinary cement	sqm	0.1783
11.10.2	Light shade pigment with white cement	sqm	0.1205+0.0578*
11.10.3	Medium shade pigment with 50% white cement and 50% ordinary cement	sqm	0.1494+0.0289*
11.10.4	White cement without any pigment	sqm	0.1205+0.0578*
11.10.5	Light shade pigment with ordinary cement	sqm	0.1783
11.10.6	Ordinary cement without any pigment	sqm	0.1783
11.11	40 mm thick marble chips flooring with under layer 28 mm thick cement concrete 1:2:4.		
11.11.1	Dark shade pigment with ordinary cement	sqm	0.1907
11.11.2	Light shade pigment with white cement	sqm	0.1097+0.081*

COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 11.0 FLOORING

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
11.11.3	Medium shade pigment with 50% white cement and 50% ordinary cement	sqm	0.1502+0.0405*
11.11.4	White cement without any pigment	sqm	0.1097+0.081*
11.11.5	Light shade pigment with ordinary cement	sqm	0.1097
11.11.6	Ordinary cement without any pigment	sqm	0.1097
11.12	Marble chips skirting :		
11.12.1	18 mm thick with under layer 12 mm thick in cement plaster 1:3 (1 cement : 3 coarse sand)		
11.12.1.1	Dark shade pigment with ordinary cement	sqm	0.1292
11.12.1.2	Light shade pigment with white cement	sqm	0.0887+0.0405*
11.12.1.3	Medium shade pigment with 50% white cement and 50% ordinary cement	sqm	0.109+0.0203*
11.12.1.4	White cement without any pigment	sqm	0.109+0.0405*
11.12.1.5	Light shade pigment with ordinary cement	sqm	0.1292
11.12.1.6	Ordinary cement without any pigment	sqm	0.1292
11.15	Crazy marble stone flooring		
11.15.1	18 mm thick crazy marble stone white, black or as specified * White Cement	sqm	0.1200+0.0405*
<b>TILE FLOORING</b>			
11.16	Precast terrazo tiles 22mm thick in floors, and landings on 20mm thick bed of cement mortar (1:4).		
11.16.1	Light shade using white cement	sqm	0.0895+0.044*
11.16.2	Medium shade using 50%white cement and 50% ordinary cement	sqm	0.0917+0.0220*
11.16.3	Dark shade using ordinary cement	sqm	0.0939
11.16.4	Ordinary cement without any pigment	sqm	0.0939
11.18	Precast terrazo tiles 22 mm thick in skirting and risers of steps.		
11.18.1	Light shade using white cement.	sqm	0.0734+0.066*
11.18.2	Medium shades using 50% white cement and 50% ordinary cement.	sqm	0.1064+0.033*
11.18.3	Dark shade using ordinary cement	sqm	0.1394
11.18.4	Ordinary cement without any pigment	sqm	0.1394

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
11.19	Chequered terrazo tiles 22 mm thick in floors on 20 mm thick bed of cement mortar (1:4).		
11.19.1	Light shade using white cement	sqm	0.0895+0.044*
11.19.2	Medium shade using 50% white cement, 50% ordinary cement	sqm	0.0917+0.024*
11.19.3	Dark shade using ordinary cement	sqm	0.0939
11.19.4	Ordinary cement without any pigment	sqm	0.0939
11.20	Chequered precast cement concrete tiles 22 mm thick in foot path on 20 mm thick bed of cement mortar (1:4).		
11.20.1	Light shade using white cement	sqm	0.1291+0.066*
11.20.2	Medium shade using 50% white cement 50% Grey cement	sqm	0.1621+0.033*
11.20.3	Dark shade using ordinary cement	sqm	0.1951
11.20.4	Ordinary cement without any pigment	sqm	0.1951
11.21	Providing and fixing 10mm thick acid and or alkali resistant tiles.		
11.21.1	In flooring on a bed of 10 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand)		
11.21.1.1	Acid and alkali resistant tile	sqm	0.0786**
11.21.2	In dado/skirting on 12 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand)		
11.21.2.1	Acid and alkali resistant tile	sqm	0.0862**
11.22	Tile work in skirting, risers of steps etc. with 8 mm thick marble tile.	sqm	0.1044
	<b>STONE FLOORING</b>		
11.23	Marble stone flooring with 18 mm thick marble stone over 20 mm thick cement mortar (1:4).	sqm	0.13512
	<b>KOTA STONE FLOORING</b>		
11.26	Kota stone slab flooring over 20 mm thick bed of cement mortar (1:4).	sqm	0.1491
11.27	Kota stone slabs 20 mm thick in risers of steps, skirting etc. laid on 12 mm (average) thick cement mortar 1:3.	sqm	0.1374
	<b>SAND STONE FLOORING</b>		
11.28	40 mm thick fine dressed stone flooring over 20 mm (average) thick base of cement mortar 1:5 with joints finished flush.	sqm	0.0775
11.29	40 mm thick fine dressed stone flooring over 20 mm (average) thick base of cement mortar 1:5 including pointing with cement mortar 1:2.	sqm	0.0931

COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 11.0 FLOORING

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
11.30	40 mm thick rubbed stone flooring over 20 mm (average) thick base of cement mortar 1:5 with joints 3mm thick, side buttered with cement mortar 1:2.	sqm	0.0931
<b>CERAMIC GLAZED TILES</b>			
11.37	P/L ceramic glazed floor tiles laid on 20 mm thick Cement Mortar (1:4) <b>with grey cement slurry @ 3.3 kg/ sqm</b>	sqm	0.1242
11.38	P/L ceramic glazed floor tiles laid on 20mm thick bed of Cement Mortar (1:4) <b>with grey cement slurry @ 3.3 kg/ sqm</b>	sqm	0.1242
11.39 & 11.40	P/L rectified Glazed Ceramic floor tiles laid on 20mm thick cement mortar (1:4).	sqm	0.1242
<b>VITRIFIED FLOOR TILES</b>			
11.41	P/L vitrified floor tile laid on 20mm thick cement mortar (1:4).	sqm	0.1242
11.44	Crazy ceramic tile flooring.	sqm	0.1046
11.46	P/L vitrified tile in skirting in cement mortar (1:3).	sqm	0.088
11.51	P/L Machine cut, Mirror polished, Italian Marble stone flooring	Sqm.	0.085 + 0.05*
11.52	P/L Machine cut Mirror polished Marble stone flooring	Sqm.	0.085 + 0.05*
11.55	P/L flamed finish granite stone flooring	100 sqm.	13.50
11.56	P/L polished granite stone .....	100 sqm.	13.50

\* White cement

\*\* Acid alkali resistant cement.

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 12.0 ROOFING

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
12.16	10 cm thick mud phaska with flat tile bricks grouted with cement mortar (1:3).	100 sqm	3.11
12.17	10cm thick mud phaska with machine moulded tile bricks grouted with cement mortar (1:3).	100 sqm	3.11
12.19	Providing and laying brick tiles over mumty roofs grouted with cement mortar (1:3).	100 sqm	9.13
12.20	Providing and laying pressed clay tiles on roofs jointed with cement mortar (1:4).	100 sqm	9.92
12.21	Providing gola 75x75 mm in cement concrete (1:2:4).	metre	0.031
12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete (1:2:4).	each	0.06
12.23	Providing sand stone slab for roofing and laying cement mortar (1 : 4).	100 sqm	0.74
12.38	Providing and fixing M.S. holder bat clamps in cement concrete blocks 10x10x10cm of 1:2:4 mix.	each	0.005
12.55	P/F heat resistant tile on roof with cement mortar (1:4) and filling joints with white cement marble mix.	sqm	0.1367

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 13.0 FINISHING

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
<b>CEMENT PLASTER (IN FINE SAND)</b>			
13.1	12 mm cement plaster:		
13.1.1	1:4 (1 cement : 4 fine sand)	100 sqm	5.47
13.1.2	1:6 (1 cement : 6 fine sand)	100 sqm	3.60
13.2	15 mm cement plaster:		
13.2.1	1:4 (1 cement : 4 fine sand)	100 sqm	6.54
13.2.2	1:6 (1 cement : 6 fine sand)	100 sqm	4.30
13.3	20 mm cement plaster :		
13.3.1	1:4 (1 cement : 4 fine sand)	100 sqm	8.51
13.3.2	1:6 (1 cement : 6 fine sand)	100 sqm	5.60
<b>CEMENT PLASTER (IN COARSE SAND)</b>			
13.4	12 mm cement plaster :		
13.4.1	1:4 (1 cement : 4 coarse sand)	100 sqm	5.47
13.4.2	1:6 (1 cement : 6 coarse sand)	100 sqm	3.60
13.5	15 mm cement plaster :		
13.5.1	1:4 (1 cement : 4 coarse sand)	100 sqm	6.54
13.5.2	1:6 (1 cement : 6 coarse sand)	100 sqm	4.30
13.6	20 mm cement plaster :		
13.6.1	1:4 (1 cement : 4 coarse sand)	100 sqm	8.51
13.6.2	1:6 (1 cement : 6 coarse sand)	100 sqm	5.60
<b>CEMENT PLASTER WITH A FLOATING COAT OF NEAT CEMENT</b>			
13.7	12 mm cement plaster finished with a floating coat of neat cement :		
13.7.1	1:3 (1 cement : 3 fine sand)	100 sqm	9.54
13.7.2	1:4 (1 cement : 4 fine sand)	100 sqm	7.67
13.8	15 mm cement plaster finished with a floating coat of neat cement :		
13.8.1	1:3 (1 cement : 3 fine sand)	100 sqm	10.97
13.8.2	1:4 (1 cement : 4 fine sand)	100 sqm	8.74

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
13.9	Cement plaster (1:3) finished with a floating coat of neat cement.		
13.9.1	12 mm Cement Plaster	100 sqm	9.54
13.9.2	20 mm Cement Plaster	100 sqm	13.62
13.10	15 mm cement plaster (1:3) finished with a floating coat of neat cement.	100 sqm	10.97
<b>CEMENT PLASTER IN TWO COATS</b>			
13.11	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 finished with a top layer 6mm thick cement plaster 1:6.	100 sqm	6.26
13.12	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 and a top layer 6mm thick cement plaster (1:3).	100 sqm	8.13
13.13	12 mm cement plaster 1:2 (1 cement : 2 stone dust).	100 sqm	9.79
13.14	15 mm cement plaster 1:2 (1 cement : 2 stone dust).	100 sqm	11.70
13.15	20 mm cement plaster 1:2 (1 cement : 2 stone dust).	100 sqm	15.23
<b>6 MM CEMENT PLASTER</b>			
13.16	6 mm cement plaster of mix :		
13.16.1	1:3 (1 cement : 3 fine sand)	100 sqm	3.67
13.17	6 mm cement plaster (1:3) finished with a floating coat of neat cement.	100 sqm	5.87
13.18	Neat cement punning	100 sqm	2.20
<b>ROUGH CAST PLASTER</b>			
13.19	Rough cast plaster in two layers, under layer 12 mm cement plaster (1:4) and top layer 10mm cement plaster (1:3).	100 sqm	11.59
<b>PEBBLE DASH PLASTER</b>			
13.20	Pebble dash plaster in two layers, under layer 12mm cement plaster 1:4 and top layer 10mm cement plaster with cement mortar (1:3).	100 sqm	11.59
<b>PLAIN CEMENT MORTAR BANDS</b>			
13.28	12 mm thick plain cement mortar bands in cement mortar (1:4) : (Flush /Sunk / Raised / Moulded Band).	100 metre 1cm wide	0.053
13.29	18 mm thick plain cement mortar band in cement mortar (1:4)	100 metre 1cm wide	0.076

COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 13.0 FINISHING

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
13.30	18 mm thick moulded cement mortar band in two coats under layer 12mm thick with cement mortar 1:5, top layer 6mm thick with cement mortar (1:4).	100 metre 1 cm wide	0.07
<b>POINTING OF BRICK WORK</b>			
13.31	Pointing on brick work with cement mortar (1:3) :		
13.31.1	Flush / Ruled/ Struck or weathered pointing	100 sqm	1.53
13.31.2	Raised and cut pointing	100 sqm	2.04
<b>POINTING ON TILE BRICK WORK</b>			
13.32	Pointing on tile brick work with cement mortar (1:3).		
13.32.1	Flush/ Ruled/ Struck or weathered pointing	100 sqm	2.35
<b>POINTING ON STONE WORK</b>			
13.33	Pointing on stone work with cement mortar (1:3).		
13.33.1	Flush/ Ruled pointing	100 sqm	1.17
13.33.2	Raised and cut pointing	100 sqm	2.35
13.34	Raised and cut pointing on stone work in white cement mortar (1:3).	100 sqm	2.35*
13.35	Pointing on stone slab ceiling with cement mortar (1:2).	100 sqm	1.02
13.72	Washed stone grit plaster on exterior walls in two layers under layer 12mm cement plaster (1:4), top layer 15mm cement plaster 1:1/2:2.	100 sqm	17.472
<b>Note:</b> - cement consumption for pointing is same for modular & non modular bricks.			

\* White cement



## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 14.0 REPAIRS TO BUILDING

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
14.1	Repairs to plaster of thickness 12 mm to 20 mm in patches with cement mortar 1:4.	100 sqm	6.95
14.2	Fixing chowkhats in existing opening with hold fasts in cement concrete blocks with cement concrete 1:3:6.		
14.2.1	Door chowkhats	each	0.12
14.2.2	Window chowkhats	each	0.06
14.2.3	Clerestory window chowkhats	each	0.03
14.12	Providing and fixing 16 mm M.S. Fan clamps in existing R.C.C. slab.	each	0.016
14.13	Regrading terracing of mud phaska to proper slope.	100 sqm	3.11
14.14	Replacing sand stone slabs in roofing in cement mortar 1:4.	100 sqm	0.78
14.15	Renewing wooden battens in roofs & making good the holes in walls.	cum	0.36
14.16	Renewing wooden beams in roofs & making good the holes in walls.	cum	0.13
14.18	Flush pointing with cement mortar 1:3 for flat tile bricks on top of mud phaska.	100 sqm	0.76

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 16.0 ROAD WORK

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
<b>FENCING</b>			
16.23	P/F boundary stone including finishing smooth with cement mortar (1:3).	each	0.082
16.24	P/F precast R.C.C. kilometre stone including finishing smooth in cement mortar (1:3).		
16.24.1	35x111x25 cm size	each	0.37
16.24.2	50x152.5x25 cm size	each	0.698
16.24.3	35x93.5x18 cm size	each	0.23
<b>CONCRETE PAVEMENT</b>			
16.42	Cement concrete (1:2:4) in pavements.	cum	3.20
16.43	Providing and laying design mix cement concrete of M-30 grade, in roads/ taxi tracks/ runways, using cement contents per design mix.	cum	3.40
<b>MISCELLANEOUS</b>			
16.49	Making bell mouth opening including providing cement concrete (1:3:6) & plastering with cement mortar (1:3).	10 Nos.	6.60
16.52	Providing and fixing precast lime fly ash concrete blocks including finishing with 10mm thick cement mortar (1:3), in foot paths.	sqm	0.05
16.63	P/L kerb channel 30cm wide and 50mm thick of cement concrete (1:3:6).	metre	0.11
16.67	Providing and fixing factory made RCC pavement slab of M-30 grade in footpath over a bed of 20mm average thick cement mortar (1:5).	100 sqm	7.75
16.69	Providing and laying factory made kerb stone of M-25 grade jointed with cement mortar (1:3).	cum	0.05
16.75	Providing and laying C.C. pavement of mix M-25 with readymixed concrete.	cum	3.30
16.80	Dry lean cement concrete sub base.	cum	1.50
16.85	Laying old kerb stones, jointed with cement mortar (1:3).	100 metre	0.3723
16.86	P/L gang saw cut 18 mm thick, morror polished	sqm	0.09
16.87	P/L gang saw cut 30 mm thick mirror polished	sqm	0.09
16.88	P/L Matt finished vitrified tile of size	sqm	0.12
16.89	P/L Matt finished vitrifid tile of size	sqm	0.12
16.90	P/L tactile tile	sqm	0.12
16.92	P/F 10x10x7.5 cm. granite stone block	sqm	1.85
16.93	Providing and Placing in position 100mm thick precast RCC covers on drain of footpath	sqm	0.352

COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 16.0 ROAD WORK

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 17.0 SANITARY INSTALLATIONS

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
17.1/17.2/ 17.3	Fixing Indian European type W.C. pan.	each	0.05
17.4	Fixing white vitreous china urinal basin :		
17.4.1	One urinal basin with 5 litre white P.V.C. automatic flushing cistern	each	0.025
17.4.2	Range of two urinal basins with 5 litre white P.V.C. automatic flushing cistern	each	0.04
17.4.3	Range of three urinal basins with 10litre white P.V.C. automatic flushing cistern	each	0.067
17.4.4	Range of four urinal basins with 10 litre white P.V.C. automatic flushing cistern	each	0.095
17.5	Fixing white vitreous china flat back half stall urinal :		
17.5.1	Single half stall urinal with 5 litre P.V.C. automatic flushing cistern	each	0.051
17.5.2	Range of two half stall urinals with 5 litre P.V.C. automatic flushing cistern	each	0.102
17.5.3	Range of three half stall urinals with 10 litre P.V.C. automatic flushing cistern	each	0.153
17.5.4	Range of four half stall urinals with 10 litre P.V.C. automatic flushing cistern	each	0.203
17.6	Fixing one piece construction white vitreous china squatting plate :		
17.6.1	Single squatting plate with 5 litre P.V.C. automatic flushing cistern	each	0.051
17.6.2	Range of two squatting plates with 5 litre P.V.C. automatic flushing cistern	each	0.102
17.6.3	Range of three squatting plates with 10 litre P.V.C. automatic flushing cistern	each	0.153
17.6.4	Range of four squatting plates with 10 litre P.V.C. automatic flushing cistern	each	0.203
17.7	Fixing wash basin with C.I. brackets.	each	0.025
17.8	Fixing white vitreous china pedestal for wash basin.	each	0.016*
17.9	Fixing kitchen sink with C.I. brackets.	each	0.025
17.10	Fixing kitchen sink with C.I. brackets.	each	0.025
17.11	Fixing kitchen sink with C.I. brackets.	each	0.025
17.12	Fixing draining board with C.I. brackets.	each	0.014

*COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 17.0 SANITARY INSTALLATIONS*

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity of cement per unit quantity of work (Quintals)</b>
17.13	Fixing White vitreous china water closet squatting pan.	each	0.025
17.17	Fixing a pair of white vitreous china foot rests.	each	0.025
17.23	Fixing white vitreous china flat urinal basin.	each	0.01
17.24	Fixing white vitreous china squatting plate urinal.	each	0.02
17.25	Fixing white vitreous china wash basin.	each	0.015
17.26	Fixing kitchen sink.	each	0.015
17.27	Fixing kitchen sink.	each	0.015
17.37	Providing and fixing M.S. holder-bat clamps.	each	0.005
17.59	Providing and fixing M.S. stays and clamps.	each	0.005
17.60	Providing and fixing trap of self-cleansing design.	each	0.025
17.61	Cutting chases in brick masonry walls for sand cast iron/centrifugally cast (spun) iron pipes and making good the same with C.C.(1:3:6).		
17.61.1	100 mm dia	100 metre	5.40
17.61.2	75 mm dia	100 metre	3.70
17.61.3	50 mm dia	100 metre	1.87

\* White Cement.

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 18.0 WATER SUPPLY

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
18.1/18.4/ 18.7/18.10	Providing and fixing G.I./ PE-AL-PE/ PP-R pipes.		
	<b>Internal work - Exposed on wall</b>		
18.10.1	15 mm dia nominal bore	100 metre	0.05
18.10.2	20 mm dia nominal bore	100 metre	0.06
18.10.3	25 mm dia nominal bore	100 metre	0.07
18.10.4	32 mm dia nominal bore	100 metre	0.075
18.10.5	40 mm dia nominal bore	100 metre	0.08
18.10.6	50 mm dia nominal bore	100 metre	0.08
18.2/18.5/ 18.8/18.11	P/F concealed pipes.	100 metre	0.88
18.32	Constructing masonry Chamber 30x30x50 cm, for stop cock.	each	0.26
18.33	Constructing masonry Chamber 60x60x75 cm, for sluice valve.	each	1.44
18.34	Constructing masonry Chamber 90x90x100 cm, for sluice valve.	each	2.48
18.35	Constructing masonry Chamber 120x120x100 cm, for sluice valve.	each	3.50
18.36	Constructing masonry Chamber 60x60x75 cm, for fire hydrants.	each	1.30
18.37	Constructing masonry Chamber 60x45x50 cm, for water meter.	each	1.34
18.76	Cutting holes up to 30x30 cm in walls including making good the same.	100 Nos.	2.92
18.77	Cutting holes up to 15x15 cm in R.C.C. floors and roofs and repairing the hole after insertion of drain pipes etc. with cement concrete (1:2:4).	100 Nos.	0.70
18.78	Making chases up to 7.5x7.5 cm in walls i/c finishing.	100 metre	0.88
18.79	Making hole up to 20x20 cm and embedding pipes up to 150 mm diameter in masonry and filling with cement concrete (1:3:6).	100 metre	4.90

*COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 18.0 WATER SUPPLY*

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 19.0 DRAINAGE

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
19.1	Jointing glazed stoneware pipes with stiff mixture of cement mortar in the proportion of (1:1).		
19.1.1	100 mm diameter	100 metre	2.17
19.1.2	150 mm diameter	100 metre	3.23
19.1.3	200 mm diameter	100 metre	4.33
19.1.5	250 mm diameter	100 metre	5.40
19.1.6	300 mm diameter	100 metre	6.47
19.2	Laying cement concrete (1:5:10) around S.W. pipes:		
19.2.1	100 mm diameter S.W. pipe	100 metre	19.24
19.2.2	150 mm diameter S.W. pipe	100 metre	23.53
19.2.3	200 mm diameter S.W. pipe	100 metre	27.43
19.2.5	250 mm diameter S.W. pipe	100 metre	31.72
19.3	Laying cement concrete (1:5:10) upto haunches of S.W. pipes:		
19.3.1	100 mm diameter S.W. pipe	100 metre	9.14
19.3.2	150 mm diameter S.W. pipe	100 metre	14.82
19.3.3	200 mm diameter S.W. pipe	100 metre	17.42
19.3.4	250 mm diameter S.W. pipe	100 metre	20.28
19.3.5	300 mm diameter S.W. pipe	100 metre	23.40
19.4	Providing and fixing square-mouth S.W. gully trap :		
19.4.1	100x100 mm size P type	each	0.27
19.4.2	150 x 100 mm size P type.	each	0.26
19.4.3	180x150 mm size P type	each	0.25
19.6	P/L NP2 class R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of (1:2):		
19.6.1	100 mm dia. R.C.C. pipe	100 metre	0.50
19.6.2	150 mm dia. R.C.C. pipe	100 metre	0.60
19.6.3	250 mm dia. R.C.C. pipe	100 metre	0.90
19.6.4	300 mm dia. R.C.C. pipe	100 metre	1.10
19.6.5	450 mm dia. R.C.C. pipe	100 metre	2.40
19.6.6	500 mm dia. R.C.C. pipe	100 metre	2.60

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
19.6.7	600 mm dia. R.C.C. pipe	100 metre	3.20
19.6.8	700 mm dia. R.C.C. pipe	100 metre	3.70
19.6.9	800 mm dia. R.C.C. pipe	100 metre	4.20
19.6.10	900 mm dia. R.C.C. pipe	100 metre	4.90
19.6.11	1000 mm dia. R.C.C. pipe	100 metre	5.50
19.6.12	1100 mm dia. R.C.C. pipe	100 metre	6.10
19.6.13	1200 mm dia. R.C.C. pipe	100 metre	6.80
19.7	Constructing brick masonry manhole in cement mortar (1:4).		
19.7.1	Inside size 90x80 cm and 45 cm deep	each	2.92
19.7.2 & 19.7.3	Inside size 120x90 cm and 90 cm. deep	each	4.73
19.8	Extra for depth for manholes		
19.8.1	Size 90x80 cm	metre	1.26
19.8.2	Size 120x90 cm	metre	1.52
19.9	Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar (1:4).		
19.9.1	0.91 m deep	each	2.75
19.10	Extra depth for circular type manhole 0.91m internal dia (at bottom) with beyond 0.91m to 1.67m	metre	1.40
19.11	Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56m dia at top in cement mortar (1:4).		
19.11.1	1.68 m deep	each	5.39
19.12	Extra depth for circular type manhole 1.22m internal dia (at bottom) beyond 1.68 m to 2.29 m.	metre	1.43
19.13	Constructing brick masonry circular manhole 1.52 m internal dia at bottom and 0.56 m dia at top in cement mortar (1:4).		
19.13.1	2.30 m deep	each	10.86
19.14	Extra depth for circular type manhole 1.52 m internal dia (at bottom) beyond 2.30 m.	metre	3.11
19.15	Providing M.S. foot rests including fixing in manholes with 20x20x10 cm cement concrete blocks (1:3:6).	100 nos.	0.88
19.16	Providing orange colour safety foot rest.	100 nos.	1.98
19.17	Replacement of M.S. foot rests in manholes with 20x10x10 cm C.C. blocks (1:3:6) mix.	100 nos.	0.88

*COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 19.0 DRAINAGE*

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
19.19	Providing and fixing in position precast R.C.C. manhole cover and frame.		
19.19.1	LD- 2.5		
19.19.1.1	Rectangular shape 600x450mm internal dimensions	each	0.128
19.19.1.2	Square shape 450mm internal dimensions	each	0.096
19.19.1.3	Circular shape 450mm internal diameter	each	0.096
19.19.2	M D - 10		
19.19.2.1	Square shape 450mm internal dimension	each	0.128
19.19.2.2	Circular shape 500mm internal diameter	each	0.096
19.19.3	H D - 20		
19.19.3.1	Circular shape 560 mm internal diameter	each	0.096
19.19.4	EHD - 35		
19.19.4.1	Circular shape 560 mm internal dia	each	0.096
19.21	Making connection of drain or sewer line with existing manhole and making good the walls, floors with C.C. (1:2:4) mix.		
19.21.1	For pipes 100 to 250 mm diameter	each	0.056
19.21.2	For pipes 100 to 300 mm diameter	each	0.095
19.21.3	For pipes 100 to 450 mm diameter	each	0.153
19.22	Providing sand cast iron drop connection externally for 60 cm drop from branch sewer line to main sewer manhole. :		
19.22.1	100 mm dia sand cast iron drop connection	each	0.34
19.22.2	150 mm dia sand cast iron drop connection	each	0.46
19.23	Extra for depths beyond 60 cm of sand cast iron drop connection. :		
19.23.1	For 100 mm dia. sand cast iron drop connection	metre	0.21
19.23.2	For 150 mm dia. sand cast iron drop connection	metre	0.26
19.27	Constructing brick masonry road gully chamber 50x45x 60cm in cement mortar (1:4).	each	0.93
19.28	Constructing brick masonry road gully chamber 45x45x 77.5 cm in cement mortar (1:4).	each	0.82
19.29	Constructing brick masonry road gully chamber 110x50x 77.5 cm in cement mortar (1:4).	each	1.66

*COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 19.0 DRAINAGE*



<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity of cement per unit quantity of work (Quintals)</b>
19.30	Constructing brick masonry chamber for underground C.I. inspection chamber and bends in cement mortar (1:4).		
19.30.1	Inside dimensions 455x610 mm and 45 cm deep for single pipe line	each	0.90
19.30.2	Inside dimensions 500x700 mm and 45 cm deep for pipe line with one or two inlets	each	1.02
19.30.3	Inside dimensions 600x 850 mm and 45 cm deep for pipe line with three or more inlets	each	1.27
19.31	Extra for depth beyond 45 cm of brick masonry chamber :		
19.31.1	For 455x610 mm size	metre	0.87
19.31.2	For 500x700 mm size	metre	0.95
19.31.3	For 600x850 mm size	metre	1.12
19.32	Making soak pit 2.5 m diameter 3.0 metre deep.	each	0.072
19.34	Providing and fixing S.W. intercepting trap in manholes with stiff mixture of cement mortar (1:1).		
19.34.1	100 mm dia	each	0.013
19.34.2	150 mm dia	each	0.019
19.35	P/L Non pressure Np-3 class		
19.35.1	450 mm dia RCC pipe	100 metre	1.20
19.35.2	600 mm dia RCC pipe	100 metre	1.60
19.35.3	900 mm dia RCC pipe	100 metre	2.50
19.35.4	1000 mm dia RCC pipe	100 metre	2.80
19.35.5	1200 mm dia RCC pipe	100 metre	3.40
19.35.6	1800 mm dia RCC pipe	100 metre	4.90
19.36	P/L Non pressure Np-4 class		
19.36.1	450 mm dia RCC pipe	100 metre	1.20
19.36.2	600 mm dia RCC pipe	100 metre	1.60
19.36.3	900 mm dia RCC pipe	100 metre	2.50
19.36.4	1000 mm dia RCC pipe	100 metre	2.80
19.36.5	1200 mm dia RCC pipe	100 metre	3.40
19.36.6	1800 mm dia RCC pipe	100 metre	4.90

# 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

## 20.0 PILE WORK

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
20.1	Providing, driving and installing driven cast-in-situ reinforced cement concrete piles of grade M -25.		
20.1.1	400 mm dia piles	metre	0.414
20.1.2	450 mm dia piles	metre	0.525
20.1.3	500 mm dia piles	metre	0.648
20.1.4	550 mm dia piles	metre	0.784
20.1.5	750 mm dia piles	metre	1.456
20.1.6	1000 mm dia piles	metre	2.590
20.1.7	1200 mm dia piles	metre	3.729
20.1.8	1500 mm dia piles	metre	5.83
20.2	Boring, providing and installing bored cast-in-situ reinforced cement concrete piles of grade M -25 by tripod and mechanical winch machine.		
20.2.3	450 mm dia piles	metre	0.525
20.2.4	500 mm dia piles	metre	0.648
20.2.5	600 mm dia piles	metre	0.932
20.2.6	750 mm dia piles	metre	1.456
20.2A	Boring, providing and installing bored cast-in-situ reinforced cement concrete piles of grade M -25 by crawler mounted, telescopic boom hydraulic pilling Rig.		
20.2A.1	600 mm dia piles	metre	0.932
20.2A.2	750 mm dia piles	metre	1.456
20.2A.3	1000 mm dia piles	metre	2.590
20.2A.4	1200 mm dia piles	metre	3.729
20.2A.5	1500 mm dia pile	metre	5.830
20.3	Boring, Providing and installing cast in situ single under reamed piles of grade M -25.		
20.3.1	300 mm dia piles	metre	0.257
20.3.2	400 mm dia piles	metre	0.488
20.3.3	450 mm dia piles	metre	0.629
20.3.4	550 mm dia piles	metre	0.792

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity of cement per unit quantity of work (Quintals)</b>
20.4	Extra for providing additional blub in under reamed piles.		
20.4.1	300 mm dia piles	each	0.109
20.4.2	400 mm dia piles	each	0.208
20.4.3	450 mm dia piles	each	0.267
20.4.4	550 mm dia piles	each	0.396
20.5	Providing, driving and installing driven Pre-cast reinforced cement concrete piles of grade M -25.		
20.5.1	400 mm dia piles	metre	0.414
20.5.2	450 mm dia piles	metre	0.525
20.5.3	500 mm dia piles	metre	0.648
20.5.4	550 mm dia piles	metre	0.784
20.5.5	750 mm dia piles	metre	1.795
20.5.6	1000 mm dia piles	metre	2.590

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 22.0 WATER PROOFING

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
22.1	P/L integral cement based treatment for water proofing on horizontal surface. :		
22.1.1	Using rough kota stone	sqm	0.342
22.2	P/L integral cement based treatment for water proofing on the vertical surface. :		
22.2.1	Using rough Kota stone	sqm	0.443
22.3	P/L water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of:		
	i) Ist course of applying cement slurry @ 4.4 kg/sqm		
	ii) IInd course of 20mm cement plaster (1:3)		
	iii) IIIrd course of applying blown or residual bitumen applied hot at 1.7 Kg. per sqm of area		
	iv) IVth course of 400 micron thick PVC sheet	sqm	0.158
22.5	P/L water proofing treatment in sunken portion of WCs, bathroom etc.	sqm	0.0123
22.6	P/L water proofing treatment on roofs.	sqm	0.0195
22.7	P/L integral cement based water proofing treatment on roofs, balconies, terraces etc. :		
22.7.1	With average thickness of 120mm and minimum thickness at khurra as 65 mm	sqm	0.387
22.14	Grading roof for water proofing treatment with		
22.14.1	Cement concrete 1:2:4	cum	3.20
22.14.2	Cement mortar 1:3	cum	5.10
22.14.3	Cement mortar 1:4	cum	3.80

## 1.0 COEFFICIENTS FOR CEMENT CONSUMPTION

### 26.0 NEW TECHNOLOGIES AND MATERIALS

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
26.31.1	SBR Polymer (@10% of cement weight) modified cementitious bond coat @2.2 kg cement per sqm.	100 sqm	2.20
26.32	Providing, mixing and applying SBR polymer (of approved make) modified Cement mortar in proportion of 1:4 (1 cement: 4 graded coarse sand with polymer minimum 2% by wt. of cement used) .		
26.32.1	12 mm average thickness.	100 sqm	5.47
26.32.2	25 mm average thickness in 2 layers.	100 sqm	11.40
26.32.3	50 mm average thickness in 3 layers.	100 sqm	22.80
26.33	Providing, mixing and applying SBR polymer (of approved make @ minimum 2% by wt. of cement used) modified plain/reinforced cement concrete for structural members.		
26.33.1	50mm thick in Grade M 25 with cement content not less than 330 kg per cum	100 sqm	16.50
26.33.2	75mm thick in Grade M 25 with cement content not less than 330 kg per cum	100 sqm	24.75
26.34	Providing and laying SBR Polymer modified (of approved make @ minimum 2% by wt. of cement used) plain/reinforced concrete jacket for the structural members e.g. columns, pillars, piers, beams etc with concrete.		
26.34.1	50mm thick in Grade M 25 with cement content not less than 330 kg per cum	100 sqm	16.5
26.34.2	75mm thick in Grade M 25 with cement content not less than 330 kg per cum	100 sqm	24.75
26.34.3	100mm thick in Grade M 25 with cement content not less than 330 kg per cum	100 sqm	33.00
26.35	Providing and injecting approved grout in proportion recommended by the manufacturer into cracks/honey-comb area of concrete/ masonry by suitable gun/pump.		
26.35.1	Stirrer mixed Acrylic Polymer of approved make @ 2% of weight of cement used) modified Cement slurry made with non shrink compound in concrete/RCC work	100 kg	1.00
26.35.2	Stirrer mixed SBR Polymer (of approved make) modified Cement slurry made with Shrinkage Compensating Cement in concrete/RCC work.	100 kg	1.00

COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 26.0 NEW TECHNOLOGIES AND MATERIALS

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
26.38	Shotcreting R.C.C. columns, beams and slabs etc. in layers with approved design mix concrete having .		
26.38.1	25mm thick in Grade M 25 with cement content not less than 330 kg per cum	100 sqm	10.31
26.38.2	50mm thick in Grade M 25 with cement content not less than 330 kg per cum	100 sqm	20.63
26.38.3	75mm thick in Grade M 25 with cement content not less than 330 kg per cum	100 sqm	30.94
26.46	Providing and fixing in position, 200 mm thick factory made Expanded polystyrene Core (EPS Core) wall panels consisting of EPS core sandwiched between two Engineered sheets of welded wire fabric mesh.....applying the layer of 50 mm thick cement mortar 1:3 (1 cement: 3 coarse sand)	100 sqm	51.00
26.47	Providing and fixing in position, 230mm thick factory made Expanded Polystyrene Core (EPS Core) roof/floor panels. .... applying a layer of 60-65 mm thick cement mortar 1: 3 {1 cement: 3 coarse sand..... applying 70-75 mm thick layer of cement concrete 1:1.5: 3 (1 cement :1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).	100 sqm	58.60
26.53	Filling of empty cavities with quarry dust mixed with cement	cum	0.72
26.58	Filling of joints between RCC plinth beam/floor slab and wall panel of external walls	100 metre	0.03125
26.59	Waterproofing treatment of vertical joints between door frame, window & ventilator frames	100 metre	0.03125
26.61	In filling/ sealing of joint between RCC lintel cum sunshade and wall	100 metre	0.03125
26.66	P/F factory made EPS wall panels consisting EPS core sandwiched between two Engineered sheets	sqm	0.357
26.68	P/F Factory made Precast Concrete solid blocks in foundation and plinth	cum	0.2825
26.69	P/F Factory made Precast Concrete solid blocks in superstructure above plinth level up to floor V level	cum	0.2825
26.70	Providing and laying half block masonry with factory made Precast concrete solid blocks in foundation and plinth	100 sqm	2.6904
26.71	Providing and laying half block masonry with factory made Precast concrete solid blocks insuperstructure above plinth level up to floor V level	100 sqm	2.6904
26.73.1	Fabrication & Manufacturing of prestressed Hollow Core slab of concrete grade M-40 (cement content 400kg)		
26.73.1.1	100 mm thick hollow core slab	metre	0.36

COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 26.0 NEW TECHNOLOGIES AND MATERIALS

Code No.	Description	Unit	Quantity of cement per unit quantity of work (Quintals)
	26.73.1.2 120 mm thick hollow core slab	metre	0.432
	26.73.1.3 150 mm thick hollow core slab	metre	0.54
	26.73.1.4 200 mm thick hollow core slab	metre	0.672
	26.73.1.5 250 mm thick hollow core slab	metre	0.84
	26.73.1.6 300 mm thick hollow core slab	metre	1.008
	26.73.1.7 350 mm thick hollow core slab	metre	1.176
	26.73.1.8 400 mm thick hollow core slab	metre	1.344
26.73.2	Extra for using M-50 (Cement content 425kg) instead of M-40		
	26.73.2.1 100 mm thick hollow core slab	metre	0.0225
	26.73.2.2 120 mm thick hollow core slab	metre	0.027
	26.73.2.3 150 mm thick hollow core slab	metre	0.03375
	26.73.2.4 200 mm thick hollow core slab	metre	0.042
	26.73.2.5 250 mm thick hollow core slab	metre	0.0525
	26.73.2.6 300 mm thick hollow core slab	metre	0.063
	26.73.2.7 350 mm thick hollow core slab	metre	0.0735
	26.73.2.8 400 mm thick hollow core slab	metre	0.084
26.73.3	Extra for using M-60 (Cement content 440kg) instead of M-40		
	26.73.3.1 100 mm thick hollow core slab	metre	0.036
	26.73.3.2 120 mm thick hollow core slab	metre	0.0432
	26.73.3.3 150 mm thick hollow core slab	metre	0.054
	26.73.3.4 200 mm thick hollow core slab	metre	0.0672
	26.73.3.5 250 mm thick hollow core slab	metre	0.084
	26.73.3.6 300 mm thick hollow core slab	metre	0.1008
	26.73.3.7 350 mm thick hollow core slab	metre	0.1176
	26.73.3.8 400 mm thick hollow core slab	metre	0.1344
26.74	Fabrication and manufacturing of solid precast concrete element for walls, stairs, column etc.,		
	26.74.1 Concrete grade M-35 (Cement content 370kgs)	cum	3.70
	26.74.2 Extra for using M-40 (Cement content 400 kg) instead of M-35	cum	0.30
	26.74.3 Extra for using M-50 (Cement content 425 kg) instead of M-35	cum	0.55
	26.74.4 Extra for using M-60 (Cement content 440 kg) instead of M-35	cum	0.70

COEFFICIENTS FOR CEMENT CONSUMPTION S.H. : 26.0 NEW TECHNOLOGIES AND MATERIALS

**COEFFICIENTS  
FOR BITUMEN  
CONSUMPTION**



## 2.0 COEFFICIENTS FOR BITUMEN CONSUMPTION

### 16.0 ROAD WORK

Code No.	Description	Unit	Quantity of bitumen per unit quantity of work (Quintals)
<b>SURFACE DRESSING</b>			
16.25	Surface dressing on new surface with paving bitumen of grade VG -10.	sqm	0.0225
16.26	Surface dressing on new surface in two coats with bitumen of grade VG -10.	sqm	0.029
16.27	Surface dressing on old surface with hot bitumen of grade VG -10.	sqm	0.0195
16.28	Surface dressing one coat on new surface :		
	16.28.1 Using bitumen emulsion	sqm	0.0195
16.29	Surface dressing one coat on old surface :		
	16.29.1 Using bitumen emulsion	sqm	0.0122
<b>PREMIX CARPET</b>			
16.30	Providing and applying tack coat with bitumen of grade VG-10 :		
	16.30.1 On W.B.M. @ 0.75 Kg / sqm	sqm	0.0075
	16.30.2 On bituminous surface @ 0.50 Kg / sqm	sqm	0.0050
16.31	Providing and applying tack coat using bitumen emulsion (Rapid Setting):		
	16.31.1.1 On W.B.M @ 0.4kg/sqm	sqm	0.0040
	16.31.1.2 On bituminous surface @ 0.25kg/sqm	sqm	0.0025
16.32	2 cm premix carpet surfacing with paving asphalt VG-10/ VG-30/modified bitumen CRMB 55.	sqm	0.0144
16.33	2.5 cm premix carpet surfacing with paving asphalt VG-10/ VG-30/modified bitumen CRMB 55.	sqm	0.018
16.34	2 cm premix carpet surfacing with bitumen emulsion.	sqm	0.0255*
16.35	2.5 cm premix carpet surfacing with bitumen emulsion.	sqm	0.0313*
16.36	Providing and laying Bitumen Penetration Macadam :		
	16.36.1 For 50mm compacted thickness with paving asphalt VG-10 @ 50 kg/10 sqm	sqm	0.050
	16.36.2 For 75 mm compacted thickness in two layers with paving asphalt VG-10 @ 68 kg/10 sqm	sqm	0.068
<b>MASTIC AND BITUMASTIC WEARING COURSE</b>			
16.37	Providing and laying bitumen mastic wearing course:		
	16.37.1 25 mm thick	sqm	0.0588
	16.37.2 40 mm thick	sqm	0.0941

*COEFFICIENTS FOR BITUMEN CONSUMPTION S.H. : 16.0 ROAD WORK*

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity of bitumen per unit quantity of work (Quintals)</b>
16.38	2.5 cm thick bitumastic sheet with hot bitumen, paving asphalt VG-10/VG-30/modified bitumen CRMB 55.	sqm	0.0303
16.39	4 cm thick bitumastic sheet with hot bitumen, paving asphalt VG-10/VG-30/modified bitumen CRMB 55.	sqm	0.0479
<b>SEAL COAT</b>			
16.40	P/L seal coat using 128 kg of bitumen of grade VG-10.	sqm	0.0077
16.41	P/L seal coat using 98 kg of bitumen of grade VG-10.	sqm	0.0098
16.54	P/L Dense Bituminous macadam :		
16.54.1	50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	1.1538
16.54.2	50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	1.1538
16.55	Providing and laying Bituminous Macadam.		
16.55.1	50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 3.50% (percentage by weight of total mix) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	0.7683
16.55.2	50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 3.50% (percentage by weight of total mix) prepared in Drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	0.7683
16.56	Providing and laying Semi Dense Bituminous concrete		
16.56.1	25 mm compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	100 sqm	2.8846
16.56.2	25 mm compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Drum Type Hot Mix Plant of 60-90 TPH capacity.	100 sqm	2.8846

**COEFFICIENTS FOR BITUMEN CONSUMPTION S.H. : 16.0 ROAD WORK**

<b>Code No.</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity of bitumen per unit quantity of work (Quintals)</b>
16.57	P/L Bituminous Concrete :		
16.57.1	40/50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix)and lime filler @ 3% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100- 120 TPH capacity.	cum	1.2958
16.57.2	40/50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) and waste plastic additive @ 8% (percentage by weight of bitumen) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	1.2958
16.57.3	40/50 mm compacted thickness with bitumen of grade PMB-40 @ 5.5% (percentage by weight of total mix)and lime filler @ 3% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	1.2958
16.57.4	40/50 mm compacted thickness with bitumen of grade CRMB-60 @ 5.5% (percentage by weight of total mix)and lime filler @ 3% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	cum	1.2958
16.57.5	40/50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix)and lime filler @ 3% (percentage by weight of Aggregate) prepared in drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	1.2958
16.57.6	40/50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix)and lime filler @ 3% (percentage by weight of Aggregate) and waste plastic additive @ 8% (percentage by weight of bitumen) prepared in drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	1.2958
16.57.7	40/50 mm compacted thickness with bitumen of grade PMB-40 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	1.2958
16.57.8	40/50 mm compacted thickness with bitumen of grade CRMB-60 @ 5.5% (percentage by weight of total mix)and lime filler @ 3% (percentage by weight of Aggregate) prepared in Drum Type Hot Mix Plant of 60-90 TPH capacity.	cum	1.2958

\* Including tack coat

## 2.0 COEFFICIENTS FOR BITUMEN CONSUMPTION

### 22.0 WATER PROOFING

Code No.	Description	Unit	Quantity of bitumen per unit quantity of work (Quintals)
<b>SURFACE DRESSING</b>			
22.3	P/L water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like..	sqm	0.0170
22.6	P/L water proofing treatment on roofs with cement slurry & fibre glass cloth.	sqm	0.0097
22.8	P/L four courses water proofing treatment with bitumen felt over roofs:		
	22.8.1 Bitumen felt (hessian base) type 3 grade I	sqm	0.0290
22.9	P/L six courses water proofing treatment with bitumen felt over roofs applied hot @ 1.45, 1.20 & 1.45 for 1st, 3rd and 5th course.	sqm	0.041
22.10 & 22.11	P/L six courses water proofing treatment with bitumen felt over roofs applied hot @ 1.45, 1.20 & 1.70 for 1st, 3rd and 5th course.	sqm	0.0435
22.15	P/L in situ seven course water proofing treatment with APP (1.5 mm thick @ 2.25 kg./sqm).	sqm	0.036
22.16	P/L in situ five course water proofing treatment with APP (2.00 mm thick @ 3.00 kg./sqm).	sqm	0.024
22.17	P/L in situ seven course water proofing treatment with APP (2.00 mm thick @ 3.00 kg./sqm).	sqm	0.0360
22.18	P/F APP.		
	22.18.1 2 mm (for corrugated roof sheets)	sqm	0.0035
22.19	P/L APP modified prefabricated five layer, 3 mm thick water proofing membrane. Tear strength in longitudinal and transverse direction as 60/80N.		
	22.19.1 3 mm thick	sqm	0.0035
22.20	P/L APP modified prefabricated five layer 3 mm thick water proofing membrane. Tear strength in longitudinal and transverse direction as 300/250N.		
	22.20.1 3 mm thick	sqm	0.0035



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