
SUB HEAD : 5.0
REINFORCED CEMENT
CONCRETE

BCD Analysis of Rates 2022

BUILDING WORK 5.0 Reinforced cement concrete

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.1	Providing and laying in position specified Mix of reinforced cement concrete excluding the cost of centring,shuttering.finishing and reinforcement-All work upto plinth level					
5.1.1	1:1:2 (1 cement:1 coarse sand:2 graded stone aggregate 20mm nominal size)					
	Details for cost of 1 cum					
	Materials:					
	Cement concrete 1:1:2	cum	1.00	3371.68	(4.1.1-A)	3371.68 (A)
	Labour:					
	Mason	per day	0.17	369.00	(0155)	62.73 (B')
	Beldar	per day	2.00	306.00	(0114)	612.00 (B')
	Bhisti	per day	0.90	332.00	(0101)	298.80 (B')
	Mixer	Per day	0.07	800.00	(0002)	56.00 (B')
	Vibrator	Per day	0.07	350.00	(0012)	24.50 (B')
	Sundries	LS	14.30	2.12	(9999)	30.32 (B')
	Total					1084.35 (B)
	Total (A)+(B)					4456.02
	Add for water charges @ 1 %					44.56
	Total					4500.58 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					632.33
	Total					5132.91 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					769.94
	Cost of 1 cum					5902.85
	Add labour cess @ 1%					59.03
	Rate including labour cess					5961.88
			Say	₹5961.90		per cum
5.1.2	1:1:5:3(1 cement:1.5 coarse sand:3 graded stone aggregate 20 mm nominal size)					
	Details of cost for 1 cum					
	Materials:					
	Cement concrete 1:1:5:3	cum	1.00	2419.77	(4.1.2-A)	2419.77
	Labour: (As 'B' in item no. 5.1.1)					
		cum	1.00	1084.35	(5.1.1-B)	1084.35
	Total					3504.12
	Add for water charges @ 1 %					35.04
	Total					3539.16 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					497.25
	Total					4036.41 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					605.46
	Cost of 1 cum					4641.87
	Add labour cess @ 1%					46.42
	Rate including labour cess					4688.29
			Say	₹4688.30		per cum
5.1.3	1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size)					


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Details of cost for 1 cum-					
	Material:					
	Cement concrete 1:2:4 Labour:	cum	1.00	2079.05	(4.1.3-A)	2079.05
	(As 'B' in item no. 5.1.1)	cum	1.00	1084.35	(5.1.1-B)	1084.35
	Total					3163.40
	Add for water charges @ 1%					31.63
	Total					3195.03 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					448.90
	Total					3643.93 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					546.59
	Cost of 1 cum					4190.53
	Add labour cess @ 1%					41.91
	Rate including labour cess					4232.44
	Say			₹4232.40		per cum

5.2 Reinforced cement concrete work in wall (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts, etc. upt floor five level excluding cost of centring, shuttering, finishing and reinforcement.

5.2.1 1:1:2 (1 cement: 1 coarse sand: 2 graded stone aggregate 20 mm nominal size)

Details of cost for counterfort

Retaining wall 4.5 m high and 6 m long.

Base-1x6x1.5x0.2 =1.80 cum

Heel- 1x6x0.3x0.2 =0.36 cum

1x6x0.3x0.3 =0.45 cum

Stem-1x6x4.3x0.2(Avg) =5.16 cum

Triangular

counter forts-2x1/2x4.4x1.5x0.2=1.32 cum

9.18 cum

Materials:

Cement concrete 1:1:2

Labour: cum 9.18 3371.68 (4.1.1-A) 30951.98 (A)

Bejdar per day 11.29 306.00 (0114) 3454.74 (B')

Coolie per day 7.53 318.00 (0115) 2394.54 (B')

Bhishiti per day 8.26 332.00 (0101) 2742.32 (B')

Mason 1st class per day 0.92 413.00 (0123) 379.96 (B')

Mason 2nd class per day 0.92 369.00 (0124) 339.48 (B')

Mixer Per day 0.64 800.00 (0002) 512.00 (B')

Vibrator Per day 0.64 350.00 (0012) 224.00 (B')

Sundries LS 131.82 2.12 (9999) 279.46 (B')

Scaffolding LS 420.03 2.12 (9999) 890.46 (B')

Total 11216.96 (B)

Extra labour for lifting of material upto floor V level:

(0.75x9.18x2.5)=17.21

Coolie per day 17.21 318.00 (0115) 5472.78 C

Total (A+B+C) 47641.72

Add for water charges @ 1% 476.42

Total 48118.14 (X)

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add GST 12% on "X"(multiplying factor 0.1405)					6760.60
	Total					54878.74 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					8231.81
	Cost of 9.18 cum					<u>63110.55</u>
	Cost of 1 cum					6874.79
	Add labour cess @ 1%					68.75
	Rate including labour cess					6943.54
	Say			₹6943.50		per cum
5.2.2	1:1:5:3(1 cement:1.5 coarse sand.3 graded stone aggregate 20mm nominal size)					
	Details of cost for 9.18 cum					
	Materials:					
	Cement concrete 1:1:5:3					
	Labour:	cum	9.180	2419.773	(4.1.2-A)	22213.52 (A)
	(As 'B' in item No. 5.2.1)	cum	1.000	11216.962	(5.2.1-B)	<u>11216.96 (B)</u>
						33430.48
	Extra labour for lifting of material upto floor V level: (0.75x9.18x2.5)=17.21					
	Coolie	per day	17.21	318.00	(0115)	5472.78
	Total					38903.26
	Add for water charges @ 1 %					<u>389.03</u>
	total					39292.29 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					5520.57
	Total					44812.86 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					6721.93
	Cost of 9.18 cum					<u>51534.79</u>
	Cost of 1 cum					5613.81
	Add labour cess @ 1%					56.14
	Rate including labour cess					5669.95
	Say			₹5670.00 per cum		
5.2.3	1:2:4(1 cement :2 coarse sand:4 graded stone aggregate 20 mm nominal size)					
	Details for cost of 9.18 cum					
	Material: Cement concrete 1:2:4	cum	9.180	2079.053	(4.5.3-A)	19085.70 (A)
	Labour:	cum	1.000	11216.962	(5.2.1-B)	<u>11216.96 (B)</u>
	(As'B'in item.No. 5.2.1)					30302.67
	Extra labour for lifting of material upto floor V level: (0.75x9.18x2.5)=17.21					
	Coolie	per day	17.21	318.00	(0115)	5472.78
	Total					35775.45
	Add for water charges @ 1 %					<u>357.75</u>
	Total					36133.20 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					5076.71


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Total					41209.92 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					6181.49
	Cost of 9.18 cum					47391.40
	Cost of 1 cum					5162.46
	Add labour cess @ 1%					51.62
	Rate including labour cess					5214.08
	Say					₹5214.10 per cum

- 5.3 Reinforced cement concrete work in beams, suspended floors, roofs having slope upto 15°, landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases upto floor five level excluding the cost of centring, shuttering, finishing and reinforcement with 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size).**

Details of cost for 1 cum

Materials:

Cement concrete 1:2:4	cum	1.000	2079.053	(4.1.3-A)	2079.053 (A)
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Labour:

Mason	per day	0.240	369.000	(0155)	88.560 (B)
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Beldar	per day	2.750	306.000	(0114)	841.500 (B)
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Bhishti	per day	0.900	332.000	(0101)	298.800 (B)
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Mixer	Per day	0.080	800.000	(0002)	64.000 (B)
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Vibrator	Per day	0.080	350.000	(0012)	28.000 (B)
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Sundries	LS	14.300	2.120	(9999)	30.316 (B)
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Extra labour for lifting material upto floor V level					1351.176 (B)
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(2.5x0.75)=1.88

Coolie	per day	1.880	318.000	(0115)	597.840 C
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Total (A+B+C)

4028.069

Add for water charges @ 1 %

40.281

Toatal

4068.349

Add GST 12% on "X" (multiplying factor 0.1405)

571.60

Total

4639.95 (Y)

Add for contractor's profit and over-heads

695.99

@ 15% on "Y"

Cost of 1 cum

5335.945

Add labour cess @ 1%

53.36

Rate including labour cess

5335.95

Say ₹5335.90 per cum

- 5.4 Providing and laying upto floor five level reinforced cement concrete in kerbs, steps and the like excluding the cost of centring, shuttering, finishing and reinforcement with 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 20mm nominal size).**

Details of cost for 1 cum

Cement Concrete 1:2:4

(Rate as per item No, 4.4.1)

cum	1.000	3958.527	(4.4.1)	3958.527 (A)
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Labour:

Extra labour for laying CC in RCC work

Beldar	per day	0.100	306.000	(0114)	30.600 (B)
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Bhishti	per day	0.200	332.000	(0101)	66.400 (B)
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Mason 1st class	per day	0.040	413.000	(0123)	16.520 (B)
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Mason 2nd class	per day	0.040	369.000	(0124)	14.760 (B)
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Mate	per day	0.040	325.000	(0128)	13.000 (B)
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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Extra labour for lifting material upto floor V level (2.5x0.75)=1.88					141.280
	Coolie	per day	1.880	318.000	(0115)	597.840
	Total					739.120 (B)
	Add for water charges @ 1 % on B					7.391 (C)
	Total					746.511 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					104.88
	Total					851.40 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					127.71
	Total					979.105 (Z)
	Cost of 1 cum(A+Z)					4937.632
	Add labour cess @ 1%					9.79
	Rate including labour cess					4947.42
	Say					₹4947.40 per cum
5.5	Reinforced cement concrete work in arches, archribs, domes, vaults, shells, folded plate and roofs having slope more than 15° upto floor five level excluding the cost of centring. Shuttering. Finishing and reinforcement with 1:2:4(1 cement:2 coarse sand :4 graded stone aggregate 20mm nominal size)					
	Details of cost for semicircular arch 6 m clear span and 9 m long and 30 cm thick:					
	Details of cost for 26.73 cum					
	Materials:-					
	Cement Concrete					
	1:2:4=1x0.50x3.14x6.30x9.0x0.3=26.73	cum	26.730	2079.053	(4.5.3-A)	55573.081 (A)
	Labour:-					
	Mason	per day	6.420	369.000	(0155)	2368.980 (B)
	Beldar	per day	73.510	306.000	(0114)	22494.060 (B)
	Bhishti	per day	24.060	332.000	(0101)	7987.920 (B)
	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Per day	2.140	800.000	(0002)	1712.000 (B)
	Vibrator (Needle type 40 mm)	Per day	1.871	350.000	(0012)	654.885 (B)
	Sundries	LS	401.89	2.120	(9999)	852.007 (B)
	Extra for laying CC over curved surfaces					
	Mason 1st dass	per day	5.000	413.000	(0123)	2065.000 (B)
	Mason 2nd dass	per day	5.000	369.000	(0124)	1845.000 (B)
	Bhishti	per day	1.500	332.000	(0101)	498.000 (B)
	Coolie	per day	4.500	318.000	(0115)	1431.000 (B)
	Extra labour for lifting material upto floor V level (2.5x0.75x26.73)=50.119					
	Coolie	per day	50.119	318.000	(0115)	15937.76 (B)
	Total (B)					57846.614
	Total (A+B)					113419.70
	Add for water charges @ 1%					1134.197
	Total					114553.893 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					16094.82
	Total					130648.71 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					19597.31
	Cost of 26.73 cum					150246.0


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Cost of 1 cum					5620.876
	Add labour cess @ 1%					56.21
	Rate including labour cess					5677.09
	Say					₹5677.10 per cum

5.6 Reinforced cement concrete work in chimneys shafts, upto floor five level excluding the cost of centring, shuttering, finishing and reinforcement with 1:2:4(1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size)

Details of cost 1 cum

Materials:

R.C.C. 1:2:4 in chimneys & shafts

Rate as per item No.5.2.3

	cum	1.000	5162.462	(5.2.3)	5162.462 (A)
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Labour:

Extra labour involved for lifting materials:

coolie

	per day	0.260	318.000	(0115)	82.680 (B)
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Add for water charges @ 1% on B

0.83

Total

83.51

Add GST 12% on "X"(multiplying factor 0.1405)

11.73

Total

95.24 (Y)

Add for contractor's profit and overhead

14.29

@ 15% on B

Total

109.53

Cost of 1 cum

5271.99

Add labour cess @ 1%

52.72

Rate including labour cess

5324.71

Say Rs. ₹5324.70 per cum

5.7 Reinforced cement concrete work in well-steining excluding the cost of centring,shuttering, finishing and reinforcement with 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size)

Details of cost for 1 cum

RCC 1:2:4 in well steining

Rate as per peritem No. 4.5.3

	cum	1.00	3958.53	(4.1.3)	3958.53 (A)
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Labour:

Extra labour involved

	per day	0.08	318.00	(0115)	25.44 (B)
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Coolie

25.44 (B)

Add for water charges @ 1 % on B

0.25

Total

25.69 (X)

Add GST 12% on "X"(multiplying factor 0.1405)

3.61

Total

29.30 (Y)

Add for contractor's profit and overhead @ 15% on B

4.40

Total

33.70

Cost of 1 cum

3992.23

Add labour cess @ 1%

39.92

Rate including labour cess

4032.15

Say ₹4032.10 per cum

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.8	<p>Reinforced cement concrete work in Vertical and Horizontal fins individually or forming box louvers, facias and eaves boards upto floor five level eciuding the cost of centring, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement:1.5coarse sand: 3graded stone aggregate 20mm nominal size)</p> <p>Details of cost for 4 RCC Vertical fins 4m high and 1m centre with 2 horizontal fins, all projecting 60 cm from face of wall and 5 cm thick=0.66 cum</p> <p>Materials: Cement Concrete 1:1.5:3 4x4x0.60x0.05=0.48 cum 2x3x0.06x0.05=0.18 cum Total=0.66 cum</p> <p>Labour:</p> <p>Beldar per day 0.79 306.00 (0114) 241.74 Coolie per day 0.56 318.00 (0115) 178.08 Bhishti per day. 0.60 332.00 (0101) 199.20 Mason 1st class per day 0.06 413.00 (0123) 24.78 Mason 2nd class per day 0.06 369.00 (0124) 22.14 Scaffolding LS 30.16 2.12 (9999) 63.94 Sundires LS 9.49 2.12 (9999) 20.12 Mixer Per day 0.05 800.00 (0002) 40.00 Vibrator Per day 0.05 350.00 (0012) 17.50 Extra for lifting materials upto floor five level Coolie per day 0.18 318.00 (0115) 57.24 Extra for restricted workin in fins Mason 1st class per day 0.05 413.00 (0123) 20.65 Mason 2nd class per day 0.05 369.00 (0124) 18.45 Beldar per day 0.10 306.00 (0114) 30.60 Bhishti per day 0.15 332.00 (0101) 49.80 Total 2581.29 Add for water charges @ 1% 25.81 Total 2607.10 (X) Add GST 12% on "X"(multiplying factor 0.1405) 366.30 Total 2973.40 (Y) Add .for contractor's profit and over-heads @ 15% on Y 446.01 Cost of 0.66 cum 3419.41 Cost of 1 cum 5180.92 Add labour cess @ 1% 51.81 Rate including labour cess 5232.73</p> <p style="text-align: right;">Say ₹5232.70 per cum</p>		0.66	2419.77	(4.5.3-A)	1597.05
<p>FORM WORK</p> <p>5.9 Centring and shuttering including strutting,propping etc. and removal of form for.</p> <p>5.9.1 Foundations, footings, bases of columns etc. for mass concrete. Details of cost for footing size 2.7mx2.7m 1.00 m Contact area = 10.8 sqm</p>						

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Material:					
	Wall form panel 1250x500 mm	each	16.00	860.00	(7319)	13760.00 (A)
	Corner angle (1.5 m long)	each	4.00	240.00	(7326)	960.00 (A)
	100 mm channel shoulders 2.5 m long	each	8.00	910.00	(7327)	7280.00 (A)
	Double clip (bridge clop)	each	16.00	76.00	(7328)	1216.00 (A)
	Single clip	ea/eh	8.00	59.00	(7329)	472.00 (A)
	MS tube 40 mm					
	4x2.7 m =10.8 m	metre	10.80	215.00	(7330)	2322.00 (A)
	Assembly nuts&bolts	LS	1040.00	2.12	(9999)	2204.80 (A)
	Carriage	LS	78.00	2.12	(9999)	165.36
	Assuming shuttering material will become unserviceable after use of 40 times					28380.16
	Adding for maintenance @ 10% of cost					
	Taking salvage value after full use of material @ 25% of cost					
	Cost for using once					603.08
	Carriage	LS	78.00	2.12	(9999)	165.36
	Labour:					
	Filter Grade-1	per day	0.75	420.00	(0116)	315.00
	Beldar	per day	1.50	306.00	(0114)	459.00
	Shuttering oil	LS	52.00	2.12	(9999)	110.24
	Sundries	LS	26.00	2.12	(9999)	55.12
	Total					1707.80
	Add for water charges @ 1 %					17.08
	Total					1724.88 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					242.35
	Total					
						1967.22 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					295.08
	Cost of 10.8 sqm					2262.30
	Cost of 1 sqm					209.47
	Add labour cess @ 1%					2.09
	Rate including labour cess					211.56
				Say		₹211.60 per sqm

5.9.2 Walls (any thickness) including attached pilasters. Butferesses. plinth and string courses etc.

Materials:

Details for 7.9 m long and 1.00.m high wall

Area of contact 2x7.7x1.0=15.8 sqm

Wall form Panel (1.25x0.5)2x3x2x2=24 Nos	each	24.00	860.00	(7319)	20640.00
100 mm channel shoulder 2.5m long. 4x2=8	each	8.00	910.00	(7327)	7280.00
Bridge clip 2x6x2=24	each	24.00	76.00	(7328)	1824.00
Single clip 2x3x2=12	each	12.00	59.00	(7329)	708.00
M.S. Tube 40 mm 2x2x8 m =32 m	metre	32.00	215.00	(7330)	6880.00
Nut & bolts	LS	1300.00	2.12	(9999)	2756.00
					40088.00

Add maintenance charges @ 10% salvage value of material after full use @ 25% on "A" Assuming

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	shuttering will become unserviceable after use of 40 times					
	Cost for using once					851.87
	Carriage	LS	78.00	2.12	(9999)	165.36
	Labour:	per day	3.50	420.00	(0116)	1470.00
	Fitter Grade-1	per day	6.00	306.00	(0114)	1836.00
	Beldar	LS	30.00	2.12	(9999)	63.60
	shuttering on Sundries	LS	20.00	2.12	(9999)	42.40
	Total					4429.23
	Add for water charges @ 1%					44.29
	Total					4473.52 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					628.53
	Total					5102.05 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					765.31
	Cost of 15.8 sqm					5867.36
	Cost of 1 sqm					371.35
	Add labour cess @ 1%					3.71
	Rate including labour cess					375.06
	Say					₹375.10 per sqm

5.9.3 Suspended floors, roofs, landings, balconies and access platform.

Details of cost for a room
4.50x3=13.50 sqm height 3.5 m

Materials:

- Plates (Size 0.75x0.60)
Angle 40x40x5 mm
2x0.75=1.50 m
2x0.60=1.20 m
= 2.70 m
2.70 m @ 3.00 kg/m = 8.1 kg
sheet 1.6 mm thick
0.75x0.60=0.45 sqm
0.45 sqm @ 12.55 kg/sqm=5.65 kg
Weight of one plate =13.75 kg
Add for wastage @5% =0.69 kg
Total weight of all plates =14.44 kg
5x6x14.44 =433.2 kg
- Adjustable span ESO+SI(2.35-3.40m) each 5.00 1480.00 (7342) 21000.50 (X)
- Adjustable telescopi prop 3 m (2.02-3.75m) each 6.00 955.00 (7343) 7400.00 (X)
5730.00 (X)
- Assembly nut& bolts etc. LS 1040.00 2.12 (9999) 2204.80 (X)

Add for maintenance @ 10% 36335.30

Less salvage value of material after full use @ 25% on X

Assume that shuttering will become unserviceable after use of 40 times

Cost for using once

Carriage	LS	130.00	2.12	(9999)	772.13
Labour:					275.60


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Fitter Grade-1	per day	3.00	420.00	(0116)	1260.00
	Beldar	per day	6.00	306.00	(0114)	1836.00
	Shuttering oil	LS	78.00	2.12	(9999)	165.36
	Sundries, paper tapy etc.	LS	49.70	2.12	(9999)	105.36
	Total					4414.45
	Add for water charge @ 1 % except on x					44.14
	Total					4458.60 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					626.43
	Total					5085.03 (Y)
	Add contractor's profit and overheads charges @15% "Y"					762.75
	Total					<u>5847.79</u>
	Cost of 13.5 sqm					5847.79
	Cost of 1 sqm					433.17
	Add labour cess @ 1%					4.33
	Rate including labour cess					437.50
	Say			₹437.50	per sqm	
5.9.4	Shelves (Cast in situ)					
	Details of cost for 1 sqm					
	Rate same as for item No. 5.14.3	sqm	1.00	433.17	(5.14.3)	433.17
	Cost of 1 sqm					433.20
	Add labour cess @ 1%					4.33
	Rate including labour cess					437.53
	Say			₹437.50	per sqm	
5.9.5	Lintels, beams, plinth bams, griders. bressumers and cantilevers.					
	Consider a beam of 6 m clear span. 0.50 m deep					
	0.30 m wide and height 3.5 m from floor.					
	Cubical contents					
	$6.60 \times 0.5 \times 0.3 = 0.99 \text{ cum}$					
	Area in contact with concrete					
	$1 \times 1.30 \times 6.00 = 7.80 \text{ sqm}$					
	Materials:					
	(i) Steel plates for sides and bottom (plate size=1.20x0.50m)					
	Angle 40x40x5mm					
	$2 \times 1.20 \text{ m} = 2.40 \text{ m}$					
	$3 \times 0.50 = 1.50 \text{ m}$					
	$= 3.90 \text{ m}$					
	$3.90 \text{ m} @ 3.0 \text{ kg/m} = 11.70 \text{ kg}$					
	Sheet 1.6mm thick					
	$1.20 \text{ m} \times 0.50 \text{ m} = 0.60 \text{ sqm}$					
	$0.60 \text{ sqm} @ 12.55 \text{ kg/sqm} = 7.35 \text{ kg}$					
	Weight of one plate = 19.23 kg					
	Add for wastage @ 5% = 0.96 kg					
	$= 20.19 \text{ kg}$					
	Total weight of all plates					
	$3 \times 20.19 = 302.85 \text{ kg}$ or 3.03 q	kg	302.85	87.42	(10.1)	26476.25 (A)
	(ii) Props 3m (adjustable telescopic 2.02-3.75m)	each	6.00	955.00	(7343)	5730.00 (A)

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	(iii) Beam clamp 300 - 380 mm(450-1070mm)	each set	5.00	355.00	(7344)	1775.00 (A)
	(iv) Assembly nut & bolts etc.	LS	1040.00	2.12	(9999)	2204.80 (A)
	Add for maintenance @ 10%					36186.05
	Less salvage value of material after full use @ 25% on'A'					
	Adduming that shuttering will become unserviceable after use of 40 times					
	cost for using once					768.95
	Carriage	LS	78	2.12	(9999)	165.36
	Labour:					
	Fiter Grade-1	per day	1.25	420.00	(0116)	525.00
	Beldar	per day	2.50	306.00	(0114)	765.00
	Shuttering oil	LS	39.00	2.12	(9999)	82.68
	Sundries paper tape etc.	LS	24.61	2.12	(9999)	52.17
	Tptal					2359.17
	Add for water charges @ 1 %					23.59
	Total					2382.76 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					334.78
	Total					2717.54 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					407.63
	Cost of 7.8 sqm					3125.17
	Cost of 1 sqm					400.66
	Add labour cess @ 1%					4.01
	Rate including labour cess					404.67
	Say					₹404.70 per sqm

5.9.6 Columns.Pillars, Piers, Abutments, Posts and Struts

Details of cost for

Size of column 450x450mm and 2.5 m high

Area of contact = $4 \times 0.45 \times 2.5 = 4.5$ sqm

Materials:

Wall form pannel (1250X450)	Each	8	860.00	(7331)	6880.00 A
Comer angle 2.5m long	Each	4	255.00	(7332)	1020.00 A
Coloumn clmp (450-1070mm)	Each	5	965.00	(7333)	4825.00 A
Prop. 2m(2.0-3.5m)	Each	4	635.00	(7334)	2540.00 A
Assembly nut & bolt	LS	1300	2.12	(9999)	2756.00 A
Total A				Total A	18021.00

Add for maintenance charges @ 10%

Less salvage, value of material after full use @ 25% on 'A'

Assume shuttering will become unserviceable after use of 40 times

Cost for using once

Carriage	LS	52	2.12	(9999)	110.24
Labour:					
Filter Grade-1	Per day	1	420.00	(0116)	420.00
Beldar	Per day	2	306.00	(0114)	612.00
Shultering oil	LS	39	2.12	(9999)	82.68


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Sundirs	LS	26	2.12	(9999)	55.12
				Total		1662.99
	Add for water charges @ 1%					16.63
	Total					1679.62 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					235.99
	Total					1915.60 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					287.34
	cost of 4.5 sqm					2202.94
	cost of 1sqm					489.54
	Add labour cess @ 1%					4.90
	Rate including labour cess					494.44
	Say			₹494.40 per sqm		

5.9.7 Stairs (excluding landings) except spiral staircases

Details of cost for 5.70 sqm						
Details of staircase, 3.40m clear span including 1 m landing						
Materials:						
(i) Cost of plank 38m (2nd class Kail wood)						
Waist 2.68 X 1.30 = 3.50 sqm						
side shuttering of steps and side of waist						
step = 8X1.30X0.15 = 1.56 sqm						
Face of landing						
1X1.30X0.15=0.20sqm						
Side of waist						
2.69X0.13=0.35sqm						
side of steps						
8X0.50X0.30X0.15=0.18sqm						
Total=5.789sqm						
wastage 5% =0.29sqm						
Total=6.08sqm						
	cubical content-6.80x0.038=0.231 cum = 231 cum	10 cudm	23.1	260.00	(1198)	6006.00
(ii) Batten 100mmx 75mm (2nd class kail wood in scanting)						
	4x1.30x0.100x0.075=0.039cum=39dm3	10 cudm	3.9	260.00	(1197)	1014.00
(iii) Safeda Ballies 125mm dia						
	2x4x0.80=6.40m	metre	6.4	40.00	(0302)	256.00
Carriage of timber-planks = 0.231 cum						
Battens =0.039 cum						
	Ballies 6.4xP (1/4x(0.132) ² =0.079CUM					
	'= 0.349 cum	cum	0.349	187.35	(2204)	65.39
Assuming that the timber shall become unserviceable after being used 8 times						
	Cost of using one					7341.39
	Labour					917.67

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	For assembling, erection, dismantling and cleaning					
	Carpenter	per day	1.75	369.00	(0112)	645.75
	Beldar	per day	1.00	306.00	(0114)	306.00
	Sundries	LS	16.12	2.12	(9999)	34.17
						1903.60
	Add for water charges @ 1 %					19.04
	Total					1922.63 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					270.13
	Total					2192.76 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					328.91
	Cost of 5.79 sqm					2521.68
	Cost of 1 sqm					435.52
	Add labour cess @ 1%					4.36
	Rate including labour cess					439.88
				Say		₹439.90 per sqm

5.9.8 Spiral staircases (including landing)

Details cost for 6.28 sqm (For 10 steps)

Treads						
10x0.70x0.20 (av)=1.40 sqm	sqm	1.40	400.66	(5.9.5)		560.92
Riser						
2x10x0.70x0.23=3.22 sqm (Rate as per item No. 5.9.2)	sqm	3.22	371.35	(5.9.2)		1195.75
Newal post (Column) 10xn0.232=1.66 sqm	sqm	1.66	435.52	(5.9.7)		722.96

(Rate as per item NO. 5.9.7)

Cost of 6.2 sqm						2479.64
Cost of 1 sqm						399.94
Add labour cess @ 1%						4.00
Rate including labour cess						403.94

Say ₹403.90 per sqm

5.9.9 Arches, domes, vaults upto 6m span

Details of cost for a semicircular arch 3.6 m clear

span and 3.6 m long

Area of centring=22x1.8x3.6=20.37 sqm

Materials:

Frame work in 2nd class kail wood

Tie-1x3.6x0.15x0.20=0.108 cum

Struts-3x1.8x0.10x0.10=0.054 cum

Struts-2x2.55x0.10x0.10=0.051 cum

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Ribs $4 \times 1.38 \times 0.075 = 0.031$ cum					
	Total = 0.244 cum					
	Quantity for 7 such frames $7 \times 0.244 = 1.708$ cum					
	Strips 5 cm x 2.5 cm = 7.5 cm centre to centre					
	$5.66 / 0.07 \times 0.05 \times 0.025 \times 3.6 = 0.342$ cum					
	Total = 2.050 cum	10 cum	2050.00	260.00	(1197)	53300.00 (X)
	Safeda Balli supports 12.5 cm dia					
	$7 \times 4 \times 3.6 = 100.8$ m	metre	100.80	40.00	(0302)	4032.00 (X)
	G.I. plain sheet 20.37 sqm m 116 kg or 1.16 quintal	quintal	1.16	210.00	(0992)	243.60 (X)
	Carriage- Kail wood = 2.05 cum					
	Ballies = $100.8 \times (125)^2 / 4 \times \pi = 1.25$ cum / 3.29 cum	cum	3.29	187.35	(2204)	616.38
	G.I. Sheet = 0.116t	tonne	0.12	145.72	(2302)	17.49
	Assuming this centring will become unserviceable after being used 8 times					58209.47
	Cost of using once					7276.18
	Labour					
	Carpenter II class	per day	16.00	369.00	(0112)	5904.00
	Beldar	per day	13.00	306.00	(0114)	3978.00
	Sundries	LS	11.700	2.120	(9999)	24.80
	Total					17182.99
	Add for water charges @ 1 %					171.83
	Total					17354.82 (M)
	Add GST 12% on "M" (multiplying factor 0.1405)					2438.35
	Total					19793.17 (N)
	Add for contractor's profit and over-heads @ 15% on N					2968.98
	Cost of 20.37 sqm					22762.145
	Cost of 1 sqm					1117.435
	Add labour cess @ 1%					11.17
	Rate including labour cess					1128.60
	Say			₹1128.60	per sqm	

5.9.10 **Extra for arches, domes, vaults exceeding 6 m span**
 Details of cost per sqm.
 Centring and shuttering for arches and carved surface exceeding 5 m in span (an average of 8 m)
 Radius R=5m $2R-2=4+4$
 $\tan^{-1}(4/3)=53.28^\circ$
 $2 \times 53.28^\circ = 106^\circ$
Surface area = $2 \times 22/7 \times 3.6 \times 106/360 = 33.31$ sqm
 Arc = 9.25 m
 Materials:
 Tie- $2 \times 8 \times 0.18 \times 0.05 = 0.144$ cum

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Struts-2x2.5x0.1x0.1=0.050 cum					
	Struts-2x1.77x0.1x0.1 =0.035 cum					
	Ribs-6x1.54x0.23x0.1=0.213 cum					
	Struts -2x1.72x0.1x0.1=0.034 cum					
	Total =0.476 cum					
	For four such frames=0.476x4=1.904 cum					
	laggings-75x3.6x0.12x0.075=2.531 cum					
	Tie-2x3.6x0.225x0.038=0.062 cum					
	Brace-3x2x2.14x0.225x0.038=0.110					
	Brace-3x4x3.8x0.225x0.038=0.390					
	Steepeis-4x3.6x0.20x0.15=0.432					
	Sleepers-2x4x3.6x0.175x0.075=0.378					
	Vertical post-4x4x3.6x0.15x0.15=1.296					
	Total =7.103 cum or 7103 cudm	10cudm	7103.00	260.000	(1197)	184678.00
	Carrage of wood	cum	7.103	187.350	(2204)	1330.75
	Fittings:					
	3 way straps 50 mm x10mm =32 Nos.					
	32 no. @ 0.50 cu each--16 m					
	Straps-50mmx10mm=8 Nos. @0.25 cm					
	each=2m / 18m					
	18m. wt @ 3.9 kg/m=70.2kg=0.702 q	quintal	0.702	4120.000	(1225)	2892.24
	Boltls 160 Nos. 254 mm long 16 mm dia.					
	160x.254x1.58=64.21 kg=0.64 q.	quintal	0.640	5200.000	(1034)	3328.00
	Carriage of steel=0.1342 t	tonne	0.134	145.720	(2302)	19.56
	Total					192248.54
	1/8th of the cost of using once					24031.068
	Labour:					
	Carpenter 2nd class	per day	28.000	369.000	(0112)	10332.00
	Beldar	per day	24.000	306.000	(0114)	7344.00
	Sundries	LS	134.550	2.120	(9999)	285.25
	Total					41992.31
	Add for water charges @ 1 %					419.92
	Total					42412.24 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					5958.92
	Total					48371.16 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					7255.67
	Cost of 33.31 sqm					55626.83
	Cost of 1 sqm					1669.97
	Cost of shuttering etc. for an arch exceeding 6m					
	span i.e. for an average of 8m span					1669.97 (Y)
	Cost of shuttering etc. for an arch of 3.6 m span an average for arches upto 6m span)same as per item No. 5.9.9)	sqm	1.00	1117.43	(5.9.9)	1117.43 (Z)
	Defference of cost (Y-Z)					552.54 (A)
	Add labour cess @ 1%					5.53
	Rate including labour cess					558.07
	Extra cost per sqm of soffit area=Rs. Per sqm.			Say	₹558.10 per sqm	


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.9.11	Chimneys and shafts Rate same as per item No. 4.3.2			608.80	per sqm	
5.9.12	Well steining Details of cost for 26.39 sqm Surface area Outside area= $11 \times 4.40 \times 1.00 = 13.82$ sqm inside area= $11 \times 4.00 \times 1.00 = 12.57$ sqm =26.39 sqm Planks 38 mm (second class kail wood) $26.39 \times 0.038 = 1.00$ cum Wastage 20% =0.20 cum =1.20 cum or 1200 cudm 2nd class kail wood battens Inside= $2 \times 25 \times P 50 \times 0.075 \times 0.038 = 0.0712$ cum Outside= $2 \times 280.50 \times 0.075 \times 0.038 = 0.0798$ -cum =0.1510 cum Wastage 5% =0.0076 am / 0.1586 cum or.158.6 cudm Safeda baillies 125 mm dia Inside: $25 \times 1.00 = 25.00$ m Outside: $28 \times 1.00 = 28.00$ m =53.00m Assuming that the timber will become unserviceable after being used 8 times cost of using once Add for carriage.labour for erection and Dismantling etc.@ 1/6th of the cost of material Add for water charges @ 1% Total Add GST 12% on "X"(multiplying factor 0.1405) Total Add for contractor's profit and over-heads @ 15% on "Y" Cost of 26.39 sqm Cost of 1 sqm Add labour cess @ 1% Rate including labour cess	10 cudm	120.00	260.00	(1198)	31200.00 P
		10 cudm	15.85	260.000	(1197)	4121.00 Q
		metre	53.00	40.00	(0302)	2120.00 R
						37441.00 (X)
						4680.13
						780.02
						54.60
						5514.747 (X)
						774.82
						6289.57 (Y)
						943.44
						7233.00
						274.08
						2.74
						276.82
				Say	₹276.80 per sqm	
5.9.13	Vertical and horizontal fins individually or forming box louvers band, facias and eaves boards Details of cost for fins 4 vertical fins 4 metre high and at 1 metre centres, with two horizontal fins all projecting 60 cm from face of wall and 5 cm thick-i.e. $4 \times 4 \times 1.25 + 2 \times 3 \times 65 = 23.90$ sqm Materials: (i) Planks 2nd class kail wood and 38 mm thick- $4 \times 4 \times 1.25 = 20.00$ $23 \times 0.65 = 3.90 / 23.90$ Wastage @ 5% = 1.20 =25.10 sqm $25.10 \times 0.038 = 954$ cum or 954 cudm (ii) Battens (2nd class kail wood)- $4 \times 2 \times 5 \times 0.60 \times 0.075 \times 0.050 = 0.090$ $3 \times 2 \times 5 \times 1.00 \times 0.075 \times 0.050 = 0.112$	10 cudm	95.40	260.00	(1198)	24804.00

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	2x6x0.60x0.075x0.100					$\frac{=0.054}{=0.256}$
	Wastage @ 5%					$\frac{=0.013}{=0.269}$
	or 269 cum	10 cum	26.90	260.00	(1197)	6994.00
	(iii) Safeda Bailies 125 mm dia-2x2x6x4.00=96 m					
	Wastage @ 5%					$\frac{=4.8m}{=100.8 m}$
	(iv) Carriage timber- Planks =0.954 Battens =0.269 Ballies $100.3x(.125)^2/4P = 1.238cum = 1.238/2.461$ cum	metre	100.80	40.00	(0302)	4032.00
	Assuming that timber shall become unserviceable after being used 8 times Cost of using once	cum	2.46	187.35	(2204)	461.07
	Labour: For assembling, erection, dismantling and cleaning					36291.07 (X) 4536.38
	Carpenter 2nd class	per day	11.00	369.00	(0112)	4059.00
	Beldar	per day	11.00	306.00	(0114)	3366.00
	Sundries	LS	80.73	2.12	(9999)	171.15
	Total					12132.53
	Add for water charges @ 1%					121.33
	Total					12253.86 (Z)
	Add GST 12% on "Z" (multiplying factor 0.1405)					1721.67
	Total					13975.52 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					2096.33
	Cost of 25.1 sqm					16071.85
	Cost of 1 sqm					640.31
	Add labour cess @ 1%					6.40
	Rate including labour cess					646.71
	Say					₹646.70 per sqm

5.9.14 Extra for shuttering in circular work (20% of respective centring and shuttering items)

Details of cost for 1 sqm

Extra for shuttering in circular work 20% of respective centring and shuttering x 20 = 1 x 20

20.00

20.00

Cost of 1 sqm

20.00

Add labour cess @ 1%

0.20

Rate including labour cess

20.20

Say ₹20.20 per sqm

5.9.15 Small lintels not exceeding 1.5 m clear span, mouldings as in cornices, window sills, string, courses, bands, copings, bed plates, anchor blocks and the like.

Analysis of rates is same as item No, 4.9.1
Foundations, footings, bases Columns


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
Details of cost for footing size 2.7 m x 2.7 m x 1.00m Contact area=10.8 sqm						
Material:						
	Wall form panel 1250 x 500 mm	each	16.00	860.00	(7319)	13760.00 (A)
	Corner angle (1.5 m long)	each	4.00	240.00	(7326)	960.00 (A)
	100 mm channel shoulders 2.5 m long	each	8.00	910.00	(7327)	7280.00 (A)
	Double clip (bridge clip)	each	16.00	76.00	(7328)	1216.00 (A)
	Single clip	each	8.00	59.00	(7329)	472.00 (A)
						23688.00
	M/S tube 40 mm 4x2.7 m= 10.8 m	metre	10.80	215.000	(7330)	2322.00 (A)
	Assembly nuts & bolts	LS	1040.00	2.120	(9999)	2204.80
	Add for maintenance @ 10% on all Less salvage value, after full use of materials @ 25% on 'A'					28214.800
	Assuming, shuttering of material will become Unserviceable after use of 40times					
	Cost for using once					705.370
	Carriage	LS	78.000	2.120	(9999)	165.36
	Labour.					
	Fitter Grade-1	per day	0.750	420.000	(0116)	315.00
	Beldar	per day	1.500	306.000	(0114)	459.00
	Shuttering oil	LS	52.000	2.120	(9999)	110.24
	sundries	LS	26.000	2.120	(9999)	55.12
	Total					1810.090
	Add for water charges @ 1 %					18.101
	Total					1828.191 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					256.86
	Total					2085.05 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					312.76
	Cost of 10.8 sqm					2397.809
	Cost of 1 sqm					222.019
	Add labour cess @ 1%					2.22
	Rate including labour cess					224.24
	Say					₹224.20 per sqm

5.9.16 Edges of slabs and breaks in floors and walls-

5.9.16.1 Under 20 cms wide

Considers 3mx3mx slab 15cms thick 12m edge

Length

Materials:

(i) Planks 30 mm thick (2nd class kail wood or equivalent local soft wood)

4x3x0.15x0.030 =0.045 cum

Wastage @ 5% =0.003 cum

=0.057 cum

10 cudm 5.700 260.000 (1198) 1482.00 (X)

(ii) Battens 75 mm x 100mm (2nd class kail wood)

Horizontal 2x4x0.075x0.1x0.5=0.030

Horizontal 2x4x0.075x0.1x1.5=0.090

(iii) Vertical battens

16x0.15x0.075x0.030m. 1=0.0054

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	(iv) Struts					
	16x0.25x0.075x0.075 =0.0225					
	=0.1479					
	Wastage @ 5% =0.0074					
	=0.01553 cum					
	0.155 cum	10 cudm	15.500	260.000	(1197)	4030.00
	Carriage of timber					
	Planks=0.057 cum					
	Battens=0.155 cum					
	0.212 cum	cum	0.212	121.880	(2204)	25.84
	Assuming that the timber will become unseviceable after being used 8 times					5537.839 (X)
	Cost of using once					692.230
	Labour:					
	For assembling erection dismantling & cheaning					
	Carpenter lind class	per day	0.810	369.000	(0112)	298.89
	Mazdoor (Male)	per day	0.54	306.000	(0114)	165.24
	Sundries	LS	5.20	2.12	(9999)	11.02
	Total					1167.38
	Add for water charges @ 1%					11.67
	Total					1179.06 (X)
	Add GST 12% on "Z"(multiplying factor 0.1405)					165.66
	Total					1344.72 (Y)
	Add for contractor's profit and over-heads @ 15% on"Y".					201.71
	Cost of 12 m					1546.42
	Cost of 1 m					128.87
	Add labour cess @ 1%					1.29
	Rate including labour cess					130.16
				Say		₹130.20 per m

5.9.16.2 Above 20cm wide

Consider a 4mx4xslab 25cms thick 16 metre edge length

Materials:

(i) Planks 38mm thick

4x4x0.25x0.038 =0.152

Wastage @5% =0.008

=0.160 cum

10 cudm 16 260.000 (1198) 4160.00

(ii) Battens

6x2x0.6x0.075x0.100 =0.054

5x2x1.5x0.075x0.100 =0.113

=0.167

Wastage @ 5% =0.008

=0.175 cum

10 cudm 17.5 260.000 (1197) 4550.00

Carriage of timber

Planks =0.16 cum

Battens=0.175 cum


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BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	0.335 cum	cum	0.335	121.880	(2204)	40.83
	Assuming that the timber will become unserviceable after being used 8 times.					8750.83
	Cost of using once					1093.85
	Labour:					
	For assembling erection, dismantling and cleaning					
	Carpenter II class	per day	1	369.000	(0112)	369.00
	Mazdoor (Male)	per day	0.75	306.000	(0114)	229.50
	Sundries	LS	6.5	2.120	(9999)	13.78
	Total					1706.13
	Add for water charges @ 1 %					17.06
	Total					1723.20 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					242.11
	Total					1965.30 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					294.80
	Cost of 4 sqm					2260.10
	Cost of 1 sqm					565.02
	Add labour cess @ 1%					5.65
	Rate including labour cess					570.67
	Say					₹570.70 per sqm

5.9.17 Cornices and mouldings

Details of cost for 10m long moulding 10cm

projection, 20cm depth and 40 cm girth

Area in contact $10 \times 0.4 = 4.0$ sqm

Materials:

(i) Planking 30mm thick = 4 sqm.

Extra & Wastage 20% = 0.8 sqm

= 4.8 sqm

$4.8 \times 0.038 = 0.182$ cum

10 cudm 18.2 260.00 (1198) 4732.00

(ii) Battens-Joining to Planking

$1 \times 10 \times 0.1 \times 0.075 = 0.075$ cum

From bottom shuttering

$10 \times 1.5 \times 0.1 \times 0.075 = 0.113$ cum

4732.00

Wales

$10 \times 0.4 \text{m} \times 0.1 \times 0.075 = 0.030$ cum

= 0.218 cum

10 cudm 21.80 260.00 (1197) 5668.00

(iii) Bailies 125 mm dia.

Slant $10 \times 0.3 = 3$ m

ver. $6 \times 3.5 = 21.0$ m

= 24.0 m

Wastage @ 5% = 1.0 m

= 25.2 m

25.20 36.00 (2447) 907.20

Carriage:

Planking = 0.188 cum

Battens & Wales = 0.218 cum

Bailies

$25.2 \times 22/7 \times (0.125)/4 = 0.310$ cum

BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	= 0.710 cum	Cum	0.71	187.35	(2204)	133.02
	Assuming that the timber will become unserviceable after being used 8 times.					11440.22
	Cost of using once					1430.03
	Labour for assembling, erection, dismantling & cleaning					
	Carpenter II class	per day	0.63	369.000	(0112)	232.47
	Mazdoor(Male)	per day	0.63	306.000	(0114)	192.78
	Sundries	LS	6.5	2.120	(9999)	13.78
	Total					1869.06
	Add for water charges @ 1 %					18.69
	Total					1887.75 (Z)
	Add GST 12% on "Z" (multiplying factor 0.1405)					265.23
	Total					2152.98 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					322.95
	Cost of 4 sqm					2475.92
	Cost of 1 sqm					618.98
	Add labour cess @ 1%					6.19
	Rate including labour cess					625.17
	Say					₹625.20 per sqm

5.9.18 Small surfaces such as cantilever ends, brackets and ends of steps, caps and bases to pilasters and columns and the like

Details of cost for a bracket
1.20 m projected.

Front area 0.50x0.60m

End area 0.50x0.75 m

Area in contact with concrete $2 \times \{(0.6+0.75)/2 \times 1.2\}$
=1.62 sqm

Front 0.5x0.6 =0.30 sqm

Bottom 0.5x1.21 =0.605 sqm

=2.525 sqm

Materials:

Timber lind class kail wood or equivalent local soft wood

(i) Plank 30 mm thick

Sides $2 \times \{(0.6+0.75)/2 \times 1.238\} = 1.6713$

Batten 0.576x1.21 =0.697

Front 0.5x0.638 =0.319

=2.687 sqm

Cubical contents

2.687x0.038 =0.102 cum

Wastage @5% =0.005 cum

=0.107 cum

10 cudm 10.70 260.00 (1198) 2782.00

(ii) Battens-0.05x0.05

2x1.238 =2.476m

2x1.21 =2.42 m

2x0.688 =1.376 m



BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	2x0.838 =1.676 m					
	3x0.5 =1.50 m					
	'=9.448m					
	Cubical contents					
	9.448x0.05x0.05 =0.024 cum					
	Wastage 5% =0.0012 cum					
	=0.0252 cum					
	Say 25.2 cudm	10 cudm	2.52	260.00	(1197)	655.20
	(iii) Ballies 125m dia					
	1x2.5 =2.50 m					
	1x2.65 =2.65 m					
	=5.15 m					
	Wastage 5% =0.26 m					
	=5.41 m	metre	5.41	36.00	(2447)	194.76
	Carriage:					
	Planks =0.107 cum					
	Battens =0.0252 cum					
	Ballies 5.41x22/7x(0.125)/4=0.066 cum					
	=0.198 cum	cum	0.198	187.35	(2204)	37.10
	Assuming that the timber will become useviceable after being used 8 times.					
						3,669.06 (X)
	Cost of using once					458.63
	Labour for assembling, erection, dismantling & cleaning					
	Carpenter II class	per day	0.80	369.00	(0112)	295.20
	Mazdoor (Male)	per day	0.80	306.00	(0114)	244.80
	Sundries	LS	7.15	2.120	(9999)	15.16
	Total					1013.79
	Add for water charges @ 1 %					10.14
	Total					1023.93 (M)
	Add GST 12% on "M" (multiplying factor 0.1405)					143.86
	Total					1167.79 (N)
	Add for contractor's profit and over-heads @ 15% on "N"					175.17
	Cost of 2.525 sqm					1342.96
	Cost of 1 sqm					531.86
	Add labour cess @ 1%					5.32
	Rate including labour cess					537.18
	Say			₹537.20	per sqm	

5.9.19 Weather shade, Chajjas. corbels etc. including edges

Consider a weather shade over a window of size 1.5m x 1.2m
 Size of weather shade 1.80x0.45m
 Thickness at front =0.05 m.
 Thickness at fixed edge=0.07 m
 Area in contact with concrete Bottom
 1x0.45x1.80 =0.810
 01x0.05x1.80 =0.094

BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	2x0.45x0.06 =0.027 =0.954 sqm					
	Materials:					
	11nd class kail wood					
	(i) Planking 38 mm thick					
	Bottom 1x1.876x0.488 =0.915 sqm					
	1x1.876x0.05 =0.94 sqm					
	2x0.45x0.06 =0.027 sqm.					
	= 1.036 sqm					
	Add 5% wastage =0.052 sqm					
	= 1.088 sqm					
	Cubical contents					
	1.088x0.038=0.041 cum	10 cudm	4.10	260.00	(1198)	1066.00
	(ii) Battens					
	2x0.60x0.075x0.10=0.009					
	ends with bearing centre					
	1x0.45x0.075x0.10=0.003					
	Total =0.012 cum	10 cudm	1.20	260.00	(1197)	312.00
	(iii) Bailies 125 mm dia					
	2x2.1 =4.2 m					
	Wastage 5% =0.21 m					
	=4.41 m	metre	4.41	36.00	(2447)	158.76
	Carriage:					
	Plank =0.041 cum					
	Battens =0.012 cum					
	Bailies					
	4.41 x22/7x(0.125)/4=0.054 cum					
	0.107 cum	cum	0.107	187.35	(2204)	20.05
	Assuming that the timber will become unserviceable after being used 8 times.					1556.81 (X)
	Cost of using once					194.601
	Labour for assembling , erection, dismantling & deaning					
	Carpenter II class	per day	0.30	369.00	(0112)	110.70
	Mazdoor (Male)	per day	0.25	306.00	(0114)	76.50
	Sundries	LS	5.20	2.12	(9999)	11.02
	Total					392.82
	Add for water charges @ 1 %					3.93
	Total					396.75 (M)
	Add GST 12% on "M" (multiplying factor 0.1405)					55.74
	Total					452.50 (N)
	Add for contractor's profit and over-heads @ 15% on "N"					67.87
	Cost of 0.954 sqm					520.37
	Cost of 1 sqm					545.46
	Add labour cess @ 1%					5.45
	Rate including labour cess					550.91

Say ₹550.90 per sqm



BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.9.20	Suspended floors, roofs, landings, balconies and access platform with water proofply 12 mm thick.					
	MATERIAL:					
	Adding for maintenance @ 10% of cost					
	Taking salvage value after full use of material					
	@ 25% of cost					
	Rate as per Item Number 10.1 of SH:	Kg	5.43	87.42	10.10	474.27 A
	Steel work					
	1. Plates (size 0.75x0.60)					
	Angle 40x40x5mm					
	2x0.75= 1.50 m					
	2x0.60= 1.20 m					
	= 2.70m@3.00kg/m = 8.10 kg					
	Weight of one plate =8.1kg					
	Add for wastage @ 5% = 0.41 kg					
	Total = 8.51 kg.					
	Total weight of all plates = 5x6x8.51 = 255.30					
	Qty taken for cost using once.= 255.30x0.85/40 = 5.425 kg					
	Welding length = (30x32)/40=24 cm					
	Welding by electric plant	cm	24.00	2.00	1215	48.00
	Water proof ply 12 mm thick	sqm	1.77	525.00	8659	929.25
	1x4.50x3.00=13.50sqm Add wastage 5% =0.68sqm					
	Total 14.18sqm.					
	Qty taken for cost using once 14.18/8 = 1.77sqm					
	Carpenter 2nd class	day	0.125	369.00	112	46.13
	Beldar	day	0.125	306.00	114	38.25
	Bolts and nuts up to 300 mm in length	quintal	0.002	5200.00	1034	10.92
	Adjustable span ESO+SI (2.35-3.40)	each	0.106	1480.00	7342	157.32
	Qty taken for cost using once = 5x0.85/40 = 0.10625					
	Adjustable telescopic prop 3 m (2.02-3.75 m)	each	0.128	955.00	7343	121.76
	Qty taken for cost using once = 6x0.85/40 = 0.1275					
	Assembly nut & bolts etc.	LS	12.630	2.12	9999	26.78
	Carriage	LS	130.000	2.12	9999	275.60
	LABOUR:					
	Fitter (grade 1)	day	3.000	420.00	116	1260.00
	Beldar	day	6.000	306.00	114	1836.00
	Shuttering oil	LS	78.000	2.12	9999	165.36
	Sundries	LS	52.000	2.12	9999	110.24
	TOTAL					5499.88
	Add Water Charges @ 1% except on A i.e on					50.256



BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	TOTAL					5550.14 (M)
	Add GST 12% on "M" (multiplying factor 0.1405)					779.79
	Total					6329.93 (N)
	Add for contractor's profit and over-heads @ 15% on "N"					949.49
	Cost of 13.50 sqm					7279.42
	Cost of 1 sqm					539.22
	Add labour cess @ 1%					5.39
	Rate including labour cess					544.61
	Say			₹544.60 per sqm		

5.9.21 Lintels, beams, plinth beams, girders, bressumers and cantilevers with water proof ply 12 mm thick.

Details of cost for
a beam of 6 m clear span, 0.50 m deep
0.30 m
wide and height 3.5 m from floor. Cubical

contents
 $6.60 \times 0.5 \times 0.3 = 0.99 \text{ cum}$
 $1 \times 1.30 \times 6.00 = 7.80 \text{ sqm}$

MATERIAL:

Assuming shuttering will become unserviceable after use of 8 times
Add maintenance charges @ 10% of cost of material

Less salvage value of material after full use @ 25% of cost of material

Rate as per Item Number 10.1 of SH:

Steel work

Steel plates for side and bottom (plate size

1.20 x 0.50m)

Angle 40x40x5mm (both sides) & bottom

$2 \times (2 \times 1.20) = 4.80 + (2 \times 1.2) = 7.20 \text{m}$

$2 \times (3 \times 0.50) = 3.00 + (3 \times 0.30) = 3.9 \text{m}$

$11.10 \text{ m} @ 3.00 \text{ kg/m} = 33.30 \text{ kg}$

Add for wastage = 1.67kg.

Total = 34.97 kg.

Total weight of all plates

$5 \times 34.97 = 174.85 \text{ kg}$

Qty taken for cost of using once = 174.85x

$0.85/40 = 3.72 \text{ kg}$


Welding length $480/40 = 12 \text{ cm}$

Welding by electric plant

Water proof ply 12 mm thick

$1 \times 1.30 \times 6.00 = 7.80 \text{ sqm}$

cm	24.00	2.00	1215		48.00
sqm	1.77	525.00	8659		929.25


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add 5% wastage = 0.39 sqm					
	Total = 8.19 sqm					
	Qty taken for cost of using once 8.19/8 sqm					
	= 1.02 sqm					
	Carpenter 2nd class	day	0.1250	369.00	112	46.13
	Beldar	day	0.1250	306.00	114	38.25
	Bolts and nuts up to 300 mm in length	quintal	0.0021	5200.00	1034	10.92
	Adjustable telescopic prop 3 m (2.02-3.75 m)	each	0.1275	955.00	7343	121.76
	Qty taken for cost of using once = 6 x 0.85/40 = 0.1275 m					
	Beam clamp 300-380 mm (450-1070 mm)	each set	0.128	355.00	7344	45.26
	Qty taken for cost of using once = 5 x 0.85/40 = 0.1063m					
	Assembly nut & bolts etc.	LS	12.630	2.12	9999	26.78
	Carriage	LS	130.000	2.12	9999	275.60
	LABOUR:					
	Fitter (grade 1)	day	3.000	420.00	116	1260.00
	Beldar	day	6.000	306.00	114	1836.00
	Shuttering oil	LS	78.000	2.12	9999	165.36
	Sundries, paper tape etc	LS	52.000	2.12	9999	110.24
	TOTAL					5238.76
	Add Water Charges @ 1% except on A i.e on					49.14
	TOTAL					5287.90 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					742.95
	Total					6030.85 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					904.63
	Cost of 13.50 sqm					6935.47
	Cost of 1 sqm					513.74
	Add labour cess @ 1%					5.14
	Rate including labour cess					518.88
	Say					₹518.90 per sqm

5.10 Providing and fixing tie bolt, spring coil and plastic cone in wall shuttering complete as per the direction of engineer-in charge

5.10.1 12 mm dia & 100 mm length

Details of cost for wall length 7.90m/1 m (24 set)

Material:

Tie bolt 12 mm dia & 100 mm length	each	24.00	38.00	(7320)	912.00
Spring coil 12 mm dia.	each	48.00	15.00	(7324)	720.00
Plastic cone 12 mm dia.	each	48.00	15.00	(7325)	720.00
Carriage	LS	13.00	2.12	(9999)	27.56
labour Sundries	LS	26.00	2.12	(9999)	55.12
Total					2434.68

BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add for water charges @ 1%					24.35
	Total					2459.03 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					345.49
	Total					2804.52 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					420.68
	Cost of 24 sets					3,225.20
	Cost of 1 sets					134.38
	Add labour cess @ 1%					1.34
	Rate including labour cess					135.72
	Say					₹135.70 per sets
5.10.2	12 mm dia & 150 mm length					
	Details of cost for wall length 7.90mx1 m (24 set)					
	Material:					
	Tie bolt 12 mm dia & 100 mm length	each	24.00	48.00	(7321)	1152.00
	Spring coil 12 mm dia.	each	48.00	15.00	(7324)	720.00
	Plastic cone 12 mm dia.	each	48.00	15.00	(7325)	720.00
	Carriage labour:	LS	13.00	2.12	(9999)	27.56
	Sundries	LS	26.00	2.12	(9999)	55.12
	Total					2674.68
	Add for water charges @ 1%					26.75
	Total					2701.43 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					379.55
	Total					3080.98 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					462.15
	Cost of 24 sets					3,543.12
	Cost of 1 sets					147.63
	Add labour cess @ 1%					1.48
	Rate including labour cess					149.11
	Say					₹149.10 per sets
5.10.3	20 mm dia & 150mm length					
	Details of cost for wall length 7.90mx1 m (24 set)					
	Material:					
	Tie bolt 12 mm dia & 100 mm length	each	24.00	57.00	(7322)	1368.00
	Spring coil 12 mm dia.	each	48.00	15.00	(7324)	720.00
	Plastic cone 12 mm dia.	each	48.00	15.00	(7325)	720.00
	Carriage labour:	LS	13.00	2.12	(9999)	27.56
	Sundries	LS	26.00	2.12	(9999)	55.12
	Total					2890.68
	Add for water charges @ 1%					28.91
	Total					2919.59 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					410.20
	Total					3329.79 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					499.47
	Cost of 24 sets					3,829.26
	Cost of 1 sets					159.55
	Add labour cess @ 1%					1.60



BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
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161.15

Rate including labour cess
Say ₹161.20 per sets

5.10.4 20 mm dia & 225 mm length

Details of cost for wall length 7.90mx1m (24 set)

Material:

Tie bolt 12 mm dia & 100 mm length each 24.00 67.00 (7323) 1608.00

Spring coil 12 mm dia. each 48.00 15.00 (7324) 720.00

Plastic cone 12 mm dia. each 48.00 15.00 (7325) 720.00

Carriage 1 time 13.00 2.12 (9999) 27.56

labour:

Sundries 1 time 26.00 2.12 (9999) 55.12

Total 3130.68

Add for water charges @ 1% 31.31

Total 3161.99 (X)

Add GST 12% on "X" (multiplying factor 0.1405) 444.26

Total 3606.25 (Y)

Add for contractor's profit and over-heads 540.94

@ 15% on "Y"

Cost of 24 sets 4,147.18

Cost of 1 sets 172.80

Add labour cess @ 1% 1.73

Rate including labour cess 174.53

Say ₹174.50 per sets

5.11 Extra for additional height in centring, shuttering where ever required with adequate bracing, propping etc. including cost of de-shuttering and de centring at all levels over a height of 3.5 m ,for every additional height of 1 metre or part thereof (Plan area to be measured)

5.11.1 Suspended floors, roots, laning, beams and balconies (Plan area to be measured)

Details of cost for Room of

Size 6m x 4.8m = 28.8 sqm

Material:

1. Prop 4m each 21.00 910.00 (7345) 19110.00 (A)

2. Prop 3 m each 21.00 955.00 (7343) 20055.00 (A)

Difference of rate between 4 m prop and 3 m -945.00

prop. 7x3

2. Bracing

MS tube 40 mm

7x4.8 m =33.60 m

3x6.0 m =18.00 m

=51.60 m

metre 51.60 215.00 (7330) 11094.00 (A)

3. Double coupler (40x40) each 21.00 46.00 (7346) 966.00 (A)

Add for maintenace @ 10 % 11115.00

Less salvage value of material after full use @

25% on 'A'

Assume shuttering material will become

unsevisible after 40 uses. Cost for using

Cost for using once

Carriage LS 65.00 2.12 (9999) 137.80

Labour:

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Fitter Grade-1	per day	3.00	420.00	(0116)	1260.00
	Beldar	per day	6.00	306.00	(0114)	1836.00
	Sundries	LS	130.00	2.12	(9999)	275.60
	Total					3745.59
	Add for water charges @ 1 %					37.46
	Total					3783.05 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					531.52
	Total					4314.56 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					647.18
	Cost of 28.8 sqm					4,961.75
	Cost of 1 sqm					172.28
	Add labour cess @ 1%					1.72
	Rate including labour cess					174.00
	Say					₹174.00 Per sqm
	PRE-CAST R.C.C.					
5.18	Providing,precast cement concrete Jali 1:2:4(1 cemeni:2 coarse sand:4 stone aggregate 6mm nominal size) reinforced with 1.6 mm dia mild steel wire including roughening cleaning, fixing and					
5.18.1	50 mm thick					
	Details of cost for jali					
	2.00x0.75m=1.50 sqm of jali-					
	Cost of jali	sqm	1.50	400.00	(0768)	600.00
	Mortar for fixing	LS	6.24	2.12	(9999)	13.23
	Carriage and sundires	LS	6.20	2.12	(9999)	13.14
						626.37
	Labour (for fixing):					626.37
	Mason 1st class	per day	0.30	413.00	(0123)	123.90
	Mason 2nd class	per day	0.30	369.00	(0124)	110.70
	Beldar	per day	1.08	306.00	(0114)	330.48
	Total					1191.45
	Add for water charges @ 1 %					11.91
	Total					1203.37 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					169.07
	Total					1372.44 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					205.87
	Cost of 1.5 sqm					1,578.31
	Cost of 1 sqm					1052.20
	Add labour cess @ 1%					10.52
	Rate including labour cess					1062.72
	Say					₹1062.70 Per sqm
5.18.2	40 mm thick					
	Details of cost for 1.25mx0.60m=0.75 sqm of jali-					
	Cost of jali	sqm	0.75	350.00	(0769)	262.50
	Mortar for fixing	LS	3.64	2.12	(9999)	7.72
	Carriage and sundries	LS	3.64	2.12	(9999)	7.72
	Labour (for fixing):					7.72
	Mason 1st class	per day	0.12	413.00	(0123)	49.56



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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Mason 2nd class	per day	0.12	369.00	(0124)	44.28
	Beldar	per day	0.50	306.00	(0114)	153.00
	Total					524.77
	Add for water charges @ 1 %					5.25
	Total					530.02 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					74.47
	Total					604.49 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					90.67
	Cost of 0.75 sqm					695.16
	Cost of 1 sqm					926.88
	Add labour cess @ 1%					9.27
	Rate including labour cess					936.15
	Say					₹936.20 Per sqm

5.18.3 25 mm thick

Details of cost for jali 0.75mx0.5m =0.375 sqm-

Cost of jali	sqm	0.375	275.00	(0770)	103.13
Mortar for fixing	LS	1.82	2.12	(9999)	3.86
Carriage and sundries	LS	1.82	2.12	(9999)	3.86
Labour (for fixing):					
Mason 1st class	per day	0.06	413.00	(0123)	24.78
Mason 2nd class	per day	0.06	369.00	(0124)	22.14
Beldar	per day	0.25	306.00	(0114)	76.50
Total					234.26
Add for water charges @ 1 %					2.34
Total					236.60 X
Add GST 12% on "X"(multiplying factor 0.1405)					33.24
Total					269.85 (Y)
Add for contractor's profit and over-heads @ 15% on "Y"					40.48
Cost of 0.375 cum					310.32
Cost of 1 cum					827.53
Add labour cess @ 1%					8.28
Rate including labour cess					835.81
Say					₹835.80 Per sqm

5.12 Providing, hoisting and fixing up to floor five level precast reinforced cement concrete work in string courses, bands, copings, bed plates, anchor blocks, plain window sills and the like, including the cost of required centering, shuttering but excluding cost of reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).

Details of cost for 1 cum.

MATERIAL:

Cement concrete 1:1.5:3 in string or lacing course etc

Rate as per Item Number 4.5.1 of SH: cum 1 5288.26 4.5.1 5288.26 A

Concrete work

(NB : Rate has been taken including cost of fixing in CM 1:2 as precast members are to be fixed in CM 1:2)(1 cement: 2 coarse sand) as per CPWD specifications

LABOUR:

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Extra labour for laying CC in RCC work					
	Beldar	day	0.1	306.00	(0114)	30.60
	Bhisti	day	0.2	332.00	101	66.40
	Mason (brick layer) 1 st class	day	0.04	413.00	123	16.52
	Mason (brick layer) 2nd class	day	0.04	369.00	124	14.76
	Mate	day	0.04	325.00	128	13.00
	TOTAL					5429.54
	Add Water Charges @ 1% except on A					1.4128
	TOTAL					5430.95 (X)
	Add GST 12% on "X" (multiplying factor 0.1405) except "A"					20.05
	Total					5451.00 (Y)
	Add CPOH @ 15% except on A i.e on					24.41
	Cost of 1 cum					5475.41
	Add labour cess @ 1%					54.75
	Say					5530.17
	Say					₹5530.20 Per cum
5.13	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in small lintels not exceeding 1.5 m clear span up to floor five level, including the cost of required centering, shuttering but excluding the cost of reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).					
	Details of cost for a lintel Qty = 0.054 cum.					
	MATERIAL:					
	1.5m clear span = 1.8x0.20x0.15 = 0.054 cum.					
	Cement Concrete 1:1.5:3					
	Rate as per Item Number 4.2.2 of SH :	cum	0.054	5528.88	4.2.2	298.56 A
	Concrete work					
	Centring and shuttering					
	Rate as per Item Number 4.3.1 of SH:	sqm	0.6	209.04	4.3.1	125.42 A
	Concrete work					
	LABOUR:					
	Beldar	day	0.005	306.00	114	1.53
	Bhisti	day	0.01	332.00	101	3.32
	Mason (brick layer) 1 st class	day	0.002	413.00	123	0.83
	Mason (brick layer) 2nd class	day	0.002	369.00	124	0.74
	Mate	day	0.002	325.00	(0128)	0.65
	TOTAL					431.05
	Add Water Charges @ 1% except on A i.e on					0.07064
	TOTAL					431.12 (X)
	Add GST 12% on "X" (multiplying factor 0.1405) except "A"					1.00
	Total					432.12 (Y)
	Add CPOH @ 15% except on A i.e on					1.07
	Cost of 0.054 cum					434.19
	Cost of 1 cum					8040.64
	Add labour cess @ 1%					80.4064
	Say					8121.04
	Say					₹8121.00 Per cum

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.14	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in mouldings as in cornices, windows sills etc. including setting in cement mortar 1:3 (1 cement : 3 coarse sand) cost of required centering, shuttering but excluding the cost of reinforcement, with 1:1.5:3(1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).					
	Details of cost for one 1 x 0.20 x 0.15 = 0.03 cum.					
	MATERIAL:					
	Cement concrete 1:1.5:3					
	Rate as per Item Number 4.1.2 of SH:	cum	0.03	4377.00	4.1.2	131.31 A
	Concrete work					
	Extra labour for lifting					
	0.45 x 0.03 x 2.5 = 0.034					
	Coolie	day	0.034	318.00	115	10.81
	Mortar and labour for hoisting and for fixing	L.S.	2.73	2.12	(9999)	5.79
	Centring and shuttering					
	Rate as per Item Number 4.3.1 of SH:	sqm	0.36	209.04	4.3.1	75.25 A
	Concrete work					
	53.82x0.03					
	Add for extra labour for hoisting	L.S.	1.61	2.12	(9999)	3.41
	LABOUR:					
	Add Extra labour for moulding					
	Mason (brick layer) 1 st class	day	0.0174	413.00	123	7.19
	0.58x0.03					
	Mason (brick layer) 2nd class	day	0.0174	369.00	124	6.42
	0.58x0.03					
	Coolie	day	0.045	318.00	115	14.31
	1.5x0.03					
	Bhisti	day	0.0018	332.00	101	0.60
	0.06x0.03					
	Extra labour for laying CC in RCC					
	Beldar	day	0.003	306.00	114	0.92
	0.1x0.03					
	Bhisti	day	0.006	332.00	101	1.99
	0.2x0.03					
	Mason (brick layer) 1 st class	day	0.0012	413.00	123	0.50
	0.04x0.03					
	Mason (brick layer) 2nd class	day	0.0012	369.00	124	0.44
	0.04x0.03					
	Mate	day	0.0012	325.00	(0128)	0.39
	0.04x0.03					
	TOTAL					259.33
	Add Water Charges @ 1% except on A i.e on					0.528
	TOTAL					259.86 (X)
	Add GST 12% on "X"(multiplying factor 0.1405) except "A"					7.49
	Total					267.35 (Y)
	Add CPOH @ 15% except on A i.e on					7.994
	Cost of 0.03 cum					275.34
	Cost of 1 cum					9178.00
	Add labour cess @ 1%					91.78
	Say					9269.78
	Say					₹9269.80 Per cum

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.15	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in lintels, beams and bressumers including setting in cement mortar 1:3 (1 cement : 3 coarse sand), cost of required centering and shuttering but excluding the cost of reinforcement with, 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).					
	Details of cost for a beam 6.60m long 0.50m deep and 0.30m wide = 6.60x0.50x 0.30 = 0.99 cum.					
	MATERIAL:					
	Cement concrete 1:1.5:3					
	Rate as per Item Number 4.1.2 of SH:	cum	0.99	4377.00	4.1.2	4333.23 A
	Concrete work					
	Centring and shuttering					
	Rate as per Item Number 4.3.1 of SH:	sqm	6.9	209.04	4.3.1	1442.39 A
	Concrete work					
	Extra labour for lifting material upto floor V level					
	Coolie	day	1.11	318.00	115	352.98
	LABOUR:					
	Extra labour for laying cement concrete in RCC work					
	Beldar	day	0.099	306.00	114	30.29
	0.10x0.99					
	Bhisti	day	0.198	332.00	101	65.74
	0.20x0.99					
	Mason (brick layer) 1 st class	day	0.0396	413.00	123	16.35
	0.04x0.99					
	Mason (brick layer) 2nd class	day	0.0396	369.00	124	14.61
	0.04x0.99					
	Mate	day	0.0396	325.00	(0128)	12.87
	0.04x0.99					
	Cement mortar 1:3 for fixing	L.S.	89.7	2.12	(9999)	190.16
	Labour for hoisting, Transporting and setting in position	L.S.	269.1	2.12	(9999)	570.49
	TOTAL					7029.12
	Add Water Charges @ 1% except on A i.e on					12.54
	TOTAL					7041.66
	Add GST 12% on "X" (multiplying factor 0.1405) except "A"					177.88
	Total					7219.54 (Y)
	Add CPOH @ 15% except on A i.e on					216.59
	Cost of 0.99 cum					7436.12
	Cost of 1 cum					7511.24
	Add labour cess @ 1%					75.11
	Say					7586.35
	Say					₹7586.30 Per cum

5.16 Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in shelves including setting in cement mortar 1:3 (1 cement : 3 coarsesand), cost of required centering, shuttering and finishing with neat cement punning on exposed surfaces but excluding the cost of reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 12.5 mm nominal size).

Details of cost for one shelf 0.90x0.45x0.04m


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	thick = 0.90x0.45x0.04m = 0.0162 cum.					
	Cement concrete 1:1.5:3					
	Rate as per Item Number 4.1.2 of SH:	cum	0.0162	4377.00	4.1.3	70.91 A
	Concrete work					
	Finishing					
	Rate as per Item Number 13.18 of SH:	sqm	0.85	40.50	13.18	34.43 A
	Finishing					
	Centring and shuttering:					
	2x(0.90+0.45)x0.04 = 0.108 sqm					
	Rate as per Item Number 4.3.1 of SH:	sqm	0.108	209.04	4.3.1	22.58 A
	Concrete work					
	Extra labour for lifting material upto floor					
	V level					
	Coolie	day	0.018	318.00	115	5.72
	LABOUR:					
	Extra labour for laying cement concrete in					
	RCC work due to delay etc.					
	Beldar	day	0.016	306.00	114	4.90
	Bhisti	day	0.0032	332.00	101	1.06
	Mason (brick layer) 1 st class	day	0.0006	413.00	123	0.25
	Mason (brick layer) 2nd class	day	0.0006	369.00	124	0.22
	Mate	day	0.0006	325.00	(0128)	0.20
	Cement mortar 1:3 for fixing	L.S.	4.42	2.12	(9999)	9.37
	Labour for hoisting, Transporting and setting	L.S.	13.52	2.12	(9999)	28.66
	TOTAL					178.29
	Add Water Charges @ 1% except on A i.e on					0.50
	TOTAL					178.79 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					7.15
	except "A"					
	Total					185.94 (Y)
	Add CPOH @ 15% except on A i.e on					8.70
	Cost of 0.0162 cum					194.65
	Cost of 1 cum					12015.19
	Add labour cess @ 1%					120.15
						12135.34

Say Say ₹12135.30 Per cum

- 5.17 Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in vertical & horizontal fins individually or forming box louvers setting in cement mortar 1:2 (1 cement : 2 coarse sand), including the cost of required centering, shuttering but excluding the cost of reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size).**

Details of cost for 4 RCC vertical fins 4m high at 1.0m centre to centre with two horizontal fins, all projecting 60cm from face of wall and 5 cm thick cubical contents = 0.66 cum.

MATERIAL:

Cement concrete 1:1.5:3

Rate as per Item Number 4.1.2 of SH: cum 0.66 4377.00 (4.1.2) 2888.82 A

Concrete work

Centering and shuttering

Rate as per Item Number 4.3.1 of SH: sqm 2.56 209.04 (4.3.1) 535.15 A

Concrete work

Extra labour for lifting material upto floor

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	V level					
	Coolie	day	0.75	318.00	(0115)	238.50
	LABOUR:					
	Extra labour for laying cement concrete in RCC work due to delay etc.					
	Beldar	day	0.066	306.00	(0114)	20.20
	Bhisti	day	0.132	332.00	(0101)	43.82
	Mason (brick layer) 1 st class	day	0.0264	413.00	(0123)	10.90
	Mason (brick layer) 2nd class	day	0.0264	369.00	(0124)	9.74
	Mate	day	0.0264	325.00	(0128)	8.58
	Cement mortar 1:2 for fixing	L.S.	17.94	2.12	(9999)	38.03
	Labour for hoisting, Transporting and setting	L.S.	71.76	2.12	(9999)	152.13
	Sundries	L.S.	17.94	2.12	(9999)	38.03
	TOTAL					3983.91
	Add Water Charges @ 1% except on A i.e on					5.60
	TOTAL					3989.51 (X)
	Add GST 12% on "X" (multiplying factor 0.1405) except "A"					79.46
	Total					4068.97 (Y)
	Add CPOH @ 15% except on A i.e on					96.75
	Cost of 0.66 cum					4165.72
	Cost of 1 cum					6311.69
	Add labour cess @ 1%					63.12
	Say					6374.81
	Say					₹6374.80 Per cum

ENCASING ROLLED STEEL SECTION

5.19 Encasing rolled steel sections, in beams and columns, with cement concrete 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 12.5 mm nominal size), including centering and shuttering complete but excluding cost of reinforcement.

Details of cost for 0.424 cum

Consider 2 R.S. Joists (150mmx80mm)
4.88m

long placed 30cm apart centre to centre

Overall dimensions of the beam

43cmx20cm

MATERIAL:

Concrete work :

4.93x0.43x0.20 = 0.424 cum

For 1:2:4 Cement Concrete (1 cement: 1.5 coarse sand : 3 stone aggregate 20mm nominal size)

Rate as per Item Number 4.1.3 of SH:

Concrete work

Extra labour for laying C.C. in RCC work

Beldar

Bhisti

Mason (brick layer) 1 st class

Mason (brick layer) 2nd class

Mate

Form work-

4.93x0.83 girth = 4.09 sqm

Rate as per Item Number 5.9.5 of SH:

Reinforced cement concrete work

Sundries and for lifting materials

	cum	0.424	4377.00	4.1.2	1855.85 A
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	sqm	4.09	400.66	5.9.5	1638.70 A
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	L.S.	21.58	2.12	9999	45.75
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Handwritten signatures and initials: 210, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	TOTAL					3600.19
	Add Water Charges @ 1% except on A i.e on					1.06
	TOTAL					3601.25 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					14.99
	except "A"					
	Total					3616.24 (Y)
	Add CPOH @ 15% except on A i.e on					18.25
	Cost of 0.424 cum					3634.49
	Cost of 1 cum					8571.91
	Add labour cess @ 1%					85.72
						8657.63
	Say	Say		₹8657.60	Per cum	
5.20	Encasing rolled steel section in grillages with cement concrete 1:1.5:3 (1 cement : 1.5 coarse sand (zone-III); 3 graded stone aggregate 20 mm nominal size, including centering and shuttering but, excluding cost of expanded metal and hangers.					
	Details of cost for the grillage 3.50mx 3.50mx1.00m = 12.25 cum Cement concrete 1:1½:3					
4.1.2	Rate as per Item No.4.1.2 of SH: Concrete Work	cum	12.25	4377.00	4.1.2	53618.28 (A)
	Extra labour for laying C.C. in RCC work					0.00
114	Beldar	day	1.23	306.00	(0114)	374.85
101	Bhisti	day	2.45	332.00	0101	813.40
123	Mason (brick layer) 1st class	day	0.49	413.00	0123	202.37
124	Mason (brick layer) 2nd class	day	0.49	369.00	0124	180.81
128	Mate	day	0.49	325.00	0128	159.25
	Shuttering : 2(3.50+3.50)x1.00= 14.00 sqm					
5.9.5	Rate as per item 5.9.5 of SH: Reinforced cement concrete work	sqm	14.00	400.66	5.9.5	5609.24 (A)
	TOTAL					60958.20
	Add 1 % Water charges on all except (A)					17.31
	TOTAL					60975.50 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					245.59
	except "A"					
	Total					61221.09 (Y)
	Add CPOH @ 15% except on A i.e on					299.04
	TOTAL					61520.13
	Cost of 12.25 cum.					61520.13
	Cost of 1 cum.					5022.05
	Add labour cess @ 1%					50.22
						5072.27
	Say	Say		₹5072.30	Per cum	
5.21	Extra for providing and faixing expanded metal mesh of size 20x60mm and strands 3.25 mm wide 1:6 mm thick weighing 3.64 kg. er sqm for encasing of roiled steel sections in beams, columns and grillages excluding cost of hangers					
	Details of cost for 10 sqm- Materials: Expanded metal 20 mm x 60 mm and 1.6 mm thick =10sqm					

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Wastage 5% = 0.5 sqm					
	Total = 10.5sqm	sqm	10.50	280.00	(1015)	2940.00
	Carriage of expanded metal	LS	13.52	2.12	(9999)	28.66
	Wire for tying	LS	13.52	2.12	(9999)	28.66
	Cost of bending and placing in position -					
	Blacksmith 1st class	per day	0.25	413.00	(0102)	103.25
	Beldar	per day	0.25	306.00	(0114)	76.50
	Total					3177.07
	Add for water charges @ 1 %					31.77
	Total					3208.85 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					450.84
	Total					3659.69 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					548.95
	Cost of 10 sqm					4,208.64
	Cost of 1 sqm					420.86
	Add labour cess @ 1%					4.21
	Rate including labour cess					425.07
	Say					₹425.10 Per sqm
	STEEL REINFORCEMENT					
5.22	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.					
5.22.1	Mild steel wire rod					
	Details of cost for 1 quintal-					
	Materials:					
	Mild steel bars = 1.00q					
	Wastage 5% = 0.05 q					
	Total = 1.05 q	quintal	1.05	5860.00	(1004)	6153.00
	Carriage of steel 1.05/10=0.105t	tonne	0.105	145.72	(2205)	15.30
	Binding wire	kilogram	5.00	46.00	(7335)	230.00
	Cover block	LS	26.00	2.12	(9999)	55.12
	Labour:					
	For straightening, cutting, bending, binding and placing in position					
	Blacksmith 1st class	per day	1.00	413.00	(0102)	413.00 (B)
	Beldar	per day	1.00	306.00	(0114)	306.00 (B)
	Sundries	LS	26.91	2.12	(9999)	57.05 (B)
	Total					7229.47
	Add for water charges @ 1 %					72.29
	Total					7301.76 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					1025.90
	Total					8327.66 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					1249.15
	Cost of 100 kg					9,576.81
	Cost of 1 kg					95.77
	Add labour cess @ 1%					0.96
	Rate including labour cess					96.73
	Say					₹96.70 Per Kg.


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
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5.22.1A Mild steel 5.5 mm dia

Details of cost for 1 quintal-

Materials:

Mild steel bars =1.00q

Wastage 5% =0.05 q

Total =1.05 q

quintal	1.05	5790.00	(1004A)	6079.50
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Carriage of steel 1.05/10=0.105t	tonne	0.105	145.72	(2205)	15.30
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Binding wire	kilogram	5.00	46.00	(7335)	230.00
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Cover block	LS	26.00	2.12	(9999)	55.12
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Labour:

For straightening, cutting, bending, binding and

placing in position

Blacksmith 1st class	per day	1.00	413.00	(0102)	413.00 (B)
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Beldar	per day	1.00	306.00	(0114)	306.00 (B)
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Sundries	LS	26.91	2.12	(9999)	57.05 (B)
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7155.97

Add for water charges @ 1 % 71.56

Total 7227.53 (X)

Add GST 12% on "X" (multiplying factor 0.1405) 1015.47

Total 8243.00 (Y)

Add for contractor's profit and over-heads 1236.45

@ 15% on "Y"

Cost of 100 kg 9,479.45

Cost of 1 kg 94.79

Add labour cess @ 1% 0.95

Rate including labour cess 95.74

Say ₹95.70 Per Kg.

5.22.1B Mild steel 6.00 mm dia

Details of cost for 1 quintal-

Materials:

Mild steel bars =1.00q

Wastage 5% =0.05 q

Total =1.05 q

quintal	1.05	5860.00	(1004B)	6153.00
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Carriage of steel 1.05/10=0.105t	tonne	0.105	145.72	(2205)	15.30
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Binding wire	kilogram	5.00	46.00	(7335)	230.00
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Cover block	LS	26.00	2.12	(9999)	55.12
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Labour:

For straightening, cutting, bending, binding and

placing in position

Blacksmith 1st class	per day	1.00	413.00	(0102)	413.00 (B)
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Beldar	per day	1.00	306.00	(0114)	306.00 (B)
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Sundries	LS	26.91	2.12	(9999)	57.05 (B)
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7229.47

Add for water charges @ 1 % 72.29

Total 7301.76

Add GST 12% on "X" (multiplying factor 0.1405) 1025.90

Total 8327.66 (Y)

Add for contractor's profit and over-heads 1249.15

@ 15% on "Y"

Cost of 100 kg 9,576.81

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Cost of 1 kg					95.77
	Add labour cess @ 1%					0.96
	Rate including labour cess					96.73
			Say	₹96.70		Per Kg.
5.22.1C	Mild steel 6.5 mm dia					
	Details of cost for 1 quintal-					
	Materials:					
	Mild steel bars =1.00q					
	Wastage 5% =0.05 q					
	Total =1.05 q	quintal	1.05	5860.00	(1004C)	6153.00
	Carriage of steel 1.05/10=0.105t	tonne	0.105	145.72	(2205)	15.30
	Binding wire	kilogram	5.00	46.00	(7335)	230.00
	Cover block	LS	26.00	2.12	(9999)	55.12
	Labour:					
	For straightening, cutting, bending, binding and placing in position					
	Blacksmith 1st class	per day	1.00	413.00	(0102)	413.00 (B)
	Beldar	per day	1.00	306.00	(0114)	306.00 (B)
	Sundries	LS	26.61	2.12	(9999)	56.41 (B)
	Total					7228.83
	Add for water charges @ 1 %					72.29
	Total					7301.12 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					1025.81
	Total					8326.93 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					1249.04
	Cost of 100 kg					9,575.97
	Cost of 1 kg					95.76
	Add labour cess @ 1%					0.96
	Rate including labour cess					96.72
			Say	₹96.70		Per Kg.
5.22.1D	Mild steel 7.00 mm dia					
	Details of cost for 1 quintal-					
	Materials:					
	Mild steel bars =1.00q					
	Wastage 5% =0.05 q					
	Total =1.05 q	quintal	1.05	5900.00	(1004D)	6195.00
	Carriage of steel 1.05/10=0.105t	tonne	0.105	145.72	(2205)	15.30
	Binding wire	kilogram	5.00	46.00	(7335)	230.00
	Cover block	LS	26.00	2.12	(9999)	55.12
	Labour:					
	For straightening, cutting, bending, binding and placing in position					
	Blacksmith 1st class	per day	1.00	413.00	(0102)	413.00 (B)
	Beldar	per day	1.00	306.00	(0114)	306.00 (B)
	Sundries	LS	26.91	2.12	(9999)	57.05 (B)
	Total					7271.47
	Add for water charges @ 1 %					72.71
	Total					7344.18 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					1031.86
	Total					8376.04 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					1256.41

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Cost of 100 kg					9,632.45
	Cost of 1 kg					96.32
	Add labour cess @ 1%					0.96
	Rate including labour cess					97.28
			Say			₹97.30 Per Kg.

5.22.1E Mild steel 8.00 mm dia

Details of cost for 1 quintal-

Materials:

Mild steel bars =1.00q

Wastage 5% =0.05 q

Total =1.05 q

Carriage of steel 1.05/10=0.105t

Binding wire

Cover block

Labour:

For straightening, cutting, bending, binding and

placing in position

Blacksmith 1st class

Beldar

Sundries

Total

Add for water charges @ 1 %

Total

Add GST 12% on "X" (multiplying factor 0.1405)

Total

Add for contractor's profit and over-heads

@ 15% on "Y"

Cost of 100 kg

Cost of 1 kg

Add labour cess @ 1%

Rate including labour cess

	quintal	1.05	5890.00	(1004E)		6184.50
	tonne	0.105	145.72	(2205)		15.30
	kilogram	5.00	46.00	(7335)		230.00
	LS	26.00	2.12	(9999)		55.12
						7260.97
						413.00 (B)
						306.00 (B)
						57.05 (B)
						7260.97
						72.61
						7333.58 (X)
						1030.37
						8363.95 (Y)
						1254.59
						9,618.54
						96.19
						0.96
						97.15
			Say			₹97.10 Per Kg.

5.22.1F Mild steel 10.00 mm dia

Details of cost for 1 quintal-

Materials:

Mild steel bars =1.00q

Wastage 5% =0.05 q

Total =1.05 q

Carriage of steel 1.05/10=0.105t

Binding wire

Cover block

Labour:

For straightening, cutting, bending, binding and

placing in position

Blacksmith 1st class

Beldar

Sundries

Total

Add for water charges @ 1 %

Total

Add GST 12% on "X" (multiplying factor 0.1405)

	quintal	1.05	5860.00	(1004F)		6153.00
	tonne	0.105	145.72	(2205)		15.30
	kilogram	5.00	46.00	(7335)		230.00
	LS	26.00	2.12	(9999)		55.12
						7229.47
						413.00 (B)
						306.00 (B)
						57.05 (B)
						7229.47
						72.29
						7301.76 (X)
						1025.90

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Total					8327.66 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					1249.15
	Cost of 100 kg					9,576.81
	Cost of 1 kg					95.77
	Add labour cess @ 1%					0.96
	Rate including labour cess					96.73
	Say			₹96.70	Per Kg.	
5.22.1G	Mild steel 12.0/12.7 mm dia					
	Details of cost for 1 quintal-					
	Materials:					
	Mild steel bars = 1.00q					
	Wastage 5% = 0.05 q					
	Total = 1.05 q	quintal	1.05	5860.00	(1004G)	6153.00
	Carriage of steel 1.05/10=0.105t	tonne	0.105	145.72	(2205)	15.30
	Binding wire	kilogram	5.00	46.00	(7335)	230.00
	Cover block	LS	26.00	2.12	(9999)	55.12
	Labour:					
	For straightening, cutting, bending, binding and placing in position					
	Blacksmith 1st class	per day	1.00	413.00	(0102)	413.00 (B)
	Beldar	per day	1.00	306.00	(0114)	306.00 (B)
	Sundries	LS	26.91	2.12	(9999)	57.05 (B)
						7229.47
	Add for water charges @ 1 %					72.29
	Total					7301.76 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					1025.90
	Total					8327.66 (Y)
	Add for contractor's profit and over-heads @ 15%					1249.15
	Cost of 100 kg					9576.81
	Cost of 1 kg					95.77
	Add labour cess @ 1%					0.96
	Rate including labour cess					96.73
	Say			₹96.70	Per Kg.	
5.22.7	Thermo-Mechanically Treated bars (Fe-500D) 28mm dia.					
	Cold twisted bars					
	Details of cost for 1 quintal-					
	Materials:					
	Deformed twisted					
	Steel bars 1.00q					
	Wastage @ 5% = 0.05 q					
	Total = 1.05 q	quintal	1.05	5449.20	(1005)	5721.66
	Carriage of steel 1.05/10=0.105 t	tonne	0.105	145.72	(2205)	15.30
	Binding wire	kilogram	5.00	46.00	(7335)	230.00
	Cover block	LS	26.00	2.12	(9999)	55.12
	Labour:					
	Same as per item no. 5.29.1-B	Kg	1	776.05	(5.29.1-B)	776.05
	Sundries	LS	26.91	2.12	(9999)	57.05
						6855.18
	Add for water charges @ 1 %					68.55

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Total					6923.73 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					972.78
	Total					7896.51 (Y)
	Add for contractor's profit and over-heads @ 15%					1184.48
	Cost of 100 kg					9,080.99
	Cost of 1 kg					90.81
	Add labour cess @ 1%					0.91
	Rate including labour cess					91.72
	Say					₹91.70 Per Kg.

5.22.7A Thermo-Mechanically Treated bars (Fe-500D)8mm dia.

Cold twisted bars

Details of cost for 1 quintal-

Materials:

Deformed twisted

Steel bars 1.00q

Wastage @ 5% = 0.05 q

Total = 1.05 q

quintal	1.05	5644.10	(1005A)		5926.31
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Carriage of steel 1.05/10=0.105 t	tonne	0.105	145.72	(2205)	15.30
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Binding wire	kilogram	5.00	46.00	(7335)	230.00
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Cover block	LS	26.00	2.12	(9999)	55.12
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Labour:

Same as per item no. 5.29.1-B	Kg	1	776.05	(5.29.1-B)	776.05
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Sundries	LS	26.91	2.12	(9999)	57.05
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Add for water charges @ 1 %

7059.82

7130.42

1001.82

8132.25 (Y)

1219.84

9,352.08

93.52

0.94

94.46

Say ₹94.50 Per Kg.

5.22.7B Thermo-Mechanically Treated bars (Fe-500D)10mm dia.

Cold twisted bars

Details of cost for 1 quintal-

Materials:

Deformed twisted

Steel bars 1.00q

Wastage @ 5% = 0.05 q

Total = 1.05 q

quintal	1.05	5508.50	(1005B)		5783.93
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Carriage of steel 1.05/10=0.105 t	tonne	0.105	145.72	(2205)	15.30
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Binding wire	kilogram	5.00	46.00	(7335)	230.00
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Cover block	LS	26.00	2.12	(9999)	55.12
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Labour:

Same as per item no. 5.29.1-B	Kg	1	776.05	(5.29.1-B)	776.05
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Sundries	LS	26.91	2.12	(9999)	57.05
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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add for water charges @ 1 %					6917.44
	Total					69.17
	Add GST 12% on "X"(multiplying factor 0.1405)					6986.62 (X)
	Total					981.62
	Add for contractor's profit and over-heads @ 15%					7968.24 (Y)
	Cost of 100 kg					<u>1195.24</u>
	Cost of 1 kg					9,163.47
	Add labour cess @ 1%					91.63
	Rate including labour cess					0.92
						92.55
	Say			₹92.60	Per Kg.	

5.22.7C Thermo-Mechanically Treated bars (Fe-500D)12mm dia.

Cold twisted bars

Details of cost for 1 quintal-

Materials:

Deformed twisted

Steel bars 1.00q

Wastage @ 5% = 0.05 q

Total = 1.05 q

Carriage of steel 1.05/10=0.105 t

Binding wire

Cover block

Labour:

Same as per item no. 5.29.1-B

Sundries

	quintal	1.05	5449.20	(1005C)	5721.66
	tonne	0.105	145.72	(2205)	15.30
	kilogram	5.00	46.00	(7335)	230.00
	1 time	10.00	2.12	(9999)	21.20
	Kg	1	776.05	(5.29.1-B)	776.05
	1 time	10.35	2.12	(9999)	<u>21.94</u>

Add for water charges @ 1 %

Add GST 12% on "X"(multiplying factor 0.1405)

Total

Add for contractor's profit and over-heads @ 15%

Cost of 100 kg

Cost of 1 kg

Add labour cess @ 1%

Rate including labour cess

Say ₹90.80 Per Kg.

5.22.7D Thermo-Mechanically Treated bars (Fe-500D)16mm dia.

Cold twisted bars

Details of cost for 1 quintal-

Materials:

Deformed twisted

Steel bars 1.00q

Wastage @ 5% = 0.05 q

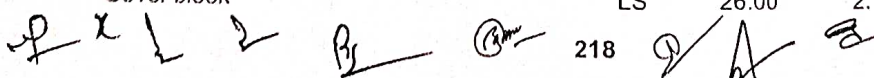
Total = 1.05 q

Carriage of steel 1.05/10=0.105 t

Binding wire

Cover block

	quintal	1.05	5449.20	(1005D)	5721.66
	tonne	0.105	145.72	(2205)	15.30
	kilogram	5.00	46.00	(7335)	230.00
	LS	26.00	2.12	(9999)	55.12

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Labour:					
	Same as per item no. 5.29.1-B	Ls	1	776.05	(5.29.1-B)	776.05
	Sundries	1 time	26.91	2.12	(9999)	57.05
						6855.18
	Add for water charges @ 1 %					68.55
						6923.73
	Add GST 12% on "X"(multiplying factor 0.1405)					972.78
	Total					7896.51 (Y)
	Add for contractor's profit and over-heads @ 15%					1184.48
	Cost of 100 kg					9,080.99
	Cost of 1 kg					90.81
	Add labour cess @ 1%					0.91
	Rate including labour cess					91.72
	Say			₹91.70	Per Kg.	

5.22.7E Thermo-Mechanically Treated bars (Fe-500D) 20mm dia.

Cold twisted bars						
Details of cost for 1 quintal-						
Materials:						
Deformed twisted Steel bars	1.00q					;
Wastage @ 5% = 0.05 q						
Total = 1.05 q		quintal	1.05	5449.20	(1005E)	5721.66
Carriage of steel 1.05/10=0.105 t		tonne	0.105	145.72	(2205)	15.30
Binding wire		kilogram	5.00	46.00	(7335)	230.00
Cover block		1 time	26.00	2.12	(9999)	55.12
Labour:						
Same as per item no. 5.29.1-B		Kg	1	776.05	(5.29.1-B)	776.05
Sundries		1 time	26.91	2.12	(9999)	57.05
						6855.18
Add for water charges @ 1 %						68.55
						6923.73
Add GST 12% on "X"(multiplying factor 0.1405)						972.78
Total						7896.51 (Y)
Add for contractor's profit and over-heads @ 15%						1184.48
Cost of 100 kg						9,080.99
Cost of 1 kg						90.81
Add labour cess @ 1%						0.91
Rate including labour cess						91.72
	Say			₹91.70	Per Kg.	

5.22.7F Thermo-Mechanically Treated bars (Fe-500D) 25mm dia.

Cold twisted bars						
Details of cost for 1 quintal-						
Materials:						
Deformed twisted Steel bars	1.00q					;
Wastage @ 5% = 0.05 q						
Total = 1.05 q		quintal	1.05	5449.20	(1005F)	5721.66
Carriage of steel 1.05/10=0.105 t		tonne	0.105	145.72	(2205)	15.30
Binding wire		kilogram	5.00	46.00	(7335)	230.00
Cover block		LS	26.00	2.12	(9999)	55.12

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Labour:					
	Same as per item no. 5.29.1-B	Kg	1	776.05	(5.29.1-B)	776.05
	Sundries	LS	26.91	2.12	(9999)	57.05
						6855.18
	Add for water charges @ 1 %					68.55
						6923.73
	Add GST 12% on "X"(multiplying factor 0.1405)					972.78
	Total					7896.51 (Y)
	Add for contractor's profit and over-heads @ 15%					1184.48
	Cost of 100 kg					9,080.99
	Cost of 1 kg					90.81
	Add labour cess @ 1%					0.91
	Rate including labour cess					91.72
	Say			₹91.70	Per Kg.	

5.22.7G Thermo-Mechanically Treated bars (Fe-500D) 28mm dia.

	Cold twisted bars					
	Details of cost for 1 quintal-					
	Materials:					
	Deformed twisted					
	Steel bars 1.00q					
	Wastage @ 5% = 0.05 q					
	Total = 1.05 q					
	quintal 1.05			5449.20	(1005G)	5721.66
	Carriage of steel 1.05/10=0.105 t	tonne	0.105	145.72	(2205)	15.30
	Binding wire	kilogram	5.00	46.00	(7335)	230.00
	Cover block	LS	26.00	2.12	(9999)	55.12
	Labour:					
	Same as per item no. 5.29.1-B	Kg	1	776.05	(5.29.1-B)	776.05
	Sundries	LS	26.91	2.12	(9999)	57.05
						6855.18
	Add for water charges @ 1 %					68.55
						6923.73
	Add GST 12% on "X"(multiplying factor 0.1405)					972.78
	Total					7896.51 (Y)
	Add for contractor's profit and over-heads @ 15%					1184.48
	Cost of 100 kg					9,080.99
	Cost of 1 kg					90.81
	Add labour cess @ 1%					0.91
	Rate including labour cess					91.72
	Say			₹91.70	Per Kg.	

5.22.7H Thermo-Mechanically Treated bars (Fe-500D) 32mm dia.

	Cold twisted bars					
	Details of cost for 1 quintal-					
	Materials:					
	Deformed twisted					
	Steel bars 1.00q					
	Wastage @ 5% = 0.05 q					
	Total = 1.05 q					
	quintal 1.05			5449.20	(1005H)	5721.66


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Carriage of steel 1.05/10=0.105 t	tonne	0.105	145.72	(2205)	15.30
	Binding wire	kilogram	5.00	46.00	(7335)	230.00
	Cover block	1 time	26.00	2.12	(9999)	55.12
	Labour:					
	Same as per item no. 5.29.1-B	Kg	1	776.05	(5.29.1-B)	776.05
	Sundries	1 time	26.91	2.12	(9999)	57.05
						6855.18
	Add for water charges @ 1 %					68.55
	Total					6923.73 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					972.78
	Total					7896.51 (Y)
	Add for contractor's profit and over-heads @ 15%					1184.48
	Cost of 100 kg					9,080.99
	Cost of 1 kg					90.81
	Add labour cess @ 1%					0.91
	Rate including labour cess					91.72
	Say					₹91.70 Per Kg.

5.22.7 I Hard drawn steel wire fabric

Code	Description	Unit	Quantity	Rate	Code	Amount
	Details of cost for 1 quintal- MATERIAL					
	Hard drawn steel wire fabric 100kg, 7.75kg per sqm = 12.903 sqm.					
	Add 5% wastage = 0.645 sqm.					
	Total =13.548 sqm					
1021	Hard drawn steel wire fabric	sqm	13.55	430.00	1021	5825.64
2205	Carriage of Steel	tonne	0.11	145.72	2205	15.30
9999	Cover block	L.S.	26.00	2.12	9999	55.12
	LABOUR					
	For cutting and laying in position.					
103	Blacksmith 2nd class	day	0.20	448.00	0103	89.60
114	Beldar	day	1.50	368.00	0114	552.00
9999	Sundries and binding wire	L.S.	13.52	2.12	9999	28.66
	Total					6566.32
	Add for water charges @ 1 %					65.66
	Total					6631.99 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					931.79
	Total					7563.78 (Y)
	Add for contractor's profit and over-heads @ 15%					1134.57
	Cost of 100 kg					8,698.35
	Cost of 1 kg					86.98
	Add labour cess @ 1%					0.87
	Rate including labour cess					87.85
	Say					₹87.90 Per Kg.

5.23 Extra for RCC work in superstructure above floor V level for each four floors or part there of.

Details of cost for per cum
 Extra labour element required for lifting of
 materials 0.75x2.00=1.50
 Coolies

		per day	1.5	318.00	(0115)	477.00
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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add for water charges @ 1%					4.77
	Total					481.77 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					67.69
	Total					549.46 (Y)
	Add for contractor's profit and over-heads @ 15%					<u>82.42</u>
	Cost of 1 cum					631.88
	Add labour cess @ 1%					6.32
	Rate including labour cess					638.20

Say ₹638.20 Per cum

5.23A Smooth finishing of the exposed surface of R.C.C. work with 6 mm thick cement mortar 1:3 (1 Cement : 3 fine sand).

Code	Description	Unit	Quantity	Rate	Rate Code.	Amount
	Details of cost for 10sqm.					
	MATERIAL					
	Cement mortar 1 : 3 (1 cement : 3 fine sand)					
2113	Rate as per item No 3.3 of SH: Mortars	cum	0.07	2256.97	2113	162.50
155	Mason (average)	day	0.51	369.00	0155	188.19
115	Coolie	day	10.75	318.00	0115	238.50
101	Bhisti	day	0.92	332.00	0101	305.44
9999	Extra for removing burrs, cleaning with wire brushes pock marking with pointed tool etc.complete	L.S.	13.39	2.12	9999	28.39
9999	Scaffolding and Sundries	L.S.	11.70	2.12	9999	24.80
	TOTAL					947.82
	Add 1 % Water charges					12.38
	Total					960.20 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					134.91
	Total					1095.11 (Y)
	Add for contractor's profit and over-heads @ 15%					<u>164.27</u>
	Cost of 10 Sqm.					1259.38
	Cost per sqm.					125.94
	Add labour cess @ 1%					1.26
	Rate including labour cess					127.20

Say ₹127.20 Per sqm

5.24 Extra for rendering smooth the top of suspended floors, landings and staircases (treads and risers) with cement mortar 1:2(1 cement:2 coarse sand) including a floating coat of neat cement and protecting the surface with a layer of 7.5cm of earth laid over 15 mm of fine sand in case of suspended floor and bricks laid in mud mortar in case of landings and steps including subsequent removal and cleaning of the same.

Details of cost for 10 sqm=

Materials:

Cement mortar 1:2(1cement:2 coarse sand)

finishing (floating coat)	cum	0.03	3601.99	(2111)	108.06
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Cement	tonne	0.0213	4408.00	(0367)	93.89
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Carriage of cement	tonne	0.0213	145.72	(2209)	3.10
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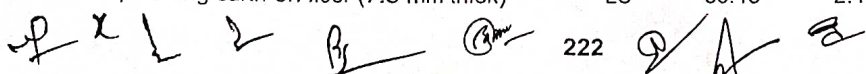
Labour:

Mason I class-	per day	0.20	413.00	(0123)	82.60
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Mason II class	per day	0.20	369.00	(0124)	73.80
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Beldar	per day	0.25	306.00	(0114)	76.50
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Spreading earth on floor (7.5 mm thick)	LS	35.49	2.12	(9999)	75.24
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BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Spreading sand 15 mm thick on floor -					
	Course sand	cum	0.15	175.8	(0982)	26.37
	Carriage of sand	cum	0.15	0.00	(2261)	0.00
	Labour					
	Disposal of earth spread over floor protection	LS	5.33	2.12	(9999)	11.30
	Sundries	LS	6.24	2.12	(9999)	13.23
						564.09
	Add for water charges @ 1 %					5.64
	Total					569.73 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					80.05
	Total					649.78 (Y)
	Add for contractor's profit and over-heads @ 15%					97.47
	Cost of 10 sqm					747.25
	Cost of 1 sqm					74.72
	Add labour cess @ 1%					0.75
	Rate including labour cess					75.47
	Say					₹75.50 Per sqm
5.25	Providing and fixing in position copper plate as per design for expansion joints.					
	Details of cost for 3 m length, width 250 mm and 1.6 mm thick =0.750 sqm-					
	Weight of copper plate @ 14.08 kg per sqm=10.56 kg.					
		kilogram	10.56	527.00	(0967)	5565.12 (A)
	Labour:					
	For making the required shape and placing in position					
	Blacksmith II class	per day	0.25	369.00	(0103)	92.25 (A)
	Sundries and carriage etc.	LS	6.24	2.12	(9999)	13.23 (A)
						5670.60 (A)
	Bitumen mix filler		0.0005	238.68	(5.35)	0.12
	Add for water charges @ 1 % on A only					56.71 (B)
	Total					5727.42 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					804.70
	Total					6532.13 (Y)
	Add for contractor's profit and over-heads @ 15% on A+B					979.82
	Cost of 10.56 kg					7511.95
	Cost of 1 kg					711.36
	Add labour cess @ 1%					7.11
	Rate including labour cess					718.47
	Say					₹718.50 Per Kg

5.26 Providing and filling in position, blown bitumen in expansion joints.

Details of cost for a joint-2.5 cm wide 15 cm deep and 300 m in length-

Cubical content of joint-
300x0.025x0.150=1.125 cum

Materials:

Bitumen 85/25 @ 1050 kg per cum
1.25x1050 kg. =1181.25 kg

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BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add wastage @5% =59.06kg =1240.31kg =1.240 t	tonne	1.24	34790.00	(0313)	43139.6
	Carriage of bitumen	tonne	1.24	163.93	(2211)	203.27
	Steam coal for heating of bitumen @ 2.0 quintal per tonne of bitumen. 1.24x2.0=2.48q=0.248 t	quintal	2.48	440.00	(0370)	1091.20
	Carriage of steam coal	tonne	0.248	187.35	(2200)	46.46
	Labour for heating, mixing and filling- Mason 1st class	per day	2.52	413.00	(0123)	1040.76 (C)
	Mason 2nd class	per day	2.52	369.00	(0124)	929.88 (C)
	Beldar	per day	8.06	306.00	(0114)	2466.36 (C)
	Sundries	LS	121.16	2.12	(9999)	256.86 (C)
						49174.40
	Add for water charges @ 1% total					491.74
	Add GST 12% on "X"(multiplying factor 0.1405)					49666.14 (X)
	Total					6978.09
	Add for contractor's profit and over-heads @ 15%					56644.23 (Y)
	Cost of 11250 cum ie, 300m long 2 5cm wide 15cm deep					8496.63
	Cost of 100 m L x 1cm W x 1cm D					65140.87
	Add labour cess @ 1%					579.03
	Rate including labour cess					5.79
						584.82
	Say Rs.					₹584.80 per 100m L x 1cm W x 1cm D

5.27 Providing and filling in position bitumen mix filler of Proportion 80 kg of hot bitumen, 1 kg. of cement and 0.25 cubicmetre of coarse sand for expansion joints.

Details of cost for a joint 2.5 cm wide 15 cm deep
and 300 m in length-

Cubical contents of joints

300x0.150x0.025=1.125 cum

Material:

Paving bitumen of grade VG-10 of approved

Bitumen s-90=256.30 kg per cum

256.30x1.125=288.34 kg

Add for wastage @ 5%= 14.42 kg

302.76 kg. or=0.303 tonne

Carriage of bitumen

Steam coal for heating of bitumen @ 2.0 quintal

per tonne of bitumen i.e. 0.303x2.0=0.606 q

Carriage of steam coal

Cement:

1/80x288.34=3.6 kg=0.0036 Tonne

Total

Carriage of cement

coarse sand 1/4th of the quantity of cement

in kg =3.6/4=0.90 cum

Carriage of coarse sand

Labour for heating and filling: 100mLx1cmWx1cmD

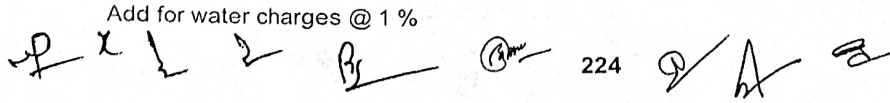
Same as © in item No. 5.34

Sundries

Total

Add for water charges @ 1%

		tonne	0.303	48902.00	(0309)	14817.31
	Carriage of bitumen	tonne	0.303	163.93	(2211)	49.67
	Steam coal for heating of bitumen @ 2.0 quintal per tonne of bitumen i.e. 0.303x2.0=0.606 q	quintal	0.606	440.00	(0370)	266.64
	Carriage of steam coal	tonne	0.061	187.35	(2200)	11.43
	Cement:					
	1/80x288.34=3.6 kg=0.0036 Tonne	tonne	0.0036	4408.00	(0367)	15.87
	Total					15160.91
						15160.91
	Carriage of cement	tonne	0.0036	145.72	(2209)	0.52
	coarse sand 1/4th of the quantity of cement in kg =3.6/4=0.90 cum	cum	0.90	175.80	(0982)	158.22
	Carriage of coarse sand	cum	0.90	0.00	(2203)	0.00
	Labour for heating and filling: 100mLx1cmWx1cmD		1.00	4693.86	(5.34-C)	4693.86
	Sundries	LS	121.16	2.12	(9999)	256.86
	Total					20270.38
	Add for water charges @ 1%					202.70



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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Total					20473.08 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					2876.47
	Total					23349.55 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					3502.43
	Total					26851.98
	Cost of 300m length 2.5cm width and 15cm depth					238.684
	Cost of per 100m length per cm width					
	Add labour cess @ 1%					2.39
	Rate including labour cess					241.07
	Say Rs.					₹241.07 per 100mLx1cmWx1cmD
5.28	Providing and fixing in position 12 mm thick bitumen imregnated fibre board conforming to IS: 1838 including cost of primer, sealing compound Grade-A in expansion joints.					
	Details of cost for joint 100 m long 10 cm deep and 12mm thck.					
	Material:					
	(i) Impregnated fiore board 1x100x0.075=7.5 sqm		7.50	375.00	(0339)	2812.50
	(ii) Primer @ 80.m per litre foi 100 m =100/80x1=1.25 litre.	litre	1.25	47.00	(0316)	58.75
	(iii) Sealing compound @ 3 m per litre, for 100 m =100/3x1=33.3 litres					
	Wastage @5% =1.67 lire					
	35.00 litre					
	(1 litre=0.9 kg)=35.00x0.9=31.5 kg.	kilogram	31.50	29.00	(0314)	913.5
	Carriage	1 time	10.35	2.12	(9999)	21.94
	Labour:					
	Mason I class	per day	0.12	413.00	(0123)	49.56
	Mason II class	per day	0.12	369.00	(0124)	44.28
	Beldar	per day	0.25	306.00	(0114)	76.50
	Sundries	1 time	10.35	2.12	(9999)	21.94
						3998.97
	Add for water charges @ 1 %					39.99
	Total					4038.96 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					567.47
	Total					4606.44 (Y)
	Add for contractor's profit and over-heads @ 15%					690.97
	Cost of 1000 sqm ie, 100m length 10cm depth					5297.40
	Cost of 100 m Length x 1cm depth					529.740
	Add labour cess @ 1%					5.30
	Rate including labour cess					535.04
	Say Rs.					₹535.00 per 100mLx1cmD

5.29 Providing and fixing sheet covering over expansion joints with iron screws as per design to match the colour/shade of wall treatment.

5.29.1 Non -Asbestos Fibre cement board 6 mm thick as per IS:14862

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BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.29.1.1	150 mm wide					
	Details of cost for 3m length					
	Materials:					
	Non - Asbestos multi purpose fibre (high impact poly propylene reinforced) cement board 6mm thick.					
	3m x 15 cm wide =0.45 sqm					
	Add for wastage @ 5%=0.02					
	0.47	sqm	0.47	210.00	(0236)	98.70
	Carriage of sheets-					
	0.45 sqm=2.0049 tonne	tonne	0.0049	145.72	(2273)	0.71
						99.41
						99.41
	50 mm iron sscrews with washer and rawl plugs LS		40.3	2.12	(9999)	85.44
	Labour:					
	Carpenter 2nd class	per day	0.2	369.00	(0112)	73.80
	Beldar	per day	0.2	306.00	(0114)	61.20
						319.85
	Add for water charges @ 1 %					3.20
	Total					323.05 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					45.39
	Total					368.44 (Y)
	Add for contractor's profit and over-heads @ 15% on"Y"					55.27
	Cost of 3 m					423.70
	Cost of 1 m					141.23
	Add labour cess @ 1%					1.41
	Rate including labour cess					142.64
				Say	₹142.60 per meter	

5.29.1.2 200mm wide

Details of cost for 3m length

Materials:

Non - Asbestos multi purpose fibre (high impact poly propylene reinforced) cement board 6mm thick.

3m x 20 cm wide =0.60 sqm

Add for wastage @ 5%=0.03 sqm

0.63

Carriage of sheets-

0.60sqm=0.0065 tonne

50 mm iron screws with washer and rawl plugs LS

Labour:

Carpenter 2nd class

Beldar

Add for water charges @ 1 %


Total

Add GST 12% on "X"(multiplying factor 0.1405)

Total

Add for contractor's profit and over-heads @ 15%"Y"

0.63	sqm	0.63	210.00	(0236)	132.30
0.60sqm=0.0065 tonne	tonne	0.0065	145.72	(2273)	0.95
50 mm iron screws with washer and rawl plugs LS	LS	53.82	2.12	(9999)	114.10
Carpenter 2nd class	per day	0.27	369.00	(0112)	99.63
Beldar	per day	0.27	306.00	(0114)	82.62
					429.60
Add for water charges @ 1 %					4.30
Total					433.89 (X)
Add GST 12% on "X"(multiplying factor 0.1405)					60.96
Total					494.85 (Y)
Add for contractor's profit and over-heads @ 15%"Y"					74.23


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Cost of 3 m					569.08
	Cost of 1 m					189.69
	Add labour cess @ 1%					1.90
	Rate including labour cess					191.59
			Say			₹191.60 per meter
5.29.2 Aluminium fluted strps 3.15 mm thick						
5.29.2.1 150 mm wide.						
	Details of cost for 1 metre					
	Materials:					
	3.15 mm thick aluminium fluted strips - 1m x15 cm wide	metre	1.00	286.00	(2391)	286.00
	Iron screws 25 mm	100 Nos	0.06	40.00	(0639)	2.40
	Carriage of materials	LS	1.04	2.12	(9999)	2.20
	Labour:					
	Carpenter 2nd class	per day	0.067	369.00	(0112)	24.72
	Beldar	per day-	0.067	306.00	(0114)	20.50
	Sundries	LS	1.82	2.12	(9999)	3.86
						339.69
	Add for water charges @ 1 %					3.40
	Total					343.09 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					48.20
	Total					391.29 (Y)
	Add for contractor's profit and over-heads @ 15% on"Y"					58.69
	Cost of 1 m					449.98
	Add labour cess @ 1%					449.98
	Rate including labour cess					4.50
						454.48
			Say			₹454.50 per meter
5.29.2.2 200 mm wide						
	Details of cost for 1 metre					
	Materials:					
	3.15 mm thick alu inium fluted strips 1mx20 cm wide	metre	1.00	381.00	(2392)	381.00
	Iron screws 25 mm	100 Nos	0.06	40.00	(0639)	2.40
	Carriage of materials	1 time	1.30	2.12	(9999)	2.76
	Labour:					
	Carpenter 2nd class	per day	0,089	369.00	(0112)	32.84
	Beldar	per day	0.089	306.00	(0114)	27.23
	Sundries	1 time	2.34	2.12	(9999)	4.96
						451.19
	Add for water charges @ 1 %					4.51
	Total					455.70 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					64.03
	Total					519.73 (Y)
	Add for contractor's profit and over-heads @ 15%					77.96
	Cost of 1 m					597.69
	Add labour cess @ 1%					5.98

BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
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Rate including labour cess 603.67

Say ₹603.70 per meter

5.30 Add or deduct for plaster drip course/groove in plastered surface or moulding to R.C.C.

projections.

Details of cost for 30 metre long throating or plaster or moulding-

Labour:

Mason 1st class	per day	0.50	413.00	(0123)	206.50
Mason lind class	per day	0.50	369.00	(0124)	184.50
Coolie	per day	1.00	318.00	(0115)	318.00
Add for materials (cement mortar etc.)	LS	26.91	2.12	(9999)	57.05

766.05

Add for water charges @ 1%

7.66

Add GST 12% on "X"(multiplying factor 0.1405)

773.71 (X)

108.71

Total

882.42 (Y)

Add for contractor's profit and over-heads @ 15%

132.36

Cost of 30 m

1014.78

Cost of 1 m

33.83

Add labour cess @ 1%

0.34

Rate including labour cess

34.17

Say ₹34.20 per meter

5.31 Extra for laying reinforced cement concrete in or under water and/or liquid mud including cost or pumping or bailing out water and removing slush etc. complete.

Note:- The quantity will be calculated by multiplying the depth measured from the subsoil water level upto the centre of gravity of the R.C.C. under subsoil water with the quantity of R.C.C. in cubic metre executed under subsoil water. The depth of centre of gravity shall be recorded correct to 0.1 m. 0.05 m or more shall be taken as 0.1 and less than 0.05 m ignored. No extra payment shall be made for placing reinforcement or centering & shuttering under subsoil water conditions.

Details of cost for depth of water 0.3 m

Quantity of concrete=14 cum

Analysis same as per item number 4.15

pumping hour=3 hrs.or 0.375 day.

Higher charges of pumpset of capacity 4000 liters/hrs.

	Per day	0.375	700.00	(0011)	262.50
Beldar for clearing slush	per day	4.00	306.00	(0114)	1224.00

1486.50

Add for water charges @ 1%

14.87

Total

1501.37 (X)

Add GST 12% on "X"(multiplying factor 0.1405)

210.94

Total

1712.31 (Y)

Add for contractor's profit and over-heads @ 15%

256.85

Cost of 14 cum per 0.3m depth

1969.15

Cost of 1 cum per m depth

468.85

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add labour cess @ 1%					4.69
	Rate including labour cess					473.54
			Say	₹473.50	per cum per m	

Note for item No. 5.31*

The quantity will be calculated by multiplying the depth measured from the sub-soil water level upto centre of gravity water level with quantity of concrete in cum of concrete under sub-soil water. executed under sub-soil water. The depth of centre of gravity shall be reckoned correct to 0.1 m. 0.05 m or more shall be taken as 0.1 m and less than 0.05 m ignored.

5.32 Extra for laying reinforced cement concrete in or under foul positions.

Details of cost for 1 cum.

Analysis same as per item number 4.16

Extra labour due to slow progress

Mason (brick layer) 1 st class	day	0.02	413.00	123	8.26
Mason (brick layer) 2nd class	day	0.02	369.00	124	7.38
Beldar	day	0.25	306.00	114	76.50
Coolie	day	0.15	318.00	115	47.70

TOTAL

139.84

Add Water Charges @ 1%

1.40

TOTAL

141.24 (X)

Add GST 12% on "X" (multiplying factor 0.1405)

19.84

Total

161.08 (Y)

Add CPOH @ 15%

24.16

Cost of 1 cum

185.24

Add labour cess @ 1%

1.85

Rate including labour cess

187.09

Say ₹187.10

5.33A Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering finishing and reinforcement, M-20 grade reinforced cement concrete

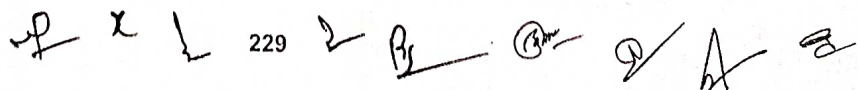
5.33A.1 All work upto plinth level

Details of cost for 1 cum

Materials:

Stone Aggregate (Single size) : 20 mm nominal size	cum	0.57	595.36	(0295)	339.36
Stone Aggregate (Single size) : 10 mm nominal size	cum	0.28	657.91	(0297)	184.21
Carriage of aggregate	cum	0.85	0.00	(2202)	0.00
Coarse sand	cum	0.425	175.80	(0982)	74.72
Carriage of coarse sand	cum	0.425	0.00	(2203)	0.00
Cement	tonne	0.383	4408.00	(0367)	1688.26
Carriage of cement	tonne	0.383	145.72	(2209)	55.81

Labour for mixing, pouring, consolidating and curing:



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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Mason	per day	0.17	369.00	(0155)	62.73
	Beldar	per day	2.00	306.00	(0114)	612.00
	Bhisti	per day	0.90	332.00	(0101)	298.80
	Mixer	Per day	0.07	800.00	(0002)	56.00
	Vibrator	Per day	0.07	350.00	(0012)	24.50
	Batching plant centrally mounted heavy duty chute and equipment for conveying batched material	LS	50.00	2.12	(9999)	106.00
	Sundries	LS	25.00	2.12	(9999)	53.00
						<u>3555.39</u>
	Add for water charges @ 1 %					35.55
						3590.94
	Add GST 12% on "X" (multiplying factor 0.1405)					504.53
	Total					4095.47 (Y)
	Add for contractor's profit and over-heads @ 15%					614.32
	Cost of 1 cum					<u>4709.79</u>
	Add labour cess @ 1%					47.10
	Rate including labour cess					4756.89
						Say ₹4756.90 per cum

5.33A.2 All work from plinth level upto floor V level

5.33A.2.1 Walls columns, pillars, posts and struts

Details of cost for 9.18 cum

Materials-

Stone aggregate 20mm	cum	5.23	595.36	(0295)	3113.73
Stone aggregate 10 mm	cum	2.57	657.91	(0297)	1690.83
Carriage of aggregate	cum	7.80	0.00	(2202)	0.00
Coarse sand	cum	3.90	175.80	(0982)	685.62
Carriage of sand	cum	3.90	0.00	(2203)	0.00
Cement	tonne	3.52	4408.00	(0367)	15516.16
Carriage of cement .	tonne	3.52	145.72	(2209)	512.93

Labour:

Beldar	per day	11.29	306.00	(0114)	3454.74
Coolie	per day	7.53	318.00	(0115)	2394.54
Bhisti	per day	8.26	332.00	(0101)	2742.32
Mason Ist class	per day	0.92	413.00	(0123)	379.96
Mason IInd class	per day	0.92	369.00	(0124)	339.48
Mixer	Per day	0.64	800.00	(0002)	512.00
Vibrator	Per day	0.64	350.00	(0012)	224.00

Batching plant, centrally maounted heavy duty chute and equipment for converymy batched material

	1 time	460.00	2.12	(9999)	975.20
Sundries	1 time	230.00	2.12	(9999)	487.60
					<u>33029.12</u>

Extra labour for lifting of material

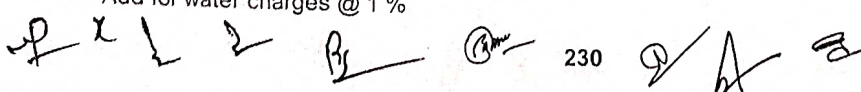
Average 3/2 floor=1.5

1.5x0.75x9.18

	per day	10.35	318.00	(0115)	3291.30
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Add for water charges @ 1 %

36320.42
363.20


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
						36683.62
	Add GST 12% on "X"(multiplying factor 0.1405)					5154.05
	Total					41837.67 (Y)
	Add for contractor's profit and over-heads @ 15%					6275.65
	Cost of 9.18 cum					48113.32
	Cost of 1 cum					5241.10
	Add labour cess @ 1%					52.41
	Rate including labour cess					5293.51
	Say			₹5293.50	per cum	
5.33A.	Beams, plinth beams, girders, bressumers. contilevers, Suspended floors lintels roofs and					
2.2	staircases including spiral staircases, shelves etc.					
	Details of cost for 1 cum					
	Materials:					
	Stone aggregate 20 mm	cum	0.57	595.36	(0295)	339.36
	Stone aggregate 10 mm	cum	0.28	657.91	(0297)	184.21
	Carriage of aggregate	cum	0.85	0.00	(2202)	0.00
	Coarse sand	cum	0.424	175.80	(0982)	74.54
	Carriage of sand	cum	0.425	0.00	(2203)	0.00
	Cement	tonne	0.383	4408.00	(0367)	1688.26
	Carriage of cement	tonne	0.383	145.72	(2209)	55.81
	Labour:					
	Mason	per day	0.20	369.00	(0155)	73.80
	Beldar	per day	3.00	306.00	(0114)	918.00
	Bhisti	per day	0.90	332.00	(0101)	298.80
	Mixer	Per day	0.07	800.00	(0002)	56.00
	Vibrator	Per day	0.07	350.00	(0012)	24.50
	Sundries	1 time	5.50	2.12	(9999)	11.66
	Batching plant, centrally mounted heavy duty chute and equipment for conveying batched materials					
		1 time	50.00	2.12	(9999)	106.00
	Sundries	1 time	25.00	2.12	(9999)	53.00
	Extra labour for lifting of material (above plinth upto V level) Average 3/2 floor=1.5					
		per day	1.13	318.00	(0115)	359.34
	Add for water charges @ 1 %					4243.28
	Total					42.43
	Add GST 12% on "X"(multiplying factor 0.1405)					4285.72
	Total					602.14
	Add for contractor's profit and over-heads @ 15%					4887.86 (Y)
	Cost of 1 cum					733.18
	Add labour cess @ 1%					5621.04
	Rate including labour cess					56.21
	Say			₹5677.20	per cum	

5.33A.3 Extra for R.C.C work above floor V level for each four floors or part there of.

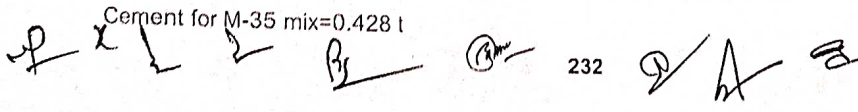
Details of cost for 1 cum

Labour :

Extra labour required for lifting Average floor level =2.5

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	0.75x2.0=1.50	per day	1.50	318.00	(0115)	477.00
	Add for water charges @ 1 %					4.77
	Add GST 12% on "X"(multiplying factor 0.1405)					481.77 X
	Total					67.69
	Add for contractor's profit and over-heads 15%					549.46 (Y)
	Cost of 1 cum					<u>82.42</u>
	Add labour cess @ 1%					631.88
	Rate including labour cess					6.32
						638.20
	Say			₹638.20	per cum	
5.33B	Add or deduct for providing richer or leaner mixes respectively at all floor levels.					
5.33B.1	Providing M-25 grade R.C.C. instead of M-20 grade R.C.C.					
	Details of cost for 1 cum					
	Cement for M-25 mix=0.410t					
	Cement for M-20 mix=0.383 t					
	Differene =0.027 t	tonne	0.027	4408.00	(0367)	119.02
	Carriage of cement	tonne	0.027	145.72	(2209)	3.93
	Add for water charges @ 1 %					1.23
	Total					124.18 X
	Add GST 12% on "X"(multiplying factor 0.1405)					17.45
	Total					141.63 (Y)
	Add for contractor's profit and over-heads @ 15%					<u>21.24</u>
	Cost of 1 cum					162.87
	Add labour cess @ 1%					1.63
	Rate including labour cess					164.50
	Say			₹164.50	per cum	
5.33B.2	Providing M-30 grade R.C.C. instead of M-20 grade R.C.C.					
	Details of cost for 1 cum					
	Cement for M-30 mix=0.420 t					
	Cement for M-20 mix =0.383 t					
	Difference cement	tonne	0.037	4408.00	(0367)	163.10
	Carriage of cement	tonne	0.037	145.72	(2209)	5.39
	Add for water charges @ 1 %					1.68
	Add GST 12% on "X"(multiplying factor 0.1405)					170.17 (X)
	Total					23.91
	Add for contractor's profit and over-heads @ 15%					194.08 (Y)
	Cost of 1 cum					<u>29.11</u>
	Add labour cess @ 1%					223.19
	Rate including labour cess					2.23
						225.42
	Say			₹225.40	per cum	
5.33B.3	Providing M-35 grade R.C.C. instead of M-20 grade R.C.C.					
	Details of cost for 1 cum.					
	Cement for M-35 mix=0.428 t					


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Cement for M-20 mix=0.383 t					
	Defferene = 0.045 t	tonne	0.045	4408.00	(0367)	198.36
	Carriage of cement	tonne	0.045	145.72	(2209)	6.56
	Add for water charges @ 1 %					2.05
	Total					206.97 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					29.08
	Total					236.05 (Y)
	Add for contractor's profit and over-heads @ 15%					35.41
	Cost of 1 cum					271.45
	Add labour cess @ 1%					2.71
	Rate including labour cess					274.16
	Say			₹274.16	per cum	

5.33B.4 Providing M-15 grade R.C.C. instead of M-20

grade R.C.C.

Details of cost for 1 cum

Cement for M-15 mix=0.320 t

Cement for M-20 mix=0.383 t

Difference -0.063 t

tonne 0.063 4408.00 (0367) 277.70

Carriage of cement

tonne 0.063 145.72 (2209) 9.18

Add for water charges @ 1%

2.87

Total

289.75 (X)

Add GST 12% on "X"(multiplying factor 0.1405)

40.71

Total

330.46 (Y)

Add for contractor's profit and over-heads @ 15%

49.57

Cost of 1 cum

380.03

Add labour cess @ 1%

3.80

Rate including labour cess

383.83

Say ₹383.80 per cum

Note:- Actual weight for design mix will be worked out taking into consideration the cement requirement as per particular design mix.

Design Mix Concrete

- 5.33 Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana /Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate /retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete.

Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
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5.33.1 All works up to plinth level

5.33.1.1 Concrete of M-25 grade with minimum cement content of 330 kg/cum

Details of cost for 1.00 cum

Materials.

Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
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Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
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Carriage of aggregate.	cum	0.85	0	2202	0.00
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Coarse sand	cum	0.425	175.80	0982	74.72
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Carriage of Coarse sand	cum	0.425	0	2203	0.00
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Cement	tonne	0.33	4408.00	0367	1454.64
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Carriage of Cement	tonne	0.33	145.72	2209	48.09
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Plasticizer 0.50% of cement	kilogram	1.65	29.00	7318	47.85
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Production cost, pumping to respective floors and laying in position

Production cost of concrete by batch mix plant	cum	1.00	400.00	0004	400.00
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Pumping charges of concrete.	cum	1.00	210.00	0009	210.00
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Labour for pouring, consolidating & curing

Mason	Day	0.17	369.00	0155	62.73
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Beldar	Day	2.00	306.00	0114	612.00
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Bhisti	Day	0.90	332.00	0101	298.80
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Vibrator	Day	0.07	350.00	0012	24.50
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Sundries	L.S.	13.00	2.12	9999	27.56
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Total						3784.45
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Add 1% for water charges.						37.84
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Total						3822.30 (X)
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Add GST 12% on "X" (multiplying factor 0.1405)						537.03
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Total						4359.33 (Y)
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Add 15% for contractor's profit and overheads on "Y"						653.90
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Cost per 1.00 cum						5013.23
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Add labour cess @ 1%						50.13
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Rate including labour cess						5063.36
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Say ₹5063.40 per cum

5.33.1.2 Concrete of M-30 grade with minimum cement content of 350 kg/cum

Details of cost for 1.00 cum

Materials.

Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
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Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
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Carriage of aggregate.	cum	0.85	0	2202	0.00
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Coarse sand	cum	0.425	175.80	0982	74.72
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Carriage of Coarse sand	cum	0.425	0	2203	0.00
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Cement	tonne	0.35	4408.00	0367	1542.80
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Carriage of Cement	tonne	0.35	145.72	2209	51.00
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Plasticizer 0.50% of cement	kilogram	1.75	29.00	7318	50.75
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Production cost, pumping to respective floors and laying in position

Production cost of concrete by batch mix plant	cum	1.00	400.00	0004	400.00
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Pumping charges of concrete.	cum	1.00	210.00	0009	210.00
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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Labour for pouring, consolidating & curing					
	Mason	Day	0.17	369.00	0155	62.73
	Beldar	Day	2.00	306.00	0114	612.00
	Bhisti	Day	0.90	332.00	0101	298.80
	Vibrator	Day	0.07	350.00	0012	24.50
	Sundries	L.S.	13.00	2.12	9999	27.56
	Total					3878.43
	Add 1% for water charges.					38.78
	Total					3917.21 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					550.37
	Total					4467.58 (Y)
	Add 15% for contractor's profit and overheads on "Y"					670.14
	Cost per 1.00 cum					5137.72
	Add labour cess @ 1%					51.38
	Rate including labour cess					5189.10
				Say		₹5189.10 per cum

5.33.1.3 Concrete of M-35 grade with minimum cement content of 370 kg/cum

Details of cost for 1.00 cum

Materials.

Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
Carriage of aggregate.	cum	0.85	0	2202	0.00
Coarse sand	cum	0.425	175.80	0982	74.72
Carriage of Coarse sand	cum	0.425	0	2203	0.00
Cement	tonne	0.37	4408.00	0367	1630.96
Carriage of Cement	tonne	0.37	2.12	2209	0.78
Plasticizer 0.50% of cement	kilogram	1.85	29.00	7318	53.65

Production cost, pumping to respective floors and laying in position

Production cost of concrete by batch mix plant	cum	1.00	400.00	0004	400.00
Pumping charges of concrete.	cum	1.00	210.00	0009	210.00

Labour for pouring, consolidating & curing

Mason	Day	0.17	369.00	0155	62.73
Beldar	Day	2.00	306.00	0114	612.00
Bhisti	Day	0.90	332.00	0101	298.80
Vibrator	Day	0.07	350.00	0012	24.50
Sundries	L.S.	13.00	2.12	9999	27.56
Total					3919.27

Add 1% for water charges.

Total					3958.46
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Add GST 12% on "X"(multiplying factor 0.1405)

Total					4514.63
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Add 15% for contractor's profit and overheads on "Y"

Cost per 1.00 cum					5191.82
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Add labour cess @ 1%

Rate including labour cess					5243.74
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Say ₹5243.70 per cum

BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.33.1.4	Concrete of M-40 grade with minimum cement content of 390 kg/cum					
	Description	Unit	Quantity		Code	
	Details of cost for 1.00 cum					
	Materials.					
	Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
	Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
	Carriage of aggregate.	cum	0.85	0	2202	0.00
	Coarse sand	cum	0.425	175.80	0982	74.72
	Carriage of Coarse sand	cum	0.425	0	2203	0.00
	Cement	tonne	0.39	4408.00	0367	1719.12
	Carriage of Cement	tonne	0.39	145.72	2209	56.83
	Plasticizer 0.50% of cement	kilogram	1.95	29.00	7318	56.55
	Production cost, pumping to respective floors and laying in position					
	Production cost of concrete by batch mix plant	cum	1.00	400.00	0004	400.00
	Pumping charges of concrete.	cum	1.00	210.00	0009	210.00
	Labour for pouring, consolidating & curing					
	Mason	Day	0.17	369.00	0155	62.73
	Beldar	Day	2.00	306.00	0114	612.00
	Bhisti	Day	0.90	332.00	0101	298.80
	Vibrator	Day	0.07	350.00	0012	24.50
	Sundries	L.S.	13.00	2.12	9999	27.56
	Total					4066.38
	Add 1% for water charges.					40.66
	Total					4107.04
	Add GST 12% on "X" (multiplying factor 0.1405)					577.04
	Total					4684.08
	Add 15% for contractor's profit and overheads on "Y"					702.61
	Cost per 1.00 cum					5386.69
	Add labour cess @ 1%					53.87
	Rate including labour cess					5440.56
				Say	₹5440.60	per cum

5.33.1.5 Concrete of M-45 grade with minimum cement content of 400 kg/cum

	Details of cost for 1.00 cum					
	Materials.					
	Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
	Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
	Carriage of aggregate.	cum	0.85	0	2202	0.00
	Coarse sand	cum	0.425	175.80	0982	74.72
	Carriage of Coarse sand	cum	0.425	0	2203	0.00
	Cement	tonne	0.40	4408.00	0367	1763.20
	Carriage of Cement	tonne	0.40	145.72	2209	58.29
	Plasticizer 0.50% of cement	kilogram	2.00	29.00	7318	58.00
	Production cost, pumping to respective floors and laying in position					
	Production cost of concrete by batch mix plant	cum	1.00	400.00	0004	400.00
	Pumping charges of concrete.	cum	1.00	210.00	0009	210.00
	Labour for pouring, consolidating & curing					
	Mason	Day	0.17	369.00	0155	62.73

Handwritten signatures and initials: P, X, L, Z, B, (B), 236

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Handwritten signatures: P, A, B

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Beldar	Day	2.00	306.00	0114	612.00
	Bhisti	Day	0.90	332.00	0101	298.80
	Vibrator	Day	0.07	350.00	0012	24.50
	Sundries	L.S.	13.00	2.12	9999	27.56
	Total					4113.36
	Add 1% for water charges.					41.13
	Total					4154.50
	Add GST 12% on "X"(multiplying factor 0.1405)					583.71
	Total					4738.20
	Add 15% for contractor's profit and overheads on "Y"					710.73
	Cost per 1.00 cum					5448.93
	Add labour cess @ 1%					54.49
	Rate including labour cess					5503.42
				Say		₹5503.40 per cum

5.33.1.6 Concrete of M-50 grade with minimum cement content of 410 kg/cum

Details of cost for 1.00 cum

Materials.

Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
Carriage of aggregate.	cum	0.85	0.00	2202	0.00
Coarse sand	cum	0.425	175.80	0982	74.72
Carriage of Coarse sand	cum	0.425	0.00	2203	0.00
Cement	tonne	0.41	4408.00	0367	1807.28
Carriage of Cement	tonne	0.41	145.72	2209	59.75
Plasticizer 0.50% of cement	kilogram	2.05	29.00	7318	59.45

Production cost, pumping to respective floors and laying in position

Production cost of concrete by batch mix plant	cum	1.00	400.00	0004	400.00
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Pumping charges of concrete.	cum	1.00	210.00	0009	210.00
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Labour for pouring, consolidating & curing

Mason	Day	0.17	369.00	0155	62.73
Beldar	Day	2.00	306.00	0114	612.00
Bhisti	Day	0.90	332.00	0101	298.80
Vibrator	Day	0.07	350.00	0012	24.50
Sundries	L.S.	13.00	2.12	9999	27.56

Total					4160.35
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Add 1% for water charges.					41.60
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Total					4201.95
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Add GST 12% on "X"(multiplying factor 0.1405)					590.37
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Total					4792.33
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Add 15% for contractor's profit and overheads on "Y"					718.85
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Cost per 1.00 cum					5511.18
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Add labour cess @ 1%					55.11
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Rate including labour cess					5566.29
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Say ₹5566.30 per cum

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.33.2	All works above Plinth level up to floor V level					
5.33.2.1	Concrete of M-25 grade with minimum cement content of 330 kg/cum					
	Details of cost for 1.00 cum					
	Materials.					
	Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
	Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
	Carriage of aggregate.	cum	0.85	0	2202	0.00
	Coarse sand	cum	0.425	175.80	0982	74.72
	Carriage of Coarse sand	cum	0.425	0	2203	0.00
	Cement	tonne	0.33	4408.00	0367	1454.64
	Carriage of Cement	tonne	0.33	145.72	2209	48.09
	Plasticizer 0.50% of cement	kilogram	1.65	29.00	7318	47.85
	Production cost, pumping to respective floors and laying in position					
	Production cost of concrete by batch mix plant	cum	1.00	400.00	0004	400.00
	Pumping charges of concrete.	cum	1.00	210.00	0009	210.00
	Labour for pouring, consolidating & curing					
	Mason	Day	0.17	369.00	0155	62.73
	Beldar	Day	2.00	306.00	0114	612.00
	Bhisti	Day	0.90	332.00	0101	298.80
	Vibrator	Day	0.07	350.00	0012	24.50
	Sundries	L.S.	13.00	2.12	9999	27.56
	Extra labour for lifting up to floor five level 0.75 x 2.5 = 1.88					
	Coolie		1.88	318.00	0115	597.84
	Total					
	Add 1% for water charges.					4382.29
	Total					43.82
	Add GST 12% on "X" (multiplying factor 0.1405)					
	Total					4426.12 (X)
	Add 15% for contractor's profit and overheads on "Y"					
	Total					621.87
	Add 15% for contractor's profit and overheads on "Y"					
	Total					5047.98 (Y)
	Cost per 1.00 cum					
	Add labour cess @ 1%					757.20
	Rate including labour cess					
						5805.18
						58.05
						5863.23
				Say	₹5863.20	per cum

5.33.2.2 Concrete of M-30 grade with minimum cement content of 350 kg/cum

	Details of cost for 1.00 cum					
	Materials.					
	Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
	Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
	Carriage of aggregate.	cum	0.85	0	2202	0.00
	Coarse sand	cum	0.425	175.80	0982	74.72
	Carriage of Coarse sand	cum	0.425	0	2203	0.00
	Cement	tonne	0.35	4408.00	0367	1542.80
	Carriage of Cement	tonne	0.35	145.72	2209	51.00
	Plasticizer 0.50% of cement	kilogram	1.75	29.00	7318	50.75
	Production cost, pumping to respective floors and laying in position					
	Production cost of concrete by batch		1.00	400.00	0004	400.00

Handwritten signatures and initials: P, X, L, Z, B, A, B

Handwritten signatures and initials: P, A, B

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	mix plant	cum				
	Pumping charges of concrete.	cum	1.00	210.00	0009	210.00
	Labour for pouring, consolidating & curing					
	Mason	Day	0.17	369.00	0155	62.73
	Beldar	Day	2.00	306.00	0114	612.00
	Bhisti	Day	0.90	332.00	0101	298.80
	Vibrator	Day	0.07	350.00	0012	24.50
	Sundries	L.S.	13.00	2.12	9999	27.56
	Extra labour for lifting up to floor five level 0.75 x 2.5 = 1.88		1.88	318.00	0115	597.84
	Coolie					
	Total					4476.27
	Add 1% for water charges.					44.76
	Total					4521.03 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					635.20
	Total					5156.23 (Y)
	Add 15% for contractor's profit and overheads on "Y"					773.44
	Cost per 1.00 cum					5929.67
	Add labour cess @ 1%					59.30
	Rate including labour cess					5988.97
				Say	₹5989.00 per cum	

5.33.2.3 Concrete of M-35 grade with minimum cement content of 370 kg/cum

Details of cost for 1.00 cum

Materials.

Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
Carriage of aggregate.	cum	0.85	0	2202	0.00
Coarse sand	cum	0.425	175.80	0982	74.72
Carriage of Coarse sand	cum	0.425	0	2203	0.00
Cement	tonne	0.37	4408.00	0367	1630.96
Carriage of Cement	tonne	0.37	145.72	2209	53.92
Plasticizer 0.50% of cement	kilogram	1.85	29.00	7318	53.65
Production cost, pumping to respective floors and laying in position					
Production cost of concrete by batch mix plant	cum	1.00	400.00	0004	400.00
Pumping charges of concrete.	cum	1.00	210.00	0009	210.00
Labour for pouring, consolidating & curing					
Mason	Day	0.17	369.00	0155	62.73
Beldar	Day	2.00	306.00	0114	612.00
Bhisti	Day	0.90	332.00	0101	298.80
Vibrator	Day	0.07	350.00	0012	24.50
Sundries	L.S.	13.00	2.12	9999	27.56
Extra labour for lifting up to floor five level 0.75 x 2.5 = 1.88		1.88	318.00	0115	597.84
Coolie					
Total					4570.24
Add 1% for water charges.					45.70
Total					4615.94 (X)
Add GST 12% on "X"(multiplying factor 0.1405)					648.54

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Total					5264.48 (Y)
	Add 15% for contractor's profit and overheads on "Y"					789.67
	Cost per 1.00 cum					6054.16
	Add labour cess @ 1%					60.54
	Rate including labour cess					6114.70
	Say		Say	₹6114.70	per cum	

5.33.2.4 Concrete of M-40 grade with minimum cement content of 390 kg/cum

Details of cost for 1.00 cum

Materials.

Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
Carriage of aggregate.	cum	0.85	0.00	2202	0.00
Coarse sand	cum	0.425	175.80	0982	74.72
Carriage of Coarse sand	cum	0.425	0.00	2203	0.00
Cement	tonne	0.39	4408.00	0367	1719.12
Carriage of Cement	tonne	0.39	145.72	2209	56.83
Plasticizer 0.50% of cement	kilogram	1.95	29.00	7318	56.55
Production cost, pumping to respective floors and laying in position					
Production cost of concrete by batch mix plant	cum	1.00	400.00	0004	400.00
Pumping charges of concrete.	cum	1.00	210.00	0009	210.00
Labour for pouring, consolidating & curing					
Mason	Day	0.17	369.00	0155	62.73
Beldar	Day	2.00	306.00	0114	612.00
Bhisti	Day	0.90	332.00	0101	298.80
Vibrator	Day	0.07	350.00	0012	24.50
Sundries	L.S.	13.00	2.12	9999	27.56
Extra labour for lifting up to floor five level 0.75 x 2.5 = 1.88		1.88	318.00	0115	597.84
Coolie					
Total					4664.22

Add 1% for water charges.

Total 46.64

Add GST 12% on "X" (multiplying factor 0.1405) 4710.86 (X)

Total 661.88

Add 15% for contractor's profit and overheads on "Y" 5372.73 (Y)

Cost per 1.00 cum 805.91

Add labour cess @ 1% 6178.64

Rate including labour cess 61.79

Say 6240.43

Say ₹6240.40 per cum

5.33.2.5 Concrete of M-45 grade with minimum cement content of 400 kg/cum

Details of cost for 1.00 cum

Materials.

Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
Carriage of aggregate.	cum	0.85	0.00	2202	0.00
Coarse sand	cum	0.425	175.80	0982	74.72

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Carriage of Coarse sand	cum	0.425	0.00	2203	0.00
	Cement	tonne	0.40	4408.00	0367	1763.20
	Carriage of Cement	tonne	0.40	145.72	2209	58.29
	Plasticizer 0.50% of cement	kilogram	2.00	29.00	7318	58.00
	Production cost, pumping to respective floors and laying in position					
	Production cost of concrete by batch mix plant	cum	1.00	400.00	0004	400.00
	Pumping charges of concrete.	cum	1.00	210.00	0009	210.00
	Labour for pouring, consolidating & curing					
	Mason	Day	0.17	369.00	0155	62.73
	Beldar	Day	2.00	306.00	0114	612.00
	Bhisti	Day	0.90	332.00	0101	298.80
	Vibrator	Day	0.07	350.00	0012	24.50
	Sundries	L.S.	13.00	2.12	9999	27.56
	Extra labour for lifting up to floor five level 0.75 x 2.5 = 1.88		1.88	318.00	0115	597.84
	Coolie					
	Total					4711.20
	Add 1% for water charges.					47.11
	Total					4758.32 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					668.54
	Total					5426.86 (Y)
	Add 15% for contractor's profit and overheads on "Y"					814.03
	Cost per 1.00 cum					6240.89
	Add labour cess @ 1%					62.41
	Rate including labour cess					6303.30
	Say		Say	₹6303.30	per cum	

5.33.2.6 Concrete of M-50 grade with minimum cement content of 410 kg/cum

Details of cost for 1.00 cum

Materials.

Stone Aggregate 20 mm.	cum	0.57	595.36	0295	339.36
Stone aggregate 10mm	cum	0.28	657.91	0297	184.21
Carriage of aggregate.	cum	0.85	0.00	2202	0.00
Coarse sand	cum	0.425	175.80	0982	74.72
Carriage of Coarse sand	cum	0.425	0.00	2203	0.00
Cement	tonne	0.41	4408.00	0367	1807.28
Carriage of Cement	tonne	0.41	145.72	2209	59.75
Plasticizer 0.50% of cement	kilogram	1.95	29.00	7318	56.55
Production cost, pumping to respective floors and laying in position					
Production cost of concrete by batch mix plant	cum	1.00	400.00	0004	400.00
Pumping charges of concrete.	cum	1.00	210.00	0009	210.00
Labour for pouring, consolidating & curing					
Mason	Day	0.17	369.00	0155	62.73
Beldar	Day	2.00	306.00	0114	612.00
Bhisti	Day	0.90	332.00	0101	298.80
Vibrator	Day	0.07	350.00	0012	24.50
Sundries	L.S.	13.00	2.12	9999	27.56
Extra labour for lifting up to floor five level					

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	0.75 x 2.5 = 1.88		1.88	318.00	0115	597.84
	Coolie					
	Total					4755.29
	Add 1% for water charges.					47.55
	Total					4802.84 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					674.80
	Total					5477.64 (Y)
	Add 15% for contractor's profit and overheads on "Y"					821.65
	Cost per 1.00 cum					6299.29
	Add labour cess @ 1%					62.99
	Rate including labour cess					6362.28
	Say		Say	₹6362.30	per cum	

5.35 Add for using extra cement in the items of design mix over and above the specified cement content there in.

Details of cost for 1 quintal						
	Portland Cement tonne		0.10	4408.00	0367	440.80
	Carriage of cement tonne		0.10	145.72	2209	14.57
	TOTAL					455.37
	Add Water Charges @ 1%					4.55
	TOTAL					459.93 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					64.62
	Total					524.55 (Y)
	Add CPOH @ 15% on "Y"					78.68
	Cost of 1 quintal					603.23
	Add labour cess @ 1%					6.03
	Rate including labour cess					609.26
	Say			₹609.30	per quintel	

5.36 Providing and placing in position precast reinforced cement concrete waffle units, square or rectangular, as per design and shape for floors and roofs in 1:1½:3 (1 Cement : 1½ coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 10 mm nominal size derived from natural sources), including flush or deep ruled pointing at joints in Cement mortar 1:2 (1 Cement : 2 Fine sand), making necessary holes of required sizes for carrying through service lines etc., providing steel hooks for lifting etc, form work in precasting, handling, hoisting, centering and erection complete for all floor levels but, excluding the cost of reinforcement.

Details of cost for 1.38 cum
 Consider a waffle 09. x 0.9 x 0.3m
 Total area covered $4.548 \times 3.636 = 16.54$ sqm.
 Cement concrete in 1 unit
 Top $0.8 \times 0.8 \times 0.035 = 0.0224$
 Sides $2(0.8 \times 0.265 \times 0.0325) = 0.0138$
 $2(0.735 \times 0.265 \times 0.0325) = 0.0127$
 Total = 0.0489
 Flange $4 \times 0.85 \times 0.05 \times 0.035 = 0.0060$
 Total = 0.0549
 Add for Fillets 25% = 0.0137
 Total = 0.069 cum.


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Quantity for 20 such units = 1.38 cum. Rate as per item no 5.2.2 of SH : RCC	Cum	1.38	₹5670.00 (5.2.2)		7824.6 A
	(i) Shuttering and centring Face in contact 4x0.8x0.265 = 0.848 Inner 4x0.735x0.265 = 0.779 Top (inside) 1x0.735x0.735 = 0.540 Flange 4x0.9x0.035 = 0.126 Total = 2.293 sqm. Quantity 20 such units 45.86 sqm. Rate as per item no 5.9.15 of SH : RCC	Sqm	45.86	₹224.20 (5.9.15)		10281.812 A
	Hooks for lifting 2x1.5 = 3.0m 4x0.01 = 0.04m Total = 3.04m @ 3kg per m-9.12Kg or 0.009 t = 9 kg Rate as per item no 10.2 of SH : Steel work	Kg	9.00	₹95.40 (10.2)		858.6 A
	(iii) 10mm dia. Bolts 60mm long with nuts and washers 2x2 = 4 Nos. including carriage of bolts	L.S.	13.00	₹2.12 (9988)		27.56
	Sundries	L.S.	79.95	₹2.12 (9999)		169.494
	(iv) Transportation and erection labour for 20 units Mason (for ornamental stone work) 1st class	day	1.00	₹413.00 0126		413
	Beldar	day	6.00	₹306.00 0114		1836
	(v) Cost of poining flush or deep ruled in cement mortar 1:2 (1Cement : 2 fine sand) Rate as per item no 13.68.1 of SH : Finishing	Sqm	16.54	₹87.80 (13.68.1)		1452.212 A
	TOTAL					22863.278 W
	Add 1 % Water charges on "W-A"					24.46
	TOTAL					22887.7385 X
	Add GST on "X-A" (multiplying factor 0.1405)					347.107293
	TOTAL					23234.8458 Y
	Add 15% CPOH on "Y-A"					422.643275
	TOTAL					23657.4891 Z
	Add Cess @ 1% on "Z-A"					32.4026511
	Total for 20 units					23689.8918
	Cost for 1.38 cum.					23689.8918
	Cost for 1 cum.					17166.5882
	Say		Say	₹17166.60	per cum	

- 5.37 Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead up to 10kms having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying , excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. M-25 grade Reinforced cement concrete by using 330 kg of cement per cum of concrete.**

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.37.1	All works up to Plinth level					
	Details of cost for 1.00 cum.					
	Materials:					
	Stone aggregate 20mm	cum	0.57	595.36	0295	339.36
	Stone aggregate 10 mm	Cum	0.28	657.91	0297	184.21
	Carriage of aggregate	Cum	0.85	0	2202	0.00
	Coarse sand	Cum	0.425	175.80	0982	74.72
	Carriage of Coarse sand	Cum	0.425	0	2203	0.00
	Cement	Tonne	0.33	4408.00	0367	1454.64
	Carriage of Cement	Tonne	0.33	145.72	2209	48.09
	Plasticizer 0.50% of cement	Kilogram	1.65	29.00	7318	47.85
	Production Cost, carriage to site, pumping to respective floors and laying in position	Cum				
	Production Cost	km/Cum	1.00	400.00	0004	400.00
	Carriage of concrete by transit mixer.	Cum	10.00	37.30	0029	373.00
	Pumping charges of concrete including hire	cum	1.00	210.00	0009	210.00
	Charges of pump, piping work & accessories etc					
	Labour for pouring, consolidating and curing					
	Mason	Day	0.17	369.00	0155	62.73
	Beldar	Day	2.00	306.00	0114	612.00
	Bhisti	Day	0.90	332.00	0101	298.80
	Vibrator	Day	0.07	350.00	0012	24.50
	Sundries	L.S.	13.00	2.12	9999	27.56
	Total					4157.45
	Add 1 % for water charges.					41.57
	Total					4199.03 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					589.96
	Total					4788.99 (Y)
	Add 15% for contractor's profit and overheads on "Y"					718.35
	Cost per 1.00 cum					5507.34
	Add labour cess @ 1%					55.07
	Rate including labour cess					5562.41
				Say		₹5562.40 per cum

5.37.2 All works above Plinth level up to floor five level.

Details of cost for 1.00 cum.

Materials:

	Stone aggregate 20mm	cum	0.57	595.36	0295	339.36
	Stone aggregate 10 mm	Cum	0.28	657.91	0297	184.21
	Carriage of aggregate	Cum	0.85	0	2202	0.00
	Coarse sand	Cum	0.425	175.80	0982	74.72
	Carriage of Coarse sand	Cum	0.425	0	2203	0.00
	Cement	Tonne	0.33	4408.00	0367	1454.64
	Carriage of Cement	Tonne	0.33	145.72	2209	48.09
	Plasticizer 0.50% of cement	Kilogram	1.90	29.00	7318	55.10
	Production Cost, carriage to site, pumping to respective floors and laying in position	Cum				

Production Cost

	km/Cum	1.00	400.00	0004	400.00
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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Carriage of concrete by transit mixer.	Cum	10.00	37.30	0029	373.00
	Pumping charges of concrete including hire	cum	1.00	210.00	0009	210.00
	Charges of pump, piping work & accessories etc					
	Labour for pouring, consolidating and curing					
	Mason	Day	0.17	369.00	0155	62.73
	Beldar	Day	2.00	306.00	0114	612.00
	Bhisti	Day	0.90	332.00	0101	298.80
	Vibrator	Day	0.07	350.00	0012	24.50
	Sundries	L.S.	13.00	2.12	9999	27.56
	Extra labour for lifting up to floor five level 0.75 x 2.5 = 1.88					
	Coolie	Day	1.88	318.00	0115	597.84
	Total					4762.54
	Add 1 % for water charges.					47.63
	Total					4810.17 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					675.83
	Total					5486.00 (Y)
	Add 15% for contractor's profit and overheads on "Y"					822.90
	Cost per 1.00 cum					6308.90
	Add labour cess @ 1%					63.09
	Rate including labour cess					6371.99
	Say			Say	₹6372.00 per cum	
5.38	Extra for R.C.C/ B.M.C/ R.M.C. work above floor V level for each four floors or part thereof.					
	Pumping charges of concrete including hire					
	Charges of pump, piping work & accessories etc.	cum	1.00	210.00	0009	210.00
	Total					210.00
	Add 1 % for water charges.					2.10
	Total					212.10 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					29.80
	Total					241.90 (Y)
	Add 15% for contractor's profit and overheads on "Y"					36.29
	Cost per 1.00 cum					278.19
	Add labour cess @ 1%					2.78
	Rate including labour cess					280.97
	Say			Say	₹281.00 per cum	
5.40	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using fly ash and cement content as per approved design mix, and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering, finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate / retard					

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
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setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. NOTE- (1) Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. (2) Fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS : 456. Uniform blending with cement to be ensured in accordance with clauses 5.2 and 5.2.1 of IS:456 -2000 in the items of BMC and RMC.

5.40.1 All works up to Plinth level

Details of cost for 1.00 cum

MATERIAL

293	Stone Aggregate (Single size) : 40 mm nominal size (0.70 - 7.5% for voids i.e. 0.05 = 0.65 cum)	cum	0.65	486.92	0293	316.50
295	Stone Aggregate (Single size) : 20 mm nominal size	cum	0.24	595.36	0295	142.89
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	0.00	2206	0.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	0.00	2202	0.00
982	Coarse sand (zone III)	cum	0.37	175.80	0982	65.05
2203	Carriage of Coarse sand	cum	0.37	0.00	2203	0.00
1980	Flyash	cum	0.21	0.00	1980	0.00
2262	Carriage of Flyash	cum	0.21	0.00	2262	0.00
367	Portland Cement	tonne	0.33	4408.00	0367	1454.64
2209	Carriage of Cement	tonne	0.33	145.72	2209	48.09
7318	Plasticizer / super plasticizer	kilogram	1.65	29.00	7318	47.85
Production cost, pumping to respective floors and laying in position						
4	Production cost of concrete by batch mix plant.	cum	1.00	400.00	0004	400.00
29	Carriage of concrete by transit mixer.	km/ cum	10.00	37.30	0029	373.00
9	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc.	cum	1.00	210.00	0009	210.00
LABOUR						
for pouring, consolidating & curing						
155	Mason (average)	day	0.17	369.00	0155	62.73
114	Beldar	day	2.00	306.00	0114	612.00
101	Bhisti	day	0.90	332.00	0101	298.80
12	Vibrator(Needle type 40mm)	day	0.07	350.00	0012	24.50
9999	Sundries	L.S.	13.00	2.12	9999	27.56
Total						4083.60
Add 1 % for water charges.						40.84
Total						4124.43 (X)
Add GST 12% on "X"(multiplying factor 0.1405)						579.48
Total						4703.92 (Y)
Add 15% for contractor's profit and overheads on "Y"						705.59
Cost per 1.00 cum						5409.50
Add labour cess @ 1%						54.10
Rate including labour cess						5463.60

Say

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Say

₹5463.60 per cum

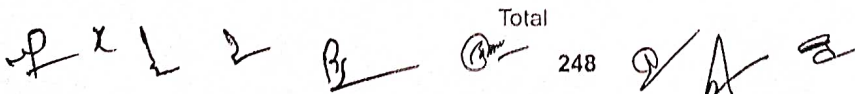
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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.40.2	All works above plinth & up to floor V level.					
	Details of cost for 1.00 cum					
	MATERIAL					
293	Stone Aggregate (Single size) : 40 mm nominal size 0.70 - 7.5% for voids i.e. 0.05 = 0.65 cum)	cum	0.65	486.92	0293	316.50
295	Stone Aggregate (Single size) : 20 mm nominal size	cum	0.24	595.36	0295	142.89
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	0.00	2206	0.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	0.00	2202	0.00
982	Coarse sand (zone III)	cum	0.37	175.80	0982	65.05
2203	Carriage of Coarse sand	cum	0.37	0.00	2203	0.00
1980	Flyash	cum	0.21	0.00	1980	0.00
2262	Carriage of Flyash	cum	0.21	0.00	2262	0.00
367	Portland Cement	tonne	0.33	4408.00	0367	1454.64
2209	Carriage of Cement	tonne	0.33	145.72	2209	48.09
7318	Plasticizer / super plasticizer	kilogram	1.65	29.00	7318	47.85
	Production cost, pumping to respective floors and laying in position					
4	Production cost of concrete by batch mix plant.	cum	1.00	400.00	0004	400.00
29	Carriage of concrete by transit mixer.	km/ cum	10.00	37.30	0029	373.00
9	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc.	cum	1.00	210.00	0009	210.00
	LABOUR					
	for pouring, consolidating & curing					
155	Mason (average)	day	0.17	369.00	0155	62.73
114	Beldar	day	2.00	306.00	0114	612.00
101	Bhisti	day	0.90	332.00	0101	298.80
12	Vibrator(Needle type 40mm)	day	0.07	350.00	0012	24.50
9999	Sundries (Extra labour for lifting material upto floor V level : = 0.75 x 2.5 = 1.88)	L.S.	13.00	2.12	9999	27.56
115	Coolie	Day	1.88	369.00	0115	693.72
	Total					4777.32
	Add 1 % for water charges.					47.77
	Total					4825.09 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					677.93
	Total					5503.02 (Y)
	Add 15% for contractor's profit and overheads on "Y"					825.45
	Cost per 1.00 cum					6328.47
	Add labour cess @ 1%					63.28
	Rate including labour cess					6391.75
	Say			Say	₹6391.70 per cum	

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.41/ 5.50	Supplying and applying pre tested and approved water based concrete curing compound to concrete/ masonry surface, all as per manufacturer's specification and direction of Engineer-in-charge.					
5.41.1/ 5.50.1	Non pigmented wet curing compound.					
	Details of cost for 10 sqm.					
	MATERIAL:					
	Chemical ASTM C-type I	kg	2	95.00	7178	190.00
	Coverage of chemical 5 sqm per kg.					
	Chemical required for 10 sqm = 10 / 5 = 2.00 kg					
	LABOUR:					
	Mason (brick layer) 2nd class	day	0.46	369.00	0124	169.74
	Coolie	day	0.23	318.00	0115	73.14
	Bhisti	day	0.1	332.00	0101	33.20
	Scaffolding and sundries	L.S.	8.06	2.12	9999	17.09
	Extra labour for clean up process					
	Beldar	day	0.75	306.00	0114	229.50
	Extra machinery, hand pump, compressor etc.	L.S.	80	2.12	9999	169.60
	TOTAL					
	Add Water Charges @ 1%					
	TOTAL					
	Add GST 12% on "X" (multiplying factor 0.1405)					
	Total					
	Add CPOH @ 15%					
	Cost of 10 sqm					
	Cost of 1 sqm					
	Add labour cess @ 1%					
	Rate including labour cess					
	Say		Say	₹118.00	per cum	118.04
5.41.2/ 5.50.2	Pigmented wet curing compound.					
	Details cost for 10 sqm.					
	Based on DAR item 13.44.1					
	MATERIAL:					
	Chemical ASTM C-type II	kg	2	155.00	7281	310.00
	Coverage of chemical 5 sqm per kg.					
	Chemical required for 10 sqm = 10 / 5 = 2 kg					
	LABOUR:					
	Mason (brick layer) 2nd class	day	0.46	369.00	0124	169.74
	Coolie	day	0.23	318.00	0115	73.14
	Bhisti	day	0.1	332.00	0101	33.20
	Scaffolding and sundries	L.S.	8.06	2.12	9999	17.09
	Extra labour for clean up process					
	Beldar	day	0.75	306.00	0114	229.50
	Extra machinery, hand pump, compressor etc.	L.S.	80	2.12	9999	169.60
	TOTAL					
	Add Water Charges @ 1%					
	TOTAL					
	Add GST 12% on "X" (multiplying factor 0.1405)					
	Total					
	1154.52 (Y)					


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add CPOH @ 15% on "Y"					173.2
	Cost of 10 sqm					1327.69
	Cost of 1 sqm					132.77
	Add labour cess @ 1%					1.33
	Rate including labour cess					134.10
	Say		Say	₹134.10 per sqm		

**5.41A Supplying and applying pre tested and approved water based concrete curing compound to concrete/ masonry surface, all as per manufacturer's specification and direction of Engineer-in-charge.
Non pigmented wet curing compound**

5.41A.1 Non pigmented wet curing compound

Detail of cost for 10.00 sqm
(covering area 5 sqm/litre)

MATERIAL

Curing compound	litre	2.00	38.00	349	76.00
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Carriage of material	L.S.	1.00	2.12	9977	2.12
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LABOUR

Painter	day	0.33	391.00	131	129.03
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Beldar	day	0.17	306.00	114	52.02
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Sundries, Brush	L.S.	3.00	2.12	9999	6.36
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TOTAL					265.53 W
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Add 1 % Water charges on "W"					2.66
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TOTAL					268.19 X
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Add GST on "X" (multiplying factor 0.1405)					37.68
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TOTAL					305.87 Y
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Add 15% CPOH on "Y"					45.88
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TOTAL					351.75 Z
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Add Cess @ 1% on "Z"					3.52
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Cost of 10 sqm					355.26
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Cost of 1 sqm					35.53
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Say					35.50
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5.42/5.51 Providing and fixing tapered / parallel threaded couplers conforming to IS code on Reinforcement Couplers for Mechanical Splices of Bars for Concrete Reinforcement – Specification, to reinforcement bars including threading, enlargement at connection by forging, protecting the prepared reinforcement bars and related operations as required to complete the works as per direction of Engineer-in-Charge. (The length of the bars in which coupler is to be provided should not be less than 4 metre, no deduction for labour and binding wire saved for not providing lap length shall be made).

5.42.1/ Coupler for 16 mm diameter

5.51.1 reinforcement bar.

Details of cost for one.

MATERIAL:

Coupler 16 mm dia	each	1	31.00	2394	31.00
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LABOUR:

For placing in position and fixing	L.S.	3.77	2.12	9999	7.99
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Tapered / Parallel threading charges	L.S.	17.77	2.12	9999	37.67
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TOTAL					76.66
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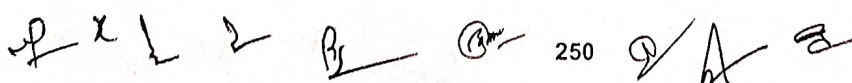
Add Water Charges @ 1%					0.77
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TOTAL					77.43 (X)
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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add GST 12% on "X"(multiplying factor 0.1405)					10.88
	Total					88.31 (Y)
	Add CPOH @ 15% on "Y"					13.25
	Cost of each					101.56
	Add labour cess @ 1%					1.02
	Rate including labour cess					102.58
	Say		Say	₹102.60	each	
5.42.2/5.	Coupler for 20 mm diameter					
51.2	reinforcement bar.					
	Details of cost for one.					
	MATERIAL:					
	Coupler 20 mm dia	each	1	41.00	2395	41.00
	LABOUR:					
	For placing in position and fixing	L.S.	5.9	2.12	9999	12.51
	Tapered / Parallel threading charges	L.S.	25.17	2.12	9999	53.36
	TOTAL					106.87
	Add Water Charges @ 1%					1.07
	TOTAL					107.94 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					15.17
	Total					123.10 (Y)
	Add CPOH @ 15% on "Y"					18.47
	Cost of each					141.57
	Add labour cess @ 1%					1.42
	Rate including labour cess					142.99
	Say		Say	₹143.00	each	
5.42.3/	Coupler for 25 mm diameter					
5.51.3	reinforcement bar.					
	Details of cost for one.					
	MATERIAL:					
	Coupler 25 mm dia	each	1	72.00	2396	72.00
	LABOUR:					
	For placing in position and fixing	L.S.	8.69	2.12	9999	18.42
	Tapered / Parallel threading charges	L.S.	29.61	2.12	9999	62.77
	TOTAL					153.20
	Add Water Charges @ 1%					1.53
	TOTAL					154.73 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					21.74
	Total					176.47 (Y)
	Add CPOH @ 15% on "Y"					26.47
	Cost of each					202.94
	Add labour cess @ 1%					2.03
	Rate including labour cess					204.97
	Say		Say	₹205.00	each	
5.42.4/	Coupler for 28 mm diameter					
5.51.4	reinforcement bar.					
	Details of cost for one.					
	MATERIAL:					
	Coupler 28 mm dia	each	1	83.00	2397	83.00
	LABOUR:					
	For placing in position and fixing	L.S.	12.84	2.12	9999	27.22


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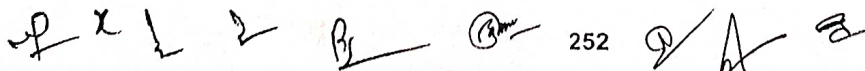
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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Tapered / Parallel threading charges	L.S.	32.57	2.12	9999	69.05
	TOTAL					179.27
	Add Water Charges @ 1%					1.79
	TOTAL					181.06 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					25.44
	Total					206.50 (Y)
	Add CPOH @ 15% on "Y"					30.98
	Cost of each					237.48
	Add labour cess @ 1%					2.37
	Rate including labour cess					239.85
	Say		Say	₹239.80	each	
5.42.5/	Coupler for 32 mm diameter					
5.51.5	reinforcement bar.					
	Details of cost for one.					
	MATERIAL:					
	Coupler 32 mm dia	each	1	114.00	2398	114.00
	LABOUR:					
	For placing in position and fixing	L.S.	15.48	2.12	9999	32.82
	Tapered / Parallel threading charges	L.S.	32.57	2.12	9999	69.05
	TOTAL					215.87
	Add Water Charges @ 1%					2.16
	TOTAL					218.02 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					30.63
	Total					248.66 (Y)
	Add CPOH @ 15% on "Y"					37.30
	Cost of each					285.96
	Add labour cess @ 1%					2.86
	Rate including labour cess					288.82
	Say		Say	₹288.80	each	
5.43/	Providing and fixing in position Stainless steel Grade 304 plate-1.0 mm thick as per design for					
5.52	expansion joints.					
5.43.1/	200 mm wide.					
5.52.1	Details of cost for 1 metre.					
	MATERIAL:					
	1 mm thick Stainless Steel Cover plate grade 304	kg	1.6	286.00	2393	457.60
	Stainless steel screws 30 mm x4 mm	100Nos	6	35.84	8647	2.15
	Carriage of materials	L.S.	1.3	2.12	9999	2.76
	LABOUR:					
	Blacksmith 2nd class	day	0.067	369.00	103	24.72
	Beldar	day	0.067	306.00	114	20.50
	Sundries	L.S.	2.34	2.12	9999	4.96
	TOTAL					512.69
	Add Water Charges @ 1%					5.13
	TOTAL					517.82 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					72.75
	Total					590.57 (Y)
	Add CPOH @ 15% on "Y"					88.59
	Cost of 1 metre					679.16

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add labour cess @ 1%					6.79
	Rate including labour cess					685.95
5.43.2/	300 mm wide.	Say	Say	₹685.90	per meter	
5.52.2	Details of cost for 1 metre.					
	MATERIAL:					
	1 mm thick Stainless Steel Cover plate grade 304	kg	2.4	286.00	2393	686.40
	Stainless steel screws 30 mm x4 mm	100 Nos	6	35.84	8647	2.15
	Carriage of materials	L.S.	1.3	2.12	9999	2.76
	LABOUR:					
	Blacksmith 2nd class	day	0.067	369.00	103	24.72
	Beldar	day	0.067	306.00	114	20.50
	Sundries	L.S.	2.34	2.12	9999	4.96
	TOTAL					741.49
	Add Water Charges @ 1%					7.41
	TOTAL					748.91 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					105.22
	Total					854.13 (Y)
	Add CPOH @ 15% on "Y"					128.12
	Cost of 1 metre					982.25
	Add labour cess @ 1%					9.82
	Rate including labour cess					992.07
	Say	Say		₹992.10	metre	
5.44	<p>Providing and fixing of expansion joint system related with floor location as per drawings and direction of Engineer-In-Charge. The joints system will be of extruded aluminum base members, self aligning / self centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor /floor to wall expansion control system for various vertical localtion in load application areas that accommodates multi directional seismic movement without stress to it's components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments. The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Self – centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. Provision of Moisture Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufactures design and as approved by Engineer -in-Charge . (Material shall confirm to ASTM 6063).</p>					
5.44.1	Floor Joint of 100 mm gap.					
	Details of cost for 1.00 metre.					
	MATERIAL:					
	Floor Joint of 100 mm	metre	1	3193.00	2403	3193.00
	Epoxy adhesive	kg	4.25	156.00	2402	663.00
	Carriage of material etc.	L.S.	124.9	2.12	9999	264.79
	LABOUR:					
	Blacksmith 1 st class	day	0.05	413.00	102	20.65
	Mason (brick layer) 1 st class	day	0.1	413.00	123	41.30

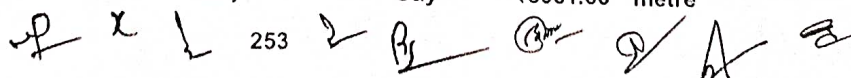

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Beldar	day	0.15	306.00	114	45.90
	TOTAL					4228.64 (X)
	Add Water Charges @ 1%					42.29
	TOTAL					4270.92
	Add GST 12% on "X"(multiplying factor 0.1405)					600.06
	Total					4870.99 (Y)
	Add CPOH @ 15% on "Y"					730.65
	Cost of 1 metre					5601.64
	Add labour cess @ 1%					56.02
	Rate including labour cess					5657.66
	Say		Say	₹5657.70	metre	
5.44.2	Floor Joint of 150 mm gap.					
	Details of cost for 1.00 metre.					
	MATERIAL:					
	Floor Joint of 150 mm	metre	1	4120.00	2404	4120.00
	Epoxy adhesive	kg	4.5	156.00	2402	702.00
	Carriage of material etc.	L.S.	124.9	2.12	9999	264.79
	LABOUR:					
	Blacksmith 1 st class	day	0.05	413.00	102	20.65
	Mason (brick layer) 1 st class	day	0.1	413.00	123	41.30
	Beldar	day	0.15	306.00	114	45.90
	TOTAL					5194.64
	Add Water Charges @ 1%					51.95
	TOTAL					5246.58 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					737.15
	Total					5983.73 (Y)
	Add CPOH @ 15% on "Y"					897.56
	Cost of 1 metre					6881.29
	Add labour cess @ 1%					68.81
	Rate including labour cess					6950.10
	Say		Say	₹6950.10	metre	
5.44.3	Floor Joint of 200 mm gap.					
	Details of cost for 1.00 metre.					
	MATERIAL:					
	Floor Joint of 200 mm	metre	1	5562.00	2405	5562.00
	Epoxy adhesive	kg	4.75	156.00	2402	741.00
	Carriage of material etc.	L.S.	124.9	2.12	9999	264.79
	LABOUR:					
	Blacksmith 1 st class	day	0.05	413.00	0102	20.65
	Mason (brick layer) 1 st class	day	0.1	413.00	0123	41.30
	Beldar	day	0.15	306.00	0114	45.90
	TOTAL					6675.64
	Add Water Charges @ 1%					66.76
	TOTAL					6742.39 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					947.31
	Total					7689.70 (Y)
	Add CPOH @ 15% on "Y"					1153.46
	Cost of 1 metre					8843.16
	Add labour cess @ 1%					88.43
	Rate including labour cess					8931.59
	Say		Say	₹8931.60	metre	

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.45	Providing and fixing of expansion joint system related with wall joint (internal/external) location as per drawings and direction of Engineer-In-Charge. The joints shall be of extruded aluminum base members, self aligning / centering arrangement and support plates as per ASTM B221-02. The material shall be such that it provides an Expansion Joints System suitable for vertical wall to wall/ wall to corner application, both new and existing construction in office Buildings & complexes with no slipping down tendency amongst the components of the Joint System. The Joint System shall utilize light weight aluminum profiles exhibiting minimal exposed aluminum surfaces mechanically snap locking the multicellular to facilitate movement. (Material shall confirm to ASTM 6063).					
5.45.1	Wall Joint of 100 mm gap. Details of cost for 1.00 metre.					
	MATERIAL:					
	Wall Joint of 100 mm	metre	1	2472.00	2409	2472.00
	Epoxy adhesive	kg	4.25	156.00	2402	663.00
	Carriage of material etc.	L.S.	124.9	2.12	9999	264.79
	LABOUR:					
	Blacksmith 1 st class	day	0.05	413.00	0102	20.65
	Mason (brick layer) 1 st class	day	0.1	413.00	0123	41.30
	Beldar	day	0.15	306.00	0114	45.90
	TOTAL					3507.64
	Add Water Charges @ 1%					35.08
	TOTAL					3542.71 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					497.75
	Total					4040.47 (Y)
	Add CPOH @ 15% on "Y"					606.07
	Cost of 1 metre					4646.54
	Add labour cess @ 1%					46.47
	Rate including labour cess					4693.01
	Say		Say	₹4693.00	metre	
5.45.2	Wall Joint of 150 mm gap. Details of cost for 1.00 metre.					
	MATERIAL:					
	Wall Joint of 150 mm	metre	1	2884.00	2410	2884.00
	Epoxy adhesive	kg	4.5	156.00	2402	702.00
	Carriage of material etc.	L.S.	124.9	2.12	9999	264.79
	LABOUR:					
	Blacksmith 1 st class	day	0.05	413.00	0102	20.65
	Mason (brick layer) 1 st class	day	0.1	413.00	0123	41.30
	Beldar	day	0.15	306.00	0114	45.90
	TOTAL					3958.64
	Add Water Charges @ 1%					39.59
	TOTAL					3998.22 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					561.75
	Total					4559.97 (Y)
	Add CPOH @ 15% on "Y"					684.00
	Cost of 1 metre					5243.97
	Add labour cess @ 1%					52.44
	Rate including labour cess					5296.41
	Say		Say	₹5296.40	metre	

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.45.3	Wall Joint of 200 mm gap.					
	Details of cost for 1.00 metre.					
	Wall Joint of 200 mm	metre	1	3468.00	2411	3468.00
	Epoxy adhesive	kg	4.75	156.00	2402	741.00
	Carriage of material etc.	L.S.	124.9	2.12	9999	264.79
	LABOUR:					
	Blacksmith 1 st class	day	0.05	413.00	102	20.65
	Mason (brick layer) 1 st class	day	0.1	413.00	123	41.30
	Beldar	day	0.15	306.00	114	45.90
	TOTAL					4581.64
	Add Water Charges @ 1%					45.82
	TOTAL					4627.45 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					650.16
	Total					5277.61 (Y)
	Add CPOH @ 15% on "Y"					791.64
	Cost of 1 metre					6069.25
	Add labour cess @ 1%					60.69
	Rate including labour cess					6129.94
	Say			Say	₹6129.90	metre
5.46	Providing and fixing of expansion joint system of approved make and manufactures for various roof locations as per approved drawings and direction of Engineer-In-Charge. The joints shall be of extruded aluminum base members with, self aligning and self centering arrangement support plates asper ASTM B221-02. The system shall be such that it provides watertight roof to roof/roof to corner joint cover expansion control system that is capable of accommodating multidirectional seismic movement without stress to its components. System shall consist of metal profile that incorporates a universal aluminum base member designed to accommodate various project conditions and roof treatments. The cover plate shall be designed of width and thickness required to satisfy movement and loading requirements and secured to base members by utilizing manufacturer's preengineered self-centering arrangement that freely rotates / moves in all directions. The Self centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. The Joint System shall resists damage or deterioration from the impact of falling ice, exposure to UV, airborne contaminants and occasional foot traffic from maintenance personnel. Provision of Moisture Barrier Membrane in the Joint System to have water tight joint is mandatory requirement. Material shall confirm to ASTM 6063.					
5.46.1	Roof Joint of 100 mm gap.					
	Details of cost for 1.00 metre.					
	MATERIAL					
	Complete Roof Joint of 100 mm	metre	1	2912.00	(2399)	2912.00
	Epoxy adhesive	kg	4.25	156.00	(2402)	663.00
	Carriage of material etc.	L.S.	124.9	2.12	(9999)	264.79
	LABOUR:					
	Blacksmith 1 st class	day	0.05	413.00	('0102)	20.65
	Mason (brick layer) 1 st class	day	0.1	413.00	('0123)	41.30
	Beldar	day	0.15	306.00	(0114)	45.90
	TOTAL					3947.64
	Add Water Charges @ 1%					39.48
	TOTAL					3987.11 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					560.19
	Total					4547.30 (Y)

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add CPOH @ 15% on "Y"					682.10
	Cost of 1 metre					5229.40
	Add labour cess @ 1%					52.29
	Rate including labour cess					5281.69
	Say		Say	₹5281.70	metre	
5.46.2	Roof Joint of 150 mm gap.					
	Details of cost for 1.00 metre.					
	MATERIAL:					
	Complete Roof Joint of 150 mm	metre	1	3,328.00	2400	3328.00
	Epoxy adhesive	kg	4.5	156.00	2402	702.00
	Carriage of material etc	L.S.	124.9	2.12	9999	264.79
	LABOUR:					
	Blacksmith 1 st class	day	0.05	413.00	0102	20.65
	Mason (brick layer) 1 st class	day	0.1	413.00	0123	41.30
	Beldar	day	0.15	306.00	0114	45.90
	TOTAL					4402.64
	Add Water Charges @ 1%					44.03
	TOTAL					4446.66 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					624.76
	Total					5071.42 (Y)
	Add CPOH @ 15%					760.71
	Cost of 1 metre					5832.13
	Add labour cess @ 1%					58.32
	Rate including labour cess					5890.45
	Say		Say	₹5890.50	metre	
5.46.3	Roof Joint of 200 mm gap.					
	Details of cost for 1.00 metre.					
	MATERIAL:					
	Complete Roof Joint of 200 mm	metre	1	4,160.00	2401	4160.00
	Epoxy adhesive	kg	4.75	156.00	2402	741.00
	Carriage of material etc.	L.S.	124.9	2.12	9999	264.79
	LABOUR:					
	Blacksmith 1st class	day	0.05	413.00	0102	20.65
	Mason (brick layer) 1st class	day	0.1	413.00	0123	41.30
	Beldar	day	0.15	306.00	0114	45.90
	TOTAL					5273.64
	Add Water Charges @ 1%					52.74
	TOTAL					5326.37 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)					748.36
	Total					6074.73 (Y)
	Add CPOH @ 15% on "Y"					911.21
	Cost of 1 metre					6985.94
	Add labour cess @ 1%					69.86
	Rate including labour cess					7055.80
	Say		Say	₹7055.80	metre	
5.47	Providing and fixing in position factory made precast RCC M-40 doors and windows frames having excellent smooth finish as per IS: 6523 with reinforcement of 3 Nos, 6 mm dia main bars tied with 3 mm M.S stirrups placed @ 200 mm C/C and 6 numbers high strength polymer blocks of required size for fixing hinges including providing 6 no specially designed M.S. galvanised sleeves for accomodating 6 mm dia fully threaded bolts for fixing hold fast on vertical members, providing suitable arrangement for recieving sliding door bolts and tower bolt etc all complete, as per the direction of Engineer in charge. (The cost of hold fast and cc block of 1:3:6 mix is also included in the item.) The frame shall be measured in running meter correct to two places of decimal.					


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
5.47.1	Door frame 125 mm x 60 mm.					
	Details of cost for 5.20 metre.					
	MATERIAL:					
	Rate as per Item Number 5.33.1 of SH: Reinforced cement concrete work Extra for scatter and smaller work @25 % (P) x 0.25 = (212.18) x 0.25	cum	0.039	5,440.56	5.33.1.4	212.18 P 53.05 R
	Twisted steel/ deformed bars	quintal	0.0468	5,644.10	1005A	264.14
	Bright finished or black enameled mild steel butt hinges 75x47x1.70 mm	10 nos	6	56.00	0596	336.00
	Rate as per Item No. 4.3.3 of SH: Cement Concrete	sqm	1.27	489.54	4.3.3	621.72 A
	Rate as per Item Number 14.2.1 of SH: Repairs to Building	each	1	690.57	14.2.1	690.57 A
	Rate as per Item Number 13.48.2 of SH: Finishing	sqm	1.27	102.25	13.48.2	129.86 A
	Sundries	L.S.	100.67	2.12	9999	213.42
	TOTAL					2520.94
	Add Water Charges @ 1% except on A i.e on TOTAL					8.14
	Add GST 12% on "X" except A(multiplying factor 0.1405)					2529.07 (X) 115.45
	Total					2644.52 (Y)
	Add CPOH @ 15% except on A i.e on TOTAL					160.05 2804.57
	Cost of 5.20 metre					
	Cost of 1 metre					539.34
	Add labour cess @ 1%					5.39
	Rate including labour cess					544.73
	Say		Say	₹544.70		metre
5.47.2	Door frame 100 mm x 60 mm.					
	Details of cost for 5.20 metre.					
	Rate as per Item Number 5.33.1 of SH: Reinforced cement concrete work Extra for scatter and smaller work @25 % (P) x 0.25 = (168.66) x 0.25	cum	0.031	5,440.56	5.33.1.4	168.66 P 42.16 R
	Twisted steel/ deformed bars	quintal	0.0372	5,644.10	1005A	209.96
	Bright finished or black enameled mild steel butt hinges 75x47x1.70 mm	10 nos	6	56.00	0596	336.00
	Rate as per Item No. 4.3.3 of SH: Cement Concrete	sqm	1.14	489.54	4.3.3	558.08 A
	Rate as per Item Number 14.2.1 of SH: Repairs to Building	each	1	690.57	14.2.1	690.57 A
	Rate as per Item Number 13.48.2 of SH: Finishing	sqm	1.14	102.25	13.48.2	116.56 A
	Sundries	L.S.	100.67	2.12	9999	213.42
	TOTAL					2335.42
	Add Water Charges @ 1% except on A i.e on TOTAL					7.59
	Add GST 12% on "X"(multiplying factor 0.1405)					2343.01 107.76
	Total					2450.77 (Y)

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add CPOH @ 15% except on A i.e on					131.21
	Cost of 5.20 metre					2581.98
	Cost of 1 metre					496.53
	Add labour cess @ 1%					4.97
	Rate including labour cess					501.50
	Say		Say	₹501.50	metre	
5.47.3	Door frame 85 mm x 60 mm.					
	Details of cost for 5.20 metre.					
	Rate as per Item Number 5.33.1 of SH:	cum	0.027	5440.56	5.33.1	146.90 P
	Reinforced cement concrete work					
	Extra for scatter and smaller work @25 %					
	(P) x 0.25 = (146.9) x 0.25					36.72 R
	Twisted steel/ deformed bars	quintal	0.0324	5644.10	1005	182.87
	Bright finished or black enameled mild steel	10 nos	6	56.00	0596	336.00
	butt things 75x47x1.70 mm					
	Rate as per Item No. 4.3.3 of SH: Cement	sqm	1.07	489.54	4.3.3	523.81 A
	Concrete					
	Rate as per Item Number 14.2.1 of SH:	each	1	690.57	14.2.1	690.57 A
	Repairs to Building					
	Rate as per Item Number 13.48.2 of SH:	sqm	1.07	102.25	13.48.2	109.41 A
	Finishing					
	Sundries	L.S.	100.67	2.12	9999	213.42
	TOTAL					2239.70
	Add Water Charges @ 1% except on A i.e on					7.32
	TOTAL					2247.02
	Add GST 12% on "X"(multiplying factor					103.92
	0.1405)					
	Total					2350.94 (Y)
	Add CPOH @ 15% except on A i.e on					126.53
	Cost of 5.20 metre					2477.47
	Cost of 1 metre					476.44
	Add labour cess @ 1%					4.76
	Rate including labour cess					481.20
	Say		Say	₹481.20	metre	
5.48	Providing and laying Reinforced cement concrete for construction of piers,abutments, portal frames, pier caps and bearing pedestals and seismic arresters over pier/ abutment caps at all locations with specified grade using Ordinary Portland Cement (conforming to strength requirement of IS:8112) including the cost of steel centering and shuttering etc. complete including testing of materials etc. for casting pier & pier cap in one/two stage, necessary tools, plants, machinery and all related operations as required to complete the work as per drawings and Specifications with all leads, lifts and depths true to level and position but excluding the cost of providing reinforcement. Reinforcement shall be measured and paid separately. Cement content considered in this item is 480 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately.					
5.48.1	Reinforced Cement Concrete M50.					
	Details of cost for 120.00.					
	Annexure for item 5.48.1 Providing M 50					
	grade reinforced Cement Concrete data for					
	120.00 cum	each	1	427087.60	5.48X	427087.60

Add 11 per cent of cost of material, labour and machinery for formwork


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A
B

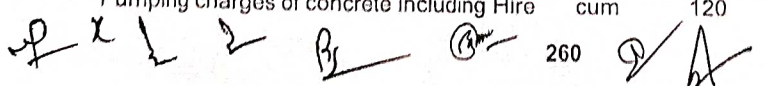
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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	P x 11 /100 =427087.6 x 11 /100					46979.64
	Add 1.4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift					5979.23
	P x 1.4 /100 =427087.6 x 1.4 /100					480046.46
	TOTAL					4800.46
	Add Water Charges @ 1%					484846.93 (X)
	TOTAL					68120.99
	Add GST 12% on "X"(multiplying factor 0.1405)					552967.92 (Y)
	Total					82945.19
	Add CPOH @ 15% on "Y"					635913.11
	Cost of 120.00 cum					5299.28
	Cost of 1 cum					52.99
	Add labour cess @ 1%					5352.27
	Rate including labour cess					5352.27
	Say		Say	₹5352.30		cum
5.48.2	Reinforced Cement Concrete M60.					
	Details of cost for 120.00 cum.					
	Annexure for item 5.48.2 Providing M 60	each	1	525986.39	5.48Y	525986.39
	grade reinforced Cement Concrete data for 120.00 cum					
	Add 11 per cent of cost of material, labour and machinery for formwork					57858.50
	P x 11 /100 =525986.386 x 11 /100					7363.81
	Add 1.4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift					7363.81
	P x 1.4 /100 =525986.386 x 1.4 /100					591208.70
	TOTAL					5912.09
	Add Water Charges @ 1%					597120.78 (X)
	TOTAL					83895.47
	Add GST 12% on "X"(multiplying factor 0.1405)					681016.26 (Y)
	Total					102152.44
	Add CPOH @ 15% on "Y"					783168.69
	Cost of 120.00 cum					6526.41
	Cost of 1 cum					65.26
	Add labour cess @ 1%					6591.67
	Rate including labour cess					6591.67
	Say		Say	₹6591.70		cum
5.48.3	Extra for using M50/M60 grade self-compacting Reinforced Cement Concrete.					
	Details of cost for 1.00 cum.					
	Rate as per item no. 5.48.3X	cum	1	7,183.87	5.48.3X	7183.87
	Rate as per item no. 5.48.2	cum	1	6,591.67	5.48.2	6591.67
	P - Q =7183.87 -6591.67 =592.2					
	Cost of 1 cum					592.20
	Add labour cess @ 1%					5.92
	Rate including labour cess					598.12
	Say		Say	₹598.10		cum

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.	
5.48.3X	M60 grade Self-compacting Reinforced Cement Concrete.						
	Details of cost for 120.00 cum.						
	Annexure for item 5.48.3 , Extra for using	each	1	573241.05	5.48Z	573241.05	
	M 60 grade Self Compacting Reinforced cement Concrete data for 120.00 cum						
	grade Self Compacting Reinforced cement Concrete data for 120.00 cum						
	Add 11 per cent of cost of material, labour and machinery for formwork						
	P x 11 /100 =573241.054 x 11 /100						63056.52
	Add 1.4 per cent of cost of material, Labour and machinery excluding formwork to cater for extra lift						
	P x 1.4 /100 =573241.054 x 1.4 /100						8025.37
	TOTAL						644322.94
	Add Water Charges @ 1%						6443.23
	TOTAL						650766.17 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)						91432.65
	Total						742198.82 (Y)
	Add CPOH @ 15%						111329.82
	Cost of 120.00cum						853528.64
	Cost of 1 cum						7112.74
	Rate including labour cess						71.13
							7183.87
	Say			₹7183.90		cum	
5.48X	Annexure for item 5.48.1 , Providing M 50 grade Reinforced cement Concrete data for 120.00 cum.						
	Details of cost for each.						
	RCC Grade M50						
	Unit = 1 cum						
	Taking output = 120 cum						
	MATERIAL:						
	Portland Cement	tonne	57.60	4408.00	0367	253900.80	
	Coarse sand (zone III)	cum	54.00	286.70	0982	15481.94	
	Stone Aggregate (Single size) : 20 mm nominal size	cum	64.80	595.36	0295	38579.33	
	Stone Aggregate (Single size) : 10 mm nominal size	cum	43.20	657.91	0297	28421.71	
	Plasticizer / super plasticizer	kilogram	223.20	29.00	7318	6472.80	
	LABOUR:						
	Mate	day	0.94	325.00	0128	305.50	
	Mason (brick layer) 1 st class	day	3.5	413.00	0123	1445.50	
	Beldar	day	20	306.00	0114	6120.00	
	MACHINERY:						
	Batching and Mixing Plant @ 75 cum per hour	hour	1.6	2400.00	0066	3840.00	
	Generator 100 KVA/125 KVA	hour	1.6	300.00	0070	480.00	
	Front end loader 1 cum bucket capacity (incl POL)	hour	1.6	1,300.00	0052	2080.00	
	Distance = 10 km						
	Qty= 120.00 cum						
	Total = 120.00x 10= 1200						
	Carriage of concrete by transit mixer	km/cum	1200	37.30	0029	44760.00	
	Pumping charges of concrete including Hire	cum	120	210.00	0009	25200.00	


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	charges of pump, piping work & accessories etc.					
	TOTAL					427087.58
	Cost of each					427087.60
	Rate including labour cess					4270.88
						431358.48
	Say		Say	₹431358.5		cum
5.48Y	Annexure for item 5.48.2 , Providing M 60 grade Reinforced cement Concrete data for 120.00 cum.					
	Details of cost for each.					
	RCC Grade M60					
	Unit = 1 cum					
	Taking output = 120 cum					
	Portland Cement	tonne	57.6	4,408.00	0367	253900.80
	Coarse sand (zone III)	cum	54.98	286.70	0982	15762.90
	Stone Aggregate (Single size) : 20 mm nominal size	cum	57.54	595.36	0295	34257.01
	Stone Aggregate (Single size) : 10 mm nominal size	cum	38.22	657.91	0297	25145.32
	Plasticizer / super plasticizer	kilogram	230.4	29.00	7318	6681.60
	Micro Silica	kg	3600	28.00	8953	100800.00
	LABOUR:					
	Mate	day	0.94	325.00	0128	305.50
	Mason (brick layer) 1 st class	day	3.5	413.00	0123	1445.50
	Beldar	day	20	306.00	0114	6120.00
	MACHINERY:					
	Batching and Mixing Plant @ 75 cum per hour	hour	1.6	2,400.00	0066	3840.00
	Generator 100 KVA/125 KVA	hour	1.6	300.00	0070	480.00
	Front end loader 1 cum bucket capacity (incl POL)	hour	1.6	1,300.00	0052	2080.00
	Distance = 10 km					
	Qty= 120.00 cum					
	Total = 120.00x 10= 1200					
	Carriage of concrete by transit mixer	km/cum	1200	37.30	0029	44760.00
	Pumping charges of concrete including Hire	cum	120	210.00	0009	25200.00
	charges of pump, piping work & accessories etc.					
	TOTAL					520778.64
	Cost of each					520778.60
	Rate including labour cess					5207.79
						525986.39
	Say		Say	₹525986		cum
5.48Z	Annexure for item 5.48.3 , Extra for using M 60 grade Self Compacting Reinforced cement Concrete data for 120.00 cum.					
	Details of cost for each.					
	Extra for using M60 grade Self-compacting Reinforced Cement Concrete					
	RCC Grade M60 self compacting concrete					
	Using Batching Plant, Transit Mixer and Concrete Pump					
	Unit ; cum					
	Taking Output = 120 cum					
	MATERIAL:					
	Portland Cement	tonne	57.6	4,408.00	0367	253900.80
	Coarse sand (zone III)	cum	54	286.70	0982	15481.94
	Stone Aggregate (Single size) : 20 mm nominal size	cum	64.8	595.36	0295	38579.33

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Stone Aggregate (Single size) : 10 mm nominal size	cum	43.2	657.91	0297	28421.71
	Micro Silica	kg	5040	28.00	8953	141120.00
	Plasticizer / super plasticizer	kilogram	230.4	29.00	7318	6681.60
	LABOUR:					
	Mate	day	0.84	325.00	0128	273.00
	Mason (brick layer) 1 st class	day	3	413.00	0123	1239.00
	Beldar	day	18	306.00	0114	5508.00
	MACHINERY:					
	Batching and Mixing Plant @ 75 cum per hour	hour	1.6	2,400.00	0066	3840.00
	Generator 100 KVA/125 KVA	hour	1.6	300.00	0070	480.00
	Front end loader 1 cum bucket capacity (incl POL)	hour	1.6	1,300.00	0052	2080.00
	Distance = 10 km					
	Qty= 120.00 cum					
	Total = 120.00x 10= 1200					
	Carriage of concrete by transit mixer	km/cum	1200	37.30	0029	44760.00
	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc.	cum	120	210.00	0009	25200.00
	TOTAL					567565.38
	Cost of each					567565.40
	Rate including labour cess					5675.65
	Say					573241.05
	Say			₹5,73,241.1	cum	

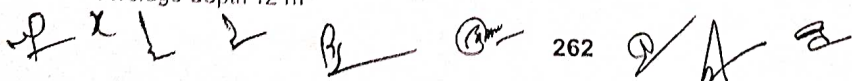
- 5.49 Constructing cast-in situ RCC diaphragm wall by providing and laying machine batched, machine mixed, self compacting, ready mix reinforced cement concrete, tramie controlled, of M 30 grade using minimum 400 kg. cement per cum of concrete including providing and mixing required admixtures in recommended proportions as per IS : 9103, as approved by the Engineer-in-charge, for achieving 150- 200mm slump, for diaphragm wall having thickness as per approved structural design not exceeding 600 mm, in pannels of required depth and lengths as per approved drawing, including constructing necessary guide walls as required and as specified including boring in all kinds of soils and rocks, including working in or under water and / or liquid mud, in foul conditions and pumping or bailing out of water and removing slush, including disposal of earth/ rock / slush etc. for all leads and all lifts, including preparing, providing and re-circulating bentonite slurry in the trench as and when required for all depths, including agitating bentonite slurry during trenching etc., providing and fixing stop ends or form tubes, upto the required depth of diaphragm wall including extracting the same after casting, including chipping off the bentonite adulterated concrete or unsound concrete up to the cut off level for obtaining the sound concrete, dressing undulations on the exposed face of diaphragm wall after excavation by chipping / chiseling etc. including filling the depression/ cavities with sound concrete etc. complete and as directed by the Engineer-in-charge, including providing recess for bearing plates and fixing insert boxes for inclined rock anchors etc. complete as per the specifications and approved design and as directed by the Engineer-in-charge, .but excluding the cost of reinforcement and inserts. (rates include cost of all inputs of labour, material and T & P, cost of handling, lifting & placing in position the reinforcement cage in the trench, including the additional cost of welding the reinforcement bars etc. involved in the work and all other incidental expenditure for completing the work as directed by the Engineer-in-charge), However, the actual area of the diaphragm wall, correct (including portion anchored in the rock upto the design bottom level) only shall be measured for payment.

Excess/less cement used for design mix including the extra cement required for under water concreting is payable / recoverable separately.

Details of cost for 144.0 cum.

Analysis for 20x12=240 Sqm area of diaphragm wall

Average depth 12 m


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Thickness 0.60 m Total Quantity 20 mx12 m x0.6 m= 144.00 cum					
	Excavation of Diaphragm wall by Mechanical Grab	sqm	240	1,500.00	0082	360000.00
	Guide wall RCC 1:2:4 RCC 2x20x(0.45+1.5)x.15 = 11.70 cum					
	Rate as per Item Number 5.1.3 of SH: Reinforced cement concrete work	cum	11.7	4,232.44	5.1.3	49519.49 A
	Reinforcement@ 70 kg/Cum for guide wall= 11.70x 70 kg/cum= 819 kg					
	Rate as per Item Number 5.22.6 of SH: Reinforced Cement Concrete	kilogram	819	94.46	5.22.6	77363.42 A
	Add for chipping/dismantling top 50 cm contaminated concrete =20 x 0.50 x 0.60=6.00 cum					
	RMC M-30 as per qty=144.00 cum Add 10% extra for bulges etc. i.e. 14.40 cum Total=144.00+6.00+14.40= 164.40 cum					
	Rate as per Item Number 5.33.1 of SH: Reinforced cement concrete work	cum	164.4	5,063.36	5.33.1.1	832416.28 A
	Bentonite @6% of RCC qty Total Qty= 164.4x0.06x1400/100= 13810 kg= 13.81 tonne					
	Bentonite	tonne	13.81	2,800.00	7183	38668.00
	Add 10 %extra cement due to concreting under water 164.4x420x0.10=6.90 tonne					
	Portland Cement	tonne	6.9	4,408.00	0367	30415.20
	Add cement for grouting of wall using nozzles etc.- 240 sqm @ 0.10 quintal/sqm =2.40 tonne					
	Portland Cement	tonne	2.4	4,408.00	0367	10579.20
	Carriage of cement	tonne	2.4	145.72	2209	349.73
	Hire and running charges of light crane	day	1	3,500.00	0025	3500.00
	Reinforcement @220 kg/cum 164.4x220kg/cum=36168 kg Extra reinforcement for hooks @ 5% of cage 1808.4 kg Total=1808.4 kg=18.084 qtl					
	Twisted steel/ deformed bars	quintal	18.084	5,644.10	1005	102067.90
	Extra for welding reinforcement cage Reinforcement @ 200 C/C 2 x 101 x 61 = 6161 joints Welding for alternate joint say 50 % joints 6161 cm					
	Rate as per Item Number 10.22 of SH: 10 Steel work	cm	6161	3.46	10.22	21340.81
	Labour for grouting diaphragm wall under pressure i/c fixing nozzle etc. Add for use retarders / plasticizers for the diaphragm wall concreting using trimme @ 0.4 % cement qty = (164.4 x 420 x 0.4)/ 100=276.19	L.S.	23530	2.12	9999	49883.60
	Plasticizer / super plasticizer	kilogram	276.19	29.00	7318	8009.51
	Stop end tubes for diaphragmwall 600 mm dia.	sqm	240	4.50	8954	1080.00
	Driving end tubes for diaphragm wall 600 mm dia.	sqm	240	72.00	8955	17280.00
	Hire and running charges of bentonite pump	day	2	3,000.00	0026	6000.00

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Bentonite powder @ 6% of R.C.C. Qty= (164.4Cum x 0.06)=9.864 cum 9.864 cum x 1400 kg/cum = 13809.6 kg Disposal of bentonite muck Slurry / Muck vol. 49.32 cum Disposal of bentonite muck Slurry / Muck vol. 49.32 cum Add excavated earth = 144.00 cum Total= 144.00 + 49.32 = 193.32 cum Rate as per Item Number 15.60 of SH: 15	cum	193.32	219.33	15.60	42400.21 A
	Dismantling and Demolishing Disposal of Chipping / Dismantling of contaminated concrete and guide wall etc. with all leads as per item no. 15.3 = 2x(20x0.50x0.60) + 15.00 cum = 20.40 cum Rate as per Item Number 15.3 of SH:	cum	20.4	1411.18	15.30	28788.02 A
	Dismantling and demolishing	L.S.	1177	2.12	9999	2495.24
	Sundries (Extra for concreting by Trimme)	L.S.	19200	2.12	9999	40704.00
	TOTAL					1722860.62
	Add Water Charges @ 1% except on A i.e on					6923.73
	1030487.42					
	TOTAL					1729784.35 (X)
	Add GST 12% on "X" (multiplying factor 0.1405)					98251.22
	Total					1828035.57 (Y)
	Add CPOH @ 15% except on A i.e on (1722860.62 -1030487.42) =692373.19					119632.22
	Cost of 144.00 cum					1947667.79
	Cost of 1 cum					13525.47
	Add labour cess @ 1%					135.25
	Rate including labour cess					13660.73
	Say					
				Say	₹13660.70	cum