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**SUB HEAD : 10.0**  
**STEEL WORK**

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## BCD Analysis of Rates 2022

### BUILDING WORK 10.0 Steel Work

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
10.1	Structural steel work in single section fixed without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete. In tees, R.S. joists, angles, flats and channels Details of cost for one quintal <b>Materials:</b> Steel=1.00q Add wastage @ 5% = 0.05q = 1.05q	quintal	1.050	5400.00	(1007(A+B+C)/3)	5670.00
	Carriage	tonne	0.105	145.72	(2205)	15.30
	<b>Labour:</b>					
	Fitter (Grade I)	per day	0.500	420.00	(0116)	210.00
	Blacksmith 2nd class	per day	0.750	369.00	(0103)	276.75
	Beldar	per day	1.000	306.00	(0114)	306.00
	Priming coat (Rate vide item no. 13.81.3 finishing)	sqm	3.000	34.30	(13.81.3)	102.90 (A)
	Sundries	LS	20.670	2.12	(9999)	43.82
	Add for water charges @ 1% on all except 'A'					6624.77 65.22
	Add GST 12% on "X" (multiplying factor 0.1405)					6689.99 (X) 925.49
	Total					7615.48 (Y)
	Add for contractor's profit and overheads @ 15% on "Y" all except 'A'					1126.89
	Cost of 100 kg					8742.37
	Cost of 1 kg					87.42
	Add labour cess @ 1%					0.87
	Rate including labour cess					88.29
	<b>Say</b>			<b>Rs.88.30</b>	<b>per kg</b>	

**10.2 Structural steel work riveted or bolted in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete. In tees, R.S. joists, angles, flats and channels**

Take a truss 7.6 m clear span. (Weight = 3.95 quintal)

**Materials:**

(i) principal rafter (T-iron)

100x100x10 mm @ 15 kg/m. = 142.50 kg

struts (angles) 40x40x6 mm

2x1.35=2.70 m @ 3.5 kg/m = 9.45 kg

= 151.95 kg

Add wastage @ 5% = 7.60 kg

159.55 kg = 1.60 q

quintal 1.600 5400.00 (1007A) 8640.00

(ii) Ties (flats) 50x12 mm

2x2.27=5.4 m @ 4.7 kg = 25.38 kg

Ties central (flats) 50x10 mm

1x2.28=2.8 m @ 3.90 kg/m = 10.92 kg

Braces (flats) 40x10 mm

2x1.84=3.68 m @ 3.9 kg/m = 14.35 kg

= 50.65 kg

Add wastage @ 5% = 2.53 kg

= 53.18 kg = 0.53q

quintal 0.530 4950.00 (1009) 2623.50

(iii) Gusset plates 10 mm thick

1x0.74x0.35 m = 0.259 sqm

shoe 4x0.46x0.46 = 0.845 sqm

= 1.104 sqm

1.104 sqm @ 78.4 kg/m = 86.55 kg


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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	12 mm plates at the point of principal rafter and strut- 2x0.3x0.2 =0.12 sqm Tie beam brace and strut- 2x0.3x0.2 =0.12 sqm Tie beam brace and strut- 2x0.5x0.3 =0.30 qsm sole plates - 2x0.46x0.46 =0.42 sqm anchor plate- 2x0.46x0.1 =0.09 sqm =0.93 sqm say 1.00 sqm 1.0 sqm @ 94.4 kg/m =94.40 kg = 180.95 kg Add wastage @ 5% =9.05 kg = 190.00 kg or 1.90 q	quintal	1.900	5400.00	(1010)	10260.00
	(iv)16 mm dia 50 mm long rivets =56 nos. Add wastage @ 5% =2.8 nos. =58.8 nos. say 59 nos @ 1.16 kg per 10 rivets 5.9x1.16=6.84 kg=0.0684 q 20mm dia. Holding down bolts Nos x 460 mm =1840 mm Add wastage @5% = 92 mm =1932 mm 33 mm @ 2.74 kg/m = 5.29 kg= 0.0529 q	quintal	0.068	5100.00	(1020)	348.84
	quintal	0.0529	6100.00	(1221)	322.69	
	carriage	tonne	0.415	145.72	(2205)	60.47
	<b>Labour</b>					
	Fitter Grade I	per day	2.700	420.00	(0116)	1134.00
	Blacksmith 2nd Class	per day	3.600	369.00	(0103)	1328.40
	Beldar Special	per day	5.400	369.00	(0139)	1992.60
	Beldar	per day	3.600	306.00	(0114)	1101.60
	Bandhani	per day	0.440	325.00	(0100)	143.00
	Cost as per item 13.81.3 S.H. finishing priming coat	sqm	5.680	34.30	(13.81.3)	194.83 (A)
	sundries	LS	80.730	2.12	(9999)	171.15
	Total					28321.08
	Add for water charges @ 1% on all except 'A'					168.63
	Total					28489.71 (X)
	Add GST 12% on "X" except A( multiplying factor 0.1405)					3975.43
	Total					32465.14 (Y)
	Add for contractor's profit and overheads @15% on "Y" on except 'A'					4840.55
	Total					37305.69
	Cost of 395 kg					37305.69
	Cost of 1 kg					94.44
	Add labour cess @ 1%					0.94
	Rate including labour cess					95.38
	Say			Rs.95.40		per kg

**10.3 Providing and fixing in position collapsible steel shutters with vertical channes 20x10x2 mm and braced with fiat iron diagonals 20x5 mm size with top and bottom rail of T-iron. 40x40x6 mm with 40 mm dia steel pulleys complete with bots.nuts locking arrangement stoppers handles induding applying a priming coat of approved steel primer . Details of cost for a gate**

2.4 m x 1.5 m =3.6 sqm

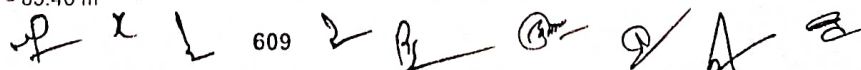
**Materials:**

M.S. channels 18 Nos on both

20x20x2 mm @ 0.58 kg/m

2x18x2.1 = 85.40 m

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add wastage @ 10 % = 8.04M = 95.04M					
	M S m @ 0.56 kg m = 53.2 kg = 0.53 q	quintal	0.530	5400.00	(1007 A)	2862.00
	M S Tee - 40x40x5 mm					
	3.3 m @ 3.5 kg/m = 11.55 kg					
	-Add wastage @ 10 % = 1.155 kg = 12.705 kg say 0.13 q	quintal	0.130	5400.00	(1007A)	702.00
	Flat iron diagonal	quintal	0.600	4850.00	(1008)	2910.00
	Carriage	tonne	0.125	145.72	(2205)	18.22
	Cost of rivets, hooks, washers	LS	269.100	2.12	(9999)	570.49
	Cost of locking arrangement and handles	LS	67.340	2.12	(9999)	142.76
	Pullerys 40 mm dia	each	10.000	35.00	(4013)	350.00
	Priming coat					
	Channel 36x0.076x2.4 = 6.57					
	Tee 0.16x3.3 = 0.53					
	Flats 0.05 x68 = 3.40 = 10.50 sqm	sqm	10.500	34.30	(13.81.3)	360.16 (A)
	(Rate as per item 13.81.3 finishing)					
	Labour:					
	Fitters (Grade-I)	per day	3.000	420.00	(0116)	1260.00
	Blacksmith 1 st class	per day	6.000	413.00	(0102)	2478.00
	Blacksmith 2nd class	per day	6.000	369.00	(0103)	2214.00
	Mason 1st class	per day	0.500	413.00	(0123)	206.50
	Mason 2nd class	per day	0.500	369.00	(0124)	184.50
	Belders	per day	8.000	306.00	(0114)	2448.00
	Sundries	LS	161.460	2.12	(9999)	342.30
	Total					17048.93
	Add for water charges @ 1 % on all except A					166.89
	Total					17215.81 (X)
	Add GST 12% on "X" except A( multiplying factor 0.1405)					2368.22
	Total					19584.03 (Y)
	Add for contractor's profit and overheads @ 15% on all except 'A'					2883.58
	Cost of 3.6 sqm					22467.61
	Cost of 1 sqm					6241.00
	Add labour cess @ 1%					62.41
	Rate including labour cess					6303.41
	<b>Say Rs. 6303.40 Per sqm</b>					

**10.4 Providing and fixing 1 mm thick M.S.sheet sliding shutters with frame and diagonal braces of 40x40x6 mm angle iron, 3 mm M.S. gusset plates at the junction and comers, 25 mm dia pulley, 40x40x6 mm angle and T-iron guide at the top bottom respectively including applying a priming coat of approved steel primer.**

Details of cost for one double leaf door size.

2.4x2.4m = 5.76 sqm

**Materials:**

(i) M.S. Sheet 1 mm thick

5.76 sqm @ 7.85 kg/sqm = 45.216 kg

= 4.522 kg

= 49.738 kg = 0.497 q

	quintal	0.497	4850.00	(1013)	2410.45
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(ii) Gusset plates 3.00 mm thick

Area of 1 gusset plates

0.3x0.04 = 0.0120

1/2x0.26 (0.04+0.3) = 0.0442 sam

= 0.0562 sqm

8x0.0562 = 0.4496 sqm

2x22/7x1/4x0.3x0.3 = 0.1414 sqm

= 0.5910 sqm

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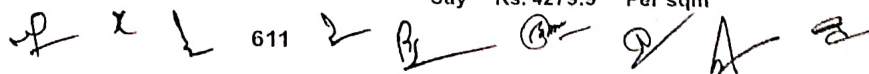
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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	0.5910 sqm @ 23.55 kg/sqm = 13.92 kg Add wastage @ 10% = 1.39 kg = 15.31 kg or 0.153	quintal	0.153	5400.00	(1010)	826.20
	(iii) Angle iron 40x40x6 mm @ 3.5 kg/m sides-4x2.4 = 9.6 m Bottem & top 4x1.2 = 4.8 m Diagonals 2x2.5 = 5.0 m 2x2.45 = 4.9 m Top guide supports 7x0.3 = 2.1 m = 36.0 m 36 m @ 3.5 kg. per m. = 126 kg Add wastage @ 10% = 12.6 kg = 138.6 kg	quintal	1.300	5400.00	(1007A)	7020.00
	Channel 25x25x6 mm @ 3.05 kg/m Bottem - 2.4 m : 2.4x3.05 = 7.32 Channel 40x40x6 mm @ 0.56 kg/m 0.5x5.56 = 2.78 kg = 1.01 kg Add wastage @ 10% = 1.01 kg = 11.11 kg or 0.11	quintal	0.110	5400.00	(1007A)	594.00
	Cariage- (0.0497+0.015+0.139+0.11 = 0.2157 tonne)	tonne	0.216	145.72	(2205)	31.48
	(iv) pully guide blocks including drilling holes	LS	269.100	2.12	(9999)	570.49
	(v) 25 mm dia pully	each	8.000	48.00	(0969)	384.00
	(vi) Handles and locking arragements	LS	167.750	2.12	(9999)	355.63
	(vii) Bolts and rivets	LS	269.100	2.12	(9999)	570.49
	(viii) cement concrete Priming coat- M.S. Sheet 2x5.76 = 11.52 Angle iron 0.16x36 = 5.76 Channel-0.15x2.4 = 0.36 0.24x0.5 = 0.12 = 17.76 say 18.0 sqm	sqm	18.000	34.30	(13.81.3)	617.42 (A)
	(Rate as per item 13.81-3 of S.H finished ) Labour: Filters (Grade-I) per day 2.000 420.00 (0116) 840.00 Blackmith 1st class per day 3.000 413.00 (0102) 1239.00 Blackmith 2nd class per day 4.000 369.00 (0103) 1476.00 Belders per day 4.000 306.00 (0114) 1224.00 Mason 1st class per day 0.060 413.00 (0123) 24.78 Mason 2nd class per day 0.060 369.00 (0124) 22.14 Sudries LS 161.460 2.12 (9999) 342.30 Total 18577.04 Add for water charges @ 1 % on all except 'A' 179.60 Total 18756.63 (X) Add GST 12% on "X" ( multiplying factor 0.1405) 2548.56					
	Total					21305.19 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					3103.17
	Cost of 5.76 sqm					24408.36
	Cost of 1 sqm					4237.56
	Add labour cess @ 1%					42.38
	Rate including labour cess					4279.94

Say Rs. 4279.9 Per sqm

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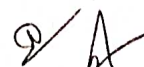



## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
10.5	Providing and fixing 1 mm thick M.S. sheet door with frame of 40x40x6 mm angle iron and 3mm MS gusset plates at the junction and corners.all necessary fittings complete.including applying a priming coat of approved steel primer.					
10.5.1	Using M.S. angle 40x40x6 mm for diagonal braces					
	Details of cost for a double leaf door of size					
	2.4m x 2.4m =5.76 sqm (Drawing no. 41/2/M).					
	<b>Materials:</b>					
	(i) M.S. sheet 1 mm thick - (Same as (I) in item no. 10.6 = 0.497 q)	quintal	0.497	4850.00	(1013)	2410.45
	(ii) Gusset plates - 3.00 mm thick (Same as (ii) in item no. 10.6 = 0.153 q)	quintal	0.153	4850.00	(1013)	742.05
	(iii) Angle iron : 40x40x6 mm @ 3.5 kg/m Sides 4x2.40 =9.6 m Top & bottem 4x1.20 =4.3 m 14.40 m					
	Add wastage @ 10% =1.44 m 15.84 m					
	15.84m@3.5 kg/m = 55.44kg=0.554q Diagonals 2x2.5 =5.0 m 2x2.45 =4.9 m =24.30 m Add wastage @ 10% =2.43 m =26.73 m					
	26.73 m @ 3.5 kg.per m= 93.56 kg =0.936q	quintal	0.936	5400.00	(1007A)	5054.40
	Carriage of (i),(ii) & (iii) (0.0497+0.0153+0.0936 tonne)	tonne	0.159	145.72	(2205)	23.11
	(iv) pintles including wedged pin	each	4.000	37.00	(1036)	148.00
	M.S. Cleats with bolts and nuts to rest on pintles	each	4.000	120.00	(1222)	480.00
	Hooks	each	2.000	32.00	(1019)	64.00
	Locking arrangements and handles	LS	167.700	2.12	(9999)	355.52
	Rivets Priming coat	LS	269.100	2.12	(9999)	570.49
	M.S. sheet =11.52 Angle iron 0.16x24.3 =3.89 =15.41	sqm	15.410	34.30	(13.81.3)	528.58 (A)
	(Rate as per item 13.81.3 finishing)					
	<b>Labour:</b>					
	Fitters (Grade-I)	per day	2.000	420.00	(0116)	840.00
	Blacksmith 1st class	per day	3.000	413.00	(0102)	1239.00
	Blacksmith 2nd class	per day	4.000	369.00	(0103)	1476.00
	Mason 1st class	per day	0.060	413.00	(0123)	24.78
	Mason 2nd class	per day	0.060	369.00	(0124)	22.14
	Beladar	per day	5.000	306.00	(0114)	1530.00
	sundries	LS	161.460	2.12	(9999)	342.30
	Total					15850.82
	Add for water charges @ 1 % on all except 'A'					158.51
	Total except A					16009.33 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					2175.05
	Total					18184.38 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					2648.37
	Cost of 5.76 sqm					20832.75
	Cost of 1 sqm					3616.80
	Add labour cess @ 1%					36.17
	Rate including labour cess					3652.97
						Say Rs. 3653.00 Per sqm

### 10.5.2 Using flats 30x6 mm for diagonal braces and central cross piece.

Details of cost for a double leaf door size  
2.4mx2.4m=5.76 sqm


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	<b>Materials:</b>					
	(i) M.S. sheet 1mm thick (same as (i) in item no. 10.6) = 0.497	quintal	0.497	4850.00	(1013)	2410.45
	(ii) Gussets plates - 3.00 mm thick Vide (ii) in item. 10.6 = 0.5910 sqm at mid height = 4x0.0528 = 0.2112 sqm = 0.8022 sqm Add wastage @ 10% = 0.0802 sqm = 0.8824 sqm					
	0.8824 sqm @ 23.55 kg/sqm = 20.79 kg = 0.208 q	quintal	0.208	5400.00	(1010)	1122.12
	(iii) Angle iron 40x40x6 mm @ 3.5 kg/m Sides 4x2.40 = 9.6 m Top & bottem 4x1.20 = 4.8 m = 14.40 m Add wastage @ 10% = 1.44 m 15.84 m					
	15.84 m @ 3.5 kg per m. = 55.44 kg = 0.554 q	quintal	0.554	5400.00	(1007A)	2991.60
	(iv) Flats 30x6mm @ 1.4 kg/m 4x2.45 = 9.80 m 2x1.20 = 2.40 m Add wastage @ 10% = 1.22 m = 13.42 m					
	13.42 m @ 1.4 kg. perm. = 18.788 kg = 0.188 q	quintal	0.188	4850.00	(1008)	911.80
	Carriage of (i), (ii) and (iv) 0.0497+0.0208+0.0554+0.0188=0.1447 tonne	tonne	0.145	145.72	(2205)	21.09
	Pintles including welded pin	each	4.000	37.00	(1036)	148.00
	M.S. Cleats with bolts and nuts to rest on pintles	each	4.000	120.00	(1222)	480.00
	Hooks	each	2.000	32.00	(1019)	64.00
	Locking arrangement and handles	LS	167.700	2.12	(9999)	355.52
	Rivets	LS	269.100	2.12	(9999)	570.49
	Applying priming coat M.S. sheet = 11.52 Angle iron - 0.16x14.40 = 2.30 Rats 0.072x12.2 = 0.88 = 14.70 sqm					
	(Rate as per item 13.81.3 S.H.finishing)	sqm	14.700	34.30	(13.81.3)	504.23 (A)
	<b>Labour:</b>					
	Filters(Grade-I)	per day	2.000	420.00	(0116)	840.00
	Blacksmith 1 st class	per day	3.000	413.00	(0102)	1239.00
	Blacksmith 2nd class	per day	4.000	369.00	(0103)	1476.00
	Mason 1st class	per day	0.060	413.00	(0123)	24.78
	Mason 2nd class	per day	0.060	369.00	(0124)	22.14
	Belders	per day	5.000	306.00	(0114)	1530.00
	Sundries	LS	161.460	2.12	(9999)	342.30
	Total except A					14549.29
	Add for water charges @ 1 % on all except 'A'					145.49
	Total except A					14694.78 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					2064.62
	Total					16759.40 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					2513.91
	Cost of 5.76 sqm					19777.53
	Cost of 1 sqm					3433.60
	Add labour cess @ 1%					34.34
	Rate including labour cess					3467.94

Say Rs. 3467.9 Per sqm

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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
10.6	Supplying and fixing-rolling shutters of approved make,made of required size of M.S.laths interlocked together through their intire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters.					
10.6.1	80x1.25mmM.S. Laths with 1.25mm thick top cover.					
	Details of cost for a shutter of size 3m*2.5m = 7.5 sqm					
	<b>Materials:</b>					
	Cost of Rolling shutter	sqm	7.500	1400.00	(0973)	10500.00
	Top Cover	metre	2.500	800.00	(0974)	2000.00
	Coiled type spring	each	1.000	300.00	(0975)	300.00
	Carriage	1 time	53.820	2.12	(9999)	114.10
	<b>Labour:</b>					
	Fitters (Grade-1)	per day	2.550	420.00	(0116)	1071.00
	Beldar	per day	2.550	306.00	(0114)	780.30
	Mason 1st class	per day	0.120	413.00	(0123)	49.56
	Mason 2nd class	per day	0.120	369.00	(0124)	44.28
	Sundries	1 time	60.580	2.12	(9999)	128.43
	Total					14987.67
	Add for water charges @ 1 %					149.88
	Total					15137.54 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					2126.83
	Total					17264.37 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					2589.66
	Cost of 7.5 sqm					19854.03
	Cost of 1 sqm					2647.20
	Add labour cess @ 1%					26.47
	Rate including labour cess					2673.67
						Say Rs. 2673.70 Per sqm
10.6.2	80x1.20mm thick M.S. laths with 1.20 mm thick top cover.					
	Details of cost for a shutter of size 3mx2.5m = 7.5 sqm					
	<b>Materials:</b>					
	Cost of Rolling shutter	sqm	7.500	1375.00	(7045)	10312.50
	Top Cover	metre	2.500	560.00	(7047)	1400.00
	Coiled type spring	each	1.000	300.00	(0975)	300.00
	Carriage	LS	53.820	2.12	(9999)	114.10
	<b>Labour:</b>					
	Fitters (Grade-1)	per day	2.550	420.00	(0116)	1071.00
	Beldar	per day	2.550	306.00	(0114)	780.30
	Mason 1st class	per day	0.120	413.00	(0123)	49.56
	Mason 2nd class	per day	0.120	369.00	(0124)	44.28
	Sundries	LS	60.580	2.12	(9S99)	128.43
	Total					14200.17
	Add for water charges @ 1%					142.00
	Total					14342.17 (X)
	Add GST 12% on "X" ( multiplying factor 0 1405)					2015.07
	Total					16357.24 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					2453.59
	Cost of 7.5 sqm					18810.83
	Cost of 1 sqm					2508.11
	Add labour cess @ 1%					25.08
	Rate including labour cess					2533.19
						Say Rs. 2533.20 Per sqm

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
10.6.3	80x0.90 mm thick M.S. laths with 0.90 mm thick top cover. Details of cost for a shutter of size 3m x 2.5m = 7.5 sqm					
	<b>Materials:</b>					
	Cost of Rolling shutter	sqm	7.500	1300.00	(7044)	9750.00
	Top Cover	metre	2.500	450.00	(7046)	1125.00
	Coiled type spring	each	1.000	300.00	(0975)	300.00
	Carriage	1 time	53.820	2.12	(9999)	114.10
						0.00
	<b>Labour:</b>					
	Fitters (Grade-1)	per day	2.550	420.00	(0116)	1071.00
	Beldar	per day	2.550	306.00	(0114)	780.30
	Mason 1 st class	per day	0.120	413.00	(0123)	49.56
	Mason 2nd class	per day	0.120	369.00	(0124)	44.28
	Sundries	1 time	60.580	2.12	(9999)	128.43
	Total					13362.67
	Add for water charges @ 1%					133.63
	Total					13496.29 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					1896.23
	Total					15392.52 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					2308.88
	Cost of 7.5 sqm					17701.40
	Cost of 1 sqm					2360.19
	Add labour cess @ 1%					23.60
	Rate including labour cess					2383.79
				Say	Rs. 2383.80	Per sqm
10.7	Providing and fixing ball bearing for rolling shutters					
	Details of cost for 1 No.					
	Ball bearing	each	1.000	260.00	(0976)	260.00
	Sundries	LS	26.910	2.12	(9999)	57.05
	Total					317.05
	Add for water charges @ 1%					3.17
	Total					320.22 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					44.99
	Total					365.21 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					54.78
	Cost of 1 sqm					419.99
	Add labour cess @ 1%					4.20
	Rate including labour cess					424.19
				Say	Rs. 424.20	Per sqm
10.8	Extra for providing mechanical device chain and crank operation for operating rolling shutters;					
10.8.1	Exceeding 10.00 sqm and upto 16.80 sqm in area					
	Details of cost for one sqm					
	Extra for mechanical devices chain and cranked operation for operating shutters (10 to 16.8 sqm)	sqm	1.000	800.00	(0977)	800.00
	Sundries	1 time	13.520	2.12	(9999)	28.66
	Total					828.66
	Add for water charges @ 1%					8.29
	Total					836.95 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					117.59
	Total					954.54 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					143.18

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Cost of 1 sqm					1097.72
	Add labour cess @ 1%					10.98
	Rate including labour cess					1108.70
				Say	Rs. 1108.70	Per sqm
<b>10.8.2</b>	<b>Exceeding 16.80 sqm in area</b>					
	Details of cost for one sqm					
	Extra for mechanical devices chain and cranked operation for rolling shutters (exceeding 16.8 sqm)	sqm	1.000	800.00	(0978)	800.00
	Sundries	1 time	13.520	2.12	(9999)	28.66
	Total					828.66
	Add for water charges @ 1%					8.29
	Total					836.95 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					117.59
	Total					954.54 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					143.18
	Cost of 1 sqm					1097.72
	Add labour cess @ 1%					10.98
	Rate including labour cess					1108.70
				Say	Rs. 1108.70	Per sqm
<b>10.9</b>	<b>Extra for providing grilled rolling shutters manufactured out of 8 mm dia. M.S. bar instead of laths as per design approved by Engineer-in-charge (area of grill to be measured.)</b>					
	Details of cost for a shutter of width 2.5 m and grill height 0.6 m					
	Grill area = 1.50 sqm					
	Materials:					
	Extra for providing grilled rolling shutter manufactured out of 8 mm dia M.S. bar instead of laths	sqm	1.500	500.00	(7068)	750.00
	Total					750.00
	Add for water charges @ 1%					7.50
	Total					757.50 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					106.43
	Total					863.93 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					129.59
	Cost of 1.5 sqm					993.52
	Cost of 1 sqm					662.35
	Add labour cess @ 1%					6.62
	Rate including labour cess					668.97
				Say	Rs. 669.00	Per sqm
<b>10.10</b>	<b>Fixing standard steel glazed doors, windows and ventilators in walls, including fixing of float glass panes with glazing clips and special metal-sash putty of approved make, or metal beading with screws, (only steel windows, glass panes cut to size and glazing clips or metal beading with screws, shall be supplied by department free of cost.</b>					
<b>10.10.1</b>	<b>Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size)</b>					
	Detail of cost for one door 2x0.76 m = 1.52 sqm(wt.15.0Kg)					
	Materials:					
	Cement concrete blocks 15x10x10 cm = 0.009cum	cum	0.009	4519.03	(4.2.5)	40.67 (A)
	(Rate as per item No. 4.2.5 of S.H.C C)					
	Labour:					
	Blacksmith 1st class	per day	0.170	413.00	(0102)	70.21
	Mason 1st class	per day	0.080	413.00	(0123)	33.04
	Mason IInd class	per day	0.080	369.00	(0124)	29.52

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Beldar	per day	0 500	306.00	(0114)	153.00
	Glazier	per day	0 170	344.00	(0119)	58.48
	Putty and sundries	1 time	67.280	2.12	(9999)	142.63
	Total except A					486.88
	Add for water charges @ 1 % on all except A					4.87
	Total except A					491.75 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					69.09
	Total					560.84 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					84.13
	Cost of 15.0kg					685.64
	Cost of 1 kg					45.71
	Add labour cess @ 1%					0.46
	Rate including labour cess					46.17
			Say	Rs. 46.20	Per kg	

### 10.10.2 Fixing with carbon steel galvanised dash fastener of required dia and size (to be paid for separately).

Details of cost for one door 2x0.76m =

1.52sqm.(weight 15 kg).

LABOUR:

Blacksmith 1 st class	day	0.17	413.00	102	70.21
Beldar	day	0.17	306.00	114	52.02
Sundries for carriage of material	L.S.	67.28	2.12	9999	142.63
TOTAL					264.86
Add Water Charges @ 1%					2.65
TOTAL					267.51 (X)
Add GST 12% on "X" ( multiplying factor 0.1405)					37.59
Total					305.10 (Y)
Add for contractor's profit and overheads @ 15% on "Y"					45.76
Cost of 15.0kg					350.86
Cost of 1 kg					23.39
Add labour cess @ 1%					0.23
Rate including labour cess					23.62
			Say	Rs. 23.60	Per kg

### 10.11 Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D,F4B,K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment).

#### 10.11.1 Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Details of cost for a double leaf door

size 2.075x1.175m = 2.44 sqm.

(weight 30 kg).

MATERIAL

Steel glazed door,window/ ventilator,

all members like as F7D, F4B, K11

and K12B etc.

Carriage of Steel Door

Labour for fabrication

Blacksmith 2nd class

Fitter (grade 1)

Beldar

Sundries

Fixing with CC 1:3:6 blocks, wooden

plugs and screws or rawl plugs and

kg	30.00	54.00	1011	1620.00
L S.	40 37	2.12	9977	85.58
day	0.17	369.00	0103	62.73
day	0.26	420.00	0116	109.20
day	0.34	306.00	0114	104.04
L.S.	15 37	2.12	9999	32.58

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	screws or with fixing clips and bolts and nuts as required including metal sash putty for glass fixing	kg	30.00	46.17	10.10.1	1385.08 A
	Rate as per Item No. 10.10.1					
	Apply steel primer (2.44x1.00 for both sides)=2.44 sqm	sqm	2.44	39.71	13.81.3	96.88 A
	Rate as per item no 13.50.3 of SH : Finishing					
	TOTAL					3496.10 W
	Add 1 % Water charges on "W-A"					20.14
	TOTAL					3516.24 X
	Add GST on "X-A" (multiplying factor 0.1405)					285.82
	TOTAL					3802.06 Y
	Add 15% CPOH on "Y-A"					348.01
	TOTAL					4150.08 Z
	Add Cess @ 1% on "Z-A"					26.68
	Cost for 30 kg.					4176.76
	Cost of 1 kg.					139.23
	Rate including labour cess					139.23
				Say	Rs. 139.20	Per kg

### 10.11.2 Fixing with carbon steel galvanised dash fastener of required dia and size (to be paid for separately)

Details of cost for a double leaf door of size 2.075x1.175m = 2.44 sqm. (weight 30 kg).

#### MATERIAL

Steel glazed door, window/ ventilator, all members like as F7D, F4B, K11 and K12B etc.	kg	30.000	54.00	1011	1620.00	
Carriage of Steel Door	L.S.	40.370	2.12	9977	85.58	
Labour for fabrication					0.00	
Blacksmith 2nd class	day	0.170	369.00	103	62.73	
Fitter (grade 1)	day	0.260	420.00	116	109.20	
Beldar	day	0.340	306.00	114	104.04	
Sundries	L.S.	15.370	2.12	9999	32.58	
Labour for fixing					0.00	
Beldar	day	0.027	306.00	114	8.26	
Collie	day	0.020	318.00	115	6.20	
Mistry	day	0.008	306.00	130	2.57	
Mate	day	0.001	325.00	128	0.39	
Hire charges of drill machine, scaffolding and sundries Apply steel primer (2.44x1.00 for both sides)=2.44 sqm	L.S.	12.220	2.12	9999	25.91	
Rate as per item no 13.81.3 of SH : Finishing	sqm	2.44	39.71	13.81.3	96.88 A	
TOTAL					2154.35 W	
Add 1 % Water charges on "W-A"					20.57	
TOTAL					2174.92 X	
Add GST on "X-A" (multiplying factor 0.1405)					291.97	
TOTAL					2466.89 Y	
Add 15% CPOH on "Y-A"					355.50	
TOTAL					2822.39 Z	
Add Cess @ 1% on "Z-A"					27.26	
Cost for 30 kg.					2849.65	
Cost of 1 kg.					94.99	
Rate including labour cess						
				Say	Rs. 95.00	Per kg

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Say Rs. 95.00 Per kg

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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
10.12	Providing and fixing steel glazed doors, windows and ventilatrs of standard rolled steel sections, joints mitered and welded with 15x3 mm lugs 10 cm long with steel lugs embedded in cement concrete blocks 15x10x10 cm of 1:3:6(1 cement: 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) or with woodenplugs and screws or rawl) plugs and screws or with fixing dips or with bolts and nuts as required, including providing and fixing of glass panes with glazing dips and special metal-sash putty pf approved make complete including applying a priming coat of approved steel primer; excluding the cost of metal beading and other fitting except necessary hinges or pivots as required.					
10.12.1	<b>Doors</b> Detail of cost for a double leaf door of size 2.075x1.175 m = 2.44 sqm Materials: Readymade steel door with necessary hinges, lugs and glazing clips but excluding other fittings and their fixing to hold glass:, panes ext. 2.075x1.175 m = 2.44 sqm Glass panes 10 kg/sqm (Area 80% of opening) Carriage of steel door and glass panes					
		sqm	2.440	1936.98	(4014)	4726.23
		sqm	1.950	309.00	(2406)	602.55
		1 time	31.050	2.12	(9999)	65.83
	Fixing with CC 1:3:6 blocks, wooden plugs and screws or rawl plugs and screws or with fixing clips and bolts and nuts as required including metal  sash putty for glass fixing. (Rate same as per code No. 10.10.1 of this sub-head) Apply steel primer (2.44x1.00 for both sides)=2.44 sqm (Rate as per code No. 13.81.3 of SH finishing) Add for water charges @ 1% on all items except (A+B) Total Add GST 12% on "X" except A+B ( multiplying factor 0.1405) Total Add for contractor's profit and over-heads @ 15% all except (A+B) Cost of 2.44 sqm Cost of 1 sqm Add labour cess @ 1% Rate including labour cess					
		sqm	2.440	45.71	(10.10.1)	111.53 (A)
		sqm	2.440	34.30	(13.81.3)	83.69 (B)
						53.95
						5643.78
						765.52
						6409.30 (Y)
						932.11
						7341.41
						3008.78
						30.09
						3038.87
						Say Rs. 3038.90 Per sqm

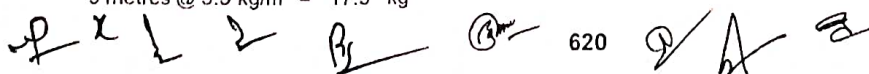
**10.13 Extra for providing and fixing steel beading of approved shape and section with screws instead of glazing clips and met. Sash putty in steel dorrs, windows. Ventilators and comosite units.**

**10.13A Steel doors**

Details of cost for one door of size 2.075x0.775 m = 1.61 sqm Metal beading with screws vertical pieces-2x2.075 =4.15 m Horizontal pieces 12x0 7 75 = 9.30 m =13.45 m	metre	13.450	27.00	(1143)	363.15
Fixing	1 times	15.550	2.12	(9999)	32.97
Applying priming coat	1 time	2.400	2.12	(9999)	5.09
Total					401.20
Add water Charges @ 1 %					4.01
Total					405.22 (X)
Add GST 12% on "X" ( multiplying factor 0.1405)					56.93
Total					462.15 (Y)
Add for contractor's profit and overheads @ 15% on "Y"					69.32

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Cost of 1.61 sqm					531.47
	Cost of 1 sqm					330.11
	Add labour cess @ 1%					3.30
	Rate including labour cess					333.41
			Say	Rs. 333.40		Per sqm
<b>10.13B</b>	<b>Steel windows</b>					
	Details of cost for one window of size					
	1.75x0.575 m=0.68 sqm					
	Metal beading with screws					
	Vertical pieces-2x1.175 =2.35 m					
	Horizontal pieces 8x0.575 =4.60m					
	=6.95m	metre	6.950	27.00	(1143)	187.65
	Fixing	1 time	5.200	2.12	(9999)	11.02
	Applying priming coat	1 time	1.400	2.12	(9999)	2.97
	Total					201.64
	Add water Charges @ 1 %					2.02
	Total					203.66 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					28.61
	Total					232.27 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					34.84
	Cost of 0.68 sqm					267.11
	Cost of 1 sqm					392.81
	Add labour cess @ 1%					3.93
	Rate including labour cess					396.74
			Say	Rs. 396.70		Per sqm
<b>10.13C</b>	<b>Steel ventilators</b>					
	Details of cost for one ventilator of size					
	1.775*0.575m . =1.02 sqm					
	vertical pieces 6x0.575 = 3.45 m					
	Horizontal pieces 4x1.775 = 7.10 m					
	=10.55	metre	10.550	27.00	(1143)	284.85
	Fixing	1 time	10.350	2.12	(9999)	21.94
	Applying priming cost	1 time	1.050	2.12	(9999)	2.23
	Total					309.02
	Add water Charges @ 1%					3.09
	Total					312.11 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					43.85
	Total					355.96 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					53.39
	Cost of 1.02 sqm					409.35
	Cost of 1 sqm					401.33
	Add labour cess @ 1%					4.01
	Rate including labour cess					405.34
			Say	Rs. 405.30		Per sqm
<b>10.14</b>	<b>Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.</b>					
<b>10.14.1</b>	<b>Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).</b>					
	fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer					
	Details of cost for 17.5 kg					
	Materials:					
	Tee iron 40x40x6 mm = 2m+2m+1m = 5 metres					
	5 metres @ 3.5 kg/m = 17.5 kg					


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add wastage @ 5% = 0.87 kg 18.37 kg Say 0.18					
	quintal	quintal	0.180	5610.00	(1007)	1009.80
	M.S. Bars 10mm = 1x1m = 1 metre					
	1 metre @ 0.60 kg/m = 0.60 kg					
	Add wastage @ 5% = 0.03 kg 0.63 kg Say 0.006					
	quintal	quintal	0.006	5860.00	(1002)	35.16
	M.S. Flat 15x3mm = 6x10 cm = 0.60 m					
	0.6 metre @ 0.35 kg/m = 0.21 kg					
	Add wastage @ 5% = 0.01 kg 0.22 kg					
	quintal	quintal	0.0020	4850.00	(1008)	9.70
	Cement concrete block 1:3:6 6x15x10x10 cm = 0.009 cum (Rate as per item no. 4.2.5 of SH:4)	cum	0.009	4519.03	(4.2.5)	40.67 (A)
	Butt hinges - 100x58x1.90 mm	10 Nos	6.000	80.00	(0595)	48.00
	For screws and nuts and bolts	LS	35.880	2.12	(9999)	76.07
	For applying steel primer	LS	17.940	2.12	(9999)	38.03
	Carriage of material	LS	5.330	2.12	(9999)	11.30
	Labour:					
	Blacksmith 2nd class	per day	0.100	369.00	(0103)	36.90
	Fitter (Grade I)	per day	0.150	420.00	(0116)	63.00
	Beldar	per day	0.200	306.00	(0114)	61.20
	Sundries	LS	8.970	2.12	(9999)	19.02
	Total					1448.85
	Add for water charges @ 1% except on 'A'					14.08
	Total					1462.93 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					205.54
	Total					1668.47 (Y)
	Add for contractor's profit and overheads @ 15% except on 'A'					244.17
	Cost of 17.5 kg					1912.64
	Cost of 1 kg					109.29
	Add labour cess @ 1%					1.09
	Rate including labour cess					110.38

Say Rs. 110.40 Per Kg

### 10.14.2 Fixing with carbon steel galvanised dash fastener of required dia and size (to be paid for separately).

Details of cost for 17.5 kg.

MATERIAL:

Tee iron 40x40x6mm

= 2 + 2 + 1 = 5m

5 metres @ 3.5kg/m = 17.5kg.+

Add wastage @ 5% = 0.87kg.

Total = 18.37 kg. Say 0.18 quintal

Structural steel such as tees, angles channels and R.S. joists

quintal      0.18      5610.00      1007      1009.80

M.S. bars 10mm = 1x1m = 1 metre

1 metre @ 0.60kg/m = 0.60kg.+

Add wastage @ 5% = 0.03kg.

Total = 0.63 kg. Say = 0.006 quintal

Mild steel round bar 12 mm dia and below

quintal      0.01      5860.00      1002      35.16

M.S. flat 15x3mm = 6x10cm = 0.60 metre

0.6 metre @ 0.35kg/m = 0.21 kg+

Add wastage @ 5% = 0.01 kg.

Total = 0.22 kg

Bright finished or black enameled mild

10 Nos      6.00      80.00      595      48.00

steel butt hinges 100x58x1.90 mm

for screws and nuts and bolts

L.S.      35.88      2.12      9999      76.07

for applying steel primer

L.S.      17.94      2.12      9999      38.03

Carriage of material

L.S.      5.33      2.12      9999      11.30

LABOUR:

## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Blacksmith 2nd class	day	0.10	369.00	103	36.90
	Fitter (grade 1)	day	0.15	420.00	116	63.00
	Beldar	day	0.20	306.00	114	61.20
	Sundries	L.S.	8.97	2.12	9999	19.02
	TOTAL					1398.47
	Add Water Charges @ 1%					13.98
	TOTAL					1412.46 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					198.45
	Total					1610.91 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					241.64
	Cost of 17.5 kg					1852.55
	Cost of 1 kg					105.86
	Add labour cess @ 1%					1.06
	Rate including labour cess					106.92
Say Rs. 106.90 Per Kg						

**10.15** Providing and fixing pressed steel door frames conforming to IS: 4351, manufactured from commercial mild steel sheet of 1.60 mm thickness, including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25 mm, or base ties of 1.60 mm, pressed mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed butt hinges 2.5 mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge:

**10.15.1 Profile B**

**10.15.1.1** Fixing with adjustable lugs with split end tail to each jamb

Details of cost for 5 metre

Materials:

Pressed steel door frames (mild steel sheet 1.60

Pressed steel frame=2+2+1 m = 5 m

Bright finished or black enameled mild steel butt hinges 100x58x1.90 mm

Screws, nuts and bolts 50x25x5 mm. M.S Angle for threshold 1 metre @ 2.75 kg per m =2.75 kg say 0.03quintal

Structural steel such as tees, angles channels and R.S. joists

Carriage of materials

**Labour:**

Fitter (Grade 1)

Beldar

Sundries

Steel Primer

500x2(2x1.2+2x6.0+1x12.50cm)=2.69sqm ( Rate as per item no. 13.81.3 of SH 13

Total

Add for water charges @ 1 %

TOTAL

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

Total

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

Cost of 5 metre

Cost of 1 metre

Add labour cess @ 1%

Rate including labour cess

metre	5.000	200.00	(4006)	1000.00
ten	0.600	80.00	(0595)	48.00
LS	35.880	2.12	(9999)	76.07
quintal	0.030	5610.00	(1007)	168.30
LS	5.330	2.12	(9999)	11.30
per day	0.150	420.00	(0116)	63.00
per day	0.200	306.00	(0114)	61.20
LS	8.970	2.12	(9999)	19.02
sqm	2.690	34.30	(13.81.3)	92.27 A
				1539.15
				14.47
				1553.62 (X)
				205.32
				1758.94 (Y)
				250.00
				2008.94
				401.79
				4.02
				405.81

Say Rs. 405.80 Per metre



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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
10.15.	Fixing with carbon steel galvanised dash fastener of required dia and size (to be paid for separately)					
1.2	Details of cost for 5 metre					
	Materials:					
	Pressed steel door frames (mild steel)					
	sheet 1.60					
	Pressed steel frame=2+2+1 m = 5 m	metre	5.000	200.00	(4006)	1000.00
	Deduct sundries for not providing adjustable lugs	L.S.	-20.000	2.12	(9999)	-42.40
	Bright finished or black enamelled mild steel butt hinges	10 Nos	0.600	80.00	(0595)	48.00
	100x58x1.90 mm					
	Screws, nuts and bolts	L.S.	35.880	2.12	(9999)	76.07
	50x25x5mm. M.S. Angle for threshold 1 metre @ 2.75kg per uds =2.75kg. Say 0.03q					
	Structural steel such as tees, angles channels and R.S. joists	quintal	0.030	5610.00	(1007)	168.30
	Carriage of materials	LS	5.330	2.12	(9999)	11.30
	<b>Labour:</b>					
	Fitter (Grade 1)	per day	0.150	420.00	(0116)	63.00
	Beldar	per day	0.200	306.00	(0114)	61.20
	Sundries	LS	8.970	2.12	(9999)	19.02
	Steel Primer					
	500x2(2x1.2+2x6.0+1x12.50cm)=2.69sqm (Rate as per item no. 13.81.3 of SH 13	sqm	2.690	34.30	(13.81.3)	92.27 A
	Total					1496.75
	Add for water charges @ 1 %					14.04
	TOTAL					1510.80 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					199.30
	Total					1710.10 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					242.67
	Cost of 5 metre					1952.77
	Cost of 1 metre					390.55
	Add labour cess @ 1%					3.91
	Rate including labour cess					394.46
						Say Rs. 394.50 Per metre

### 10.15.2 Profile C

#### 10.15. Fixing with adjustable lugs with split end tail to each jamb

2.1

##### Details of cost for 5 metre

##### Materials:

Pressed steel door frames (mild steel)

sheet 1.60

Pressed steel frame=2+2+1 m = 5 m      metre      5.000      220.00      (4007)      1100.00

Bright finished or black enameled mild steel      ten      0.600      80.00      (0595)      48.00

butt hinges 100x58x1.90 mm

Screws, nuts and bolts      LS      35.880      2.12      (9999)      76.07

50x25x5 mm. M.S. Angle for threshold

1 metre @ 2.75 kg per m =2.75 kg

say 0.03quintal

Structural steel such as tees, angles channels

and R.S. joists      quintal      0.030      5610.00      (1007)      168.30

Carriage of materials      LS      5.330      2.12      (9999)      11.30

##### Labour:

Fitter (Grade 1)      per day      0.150      420.00      (0116)      63.00

Beldar      per day      0.200      306.00      (0114)      61.20

## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Sundries	LS	8 970	2.12	(9999)	19.02
	Steel Primer					
	500x2(2x1.2+2x6.0+1x12.50cm)=2.69sqm	sqm	2 690	34.30	(13.81.3)	92.27 A
	( Rate as per item no. 13.81.3 of SH 13					
	Total					1639.15
	Add for water charges @ 1 %					15.47
	TOTAL					1654.62 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					219.51
	Total					1874.13 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					267.28
	Cost of 5 metre					2141.41
	Cost of 1 metre					428.28
	Add labour cess @ 1%					4.28
	Rate including labour cess					432.56
						Say Rs. 432.60 Per metre

### 10.15.2. Fixing with carbon steel galvanised dash fastener of required dia and size (to be paid for separately)

2

Details of cost for 5 metre

Materials:

Pressed steel door frames (mild steel) sheet 1.60

Pressed steel frame=2+2+1 m = 5 m

Deduct sundries for not providing adjustable lugs

Bright finished or black enamelled mild steel butt hinges

100x58x1.90 mm

Screws, nuts and bolts

50x25x5mm. M.S. Angle for threshold 1 metre @

2.75kg per uds

=2.75kg. Say 0.03q

Structural steel such as tees, angles channels

and R.S. joists

Carriage of materials

Labour:

Fitter (Grade 1)

Beldar

Sundries

Steel Primer

500x2(2x1.2+2x6.0+1x12.50cm)=2.69sqm

( Rate as per item no. 13.81.3 of SH 13

Total

Add for water charges @ 1 %

TOTAL

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

Total

Add for contractor's profit and overheads @ 15% on

"Y"

Cost of 5 metre

Cost of 1 metre

Add labour cess @ 1%

Rate including labour cess

metre	5.000	220.00	(4007)	1100.00
L.S.	-20.000	2.12	(9999)	-42.40
10 Nos	0.600	80.00	(0595)	48.00
L.S.	35 880	2.12	(9999)	76.07
quintal	0 030	5610.00	(1007)	168.30
LS	5.330	2.12	(9999)	11.30
per day	0 150	420.00	(0116)	63.00
per day	0.200	306.00	(0114)	61.20
LS	8.970	2.12	(9999)	19.02
sqm	2.690	34.30	(13.81.3)	92.27 A
				1596.75
				15.04
				1611.80 (X)
				213.49
				1825.29 (Y)
				259.95
				2085.24
				417.05
				4.17
				421.22
				Say Rs. 421.20 Per metre

### 10.15.3 Profile E

#### 10.15.3.1 Fixing with adjustable lugs with split end tail to each jamb

Details of cost for 5 metre

Materials:

Pressed steel door frames (mild steel) sheet 1.60

Pressed steel frame=2+2+1 m = 5 m

metre 5 000 250 00 (4008) 1250.00

*[Handwritten signatures and marks]*

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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Bright finished or black enameled mild steel butt hinges 100x58x1.90 mm	len	0.600	80.00	(0595)	48.00
	Screws, nuts and bolts 50x25x5 mm. M.S Angle for threshold 1 metre @ 2.75 kg per m =2.75 kg say 0.03quintal	LS	35.880	2.12	(9999)	76.07
	Structural steel such as tees, angles channels and R.S. joists	quintal	0.030	5610.00	(1007)	168.30
	Carriage of materials	LS	5.330	2.12	(9999)	11.30
	<b>Labour:</b>					
	Fitter (Grade 1)	per day	0.150	420.00	(0116)	63.00
	Beldar	per day	0.200	306.00	(0114)	61.20
	Sundries	LS	8.970	2.12	(9999)	19.02
	Steel Primer					
	500x2(2x1.2+2x6.0+1x12.50cm)=2.69sqm (Rate as per item no. 13.81.3 of SH 13)	sqm	2.690	34.30	(13.81.3)	92.27 A
	<b>Total</b>					1789.15
	Add for water charges @ 1 %					16.97
	<b>TOTAL</b>					1806.12 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					240.80
	<b>Total</b>					2046.92 (Y)
	Add for contractor's profit and overheads @ 15% on "Y"					293.20
	<b>Cost of 5 metre</b>					2340.11
	<b>Cost of 1 metre</b>					468.02
	Add labour cess @ 1%					4.68
	<b>Rate including labour cess</b>					472.70

Say Rs. 472.70 Per metre

### 10.15.3. Fixing with carbon steel galvanised dash fastener of required dia and size (to be paid for separately)

2

Details of cost for 5 metre

Materials:

Pressed steel door frames (mild steel) sheet 1.60

Pressed steel frame=2+2+1 m = 5 m      metre      5.000      250.00      (4008)      1250.00

Deduct sundries for not providing adjustable lugs      L.S.      -20.000      2.12      (9999)      -42.40

Bright finished or black enameled mild steel butt hinges 100x58x1.90 mm      10 Nos      0.600      80.00      (0595)      48.00

Screws, nuts and bolts 50x25x5mm. M.S. Angle for threshold 1 metre @ 2.75kg per uds =2.75kg. Say 0.03q      L.S.      35.880      2.12      (9999)      76.07

Structural steel such as tees, angles channels and R.S. joists      quintal      0.030      5610.00      (1007)      168.30

Carriage of materials      LS      5.330      2.12      (9999)      11.30

**Labour:**

Fitter (Grade 1)      per day      0.150      420.00      (0116)      63.00

Beldar      per day      0.200      306.00      (0114)      61.20

Sundries      LS      8.970      2.12      (9999)      19.02

Steel Primer      sqm      2.690      34.30      (13.81.3)      92.27 A

**Total**      1746.75

Add for water charges @ 1 %      16.54

**TOTAL**      1763.30 (X)

Add GST 12% on "X" ( multiplying factor 0.1405)      234.78

**Total**      1998.08 (Y)

Add for contractor's profit and overheads @ 15% on "Y"      285.87

**Cost of 5 metre**      2283.95

## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
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Cost of 1 metre 456.79  
 Add labour cess @ 1% 4.57  
 Rate including labour cess 461.36

Say Rs. 461.40 Per metre

**10.16 Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete**

**10.16.1 Hot finished welded type tubes Welded as per IS:816**

Details of cost for a truss of span 8 metre Weight

119Kg

Weight 119Kg

Materials:

50 mm dia tube

Tie beam-1x8.0 in = 8.00 m

Principal rafter 2\*4.30 m = 8.60 m

= 16.60 m

16.60 m @ 5.10 kg/m = 84.66

40 mm dia tube

members = 2(0.45+1.25+0.90+2.15)

= 2x4.75 = 9.50 m

9.50 m @ 3.61 kg/m = 34.60 kg

Total = 118.96 kg

Add wastage @ 5% = 5.94 kg

= 124.90 kg

Say 125.00 kg

kilogram 125.00

60.00

(4009)

7500.00

Carriage of tubes

tonne 0.125

145.72

(2205)

18.22

Priming coat

50 mm dia tube 16.60x0.157 = 1.61 sqm

40 mm dia tube 9.50x0.125 m = 1.91 sqm

= 280 sqm

sqm 2.80

34.30

(13.81.3)

96.04 A

(Rate as per item 13.81.3 of .SH. Finishing)

Welding charges :-

Joins of

Rafter: - 4x22/7x6.03 = 75.80 cm

Ties :- 2x22/7x6.03 = 37.90 cm

Members:- 2x4x2x22/7x4.83 = 242.87 cm

Total = 356.57 cm

say 357 cm cm

cm 357.00

2.00

(1215)

714.00

Labour:

For cutting, assembling, & erection

Black smith 1st class

per day 1.50

413.00

(0102)

619.50

Bandhani

per day 0.75

325.00

(0100)

243.75

Beldar

per day 5.50

306.00

(0114)

1683.00

Sundries

LS 80.73

2.12

(9999)

171.15

11045.66

Add for water charges @ 1 %

109.50

Total

11155.15

Add GST 12% on "X"except A ( multiplying factor

0.1405)

1553.80

Total

12708.96 (Y)

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

1891.94

Cost of 119 kg

14600.89

Cost of 1 kg

122.70

Add labour cess @ 1%

1.23

Rate including labour cess

123.93

Say Rs. 123.90 Per Kg

**10.16.2 Hot finished seamless type tubes**

Details of cost for a truss os span 8 metre wt 119kg

*(Handwritten signatures and initials)*

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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
<b>Materials:</b>						
	50 mm dia tube					
	Tie beam-1x8.0 m = 8.00 m					
	Principal rafter 2x4.30 m = 8.60 m					
						= 16.60 m
	16.60 m @ 5.10 kg/m					= 84.66
	40 mm dia tube					
	members = 2(0.45+1.25+0.90+2.15)					
	= 2x4.75 = 9.50 m					
	9.50 m @ 3.61 kg/m					= 34.60 kg
	Total					= 118.96 kg
	Add wastage @ 5%					= 5.94 kg
						= 124.90 kg
	Say 125.00 kg	kilogram	125.00	70.00	(4010)	8750.00
	Carriage of tubes	tonne	0.13	145.72	(2205)	18.22
	Priming coat					
	50 mm dia tube 16.60x0.157 m = 1.61 sqm					
	40 mm dia tube 9.50x0.125 m = 1.91 sqm					
						= 280 sqm
		sqm	2.60	34.30	(13.81.3)	89.18 A
	(Rate as per item 13.81.3 of .SH. Finishing)					
	Welding charges :-					
	Joins of					
	Rafter :- 4x22/7x6.03 = 75.80 cm					
	Ties :- 2x22/7x6.03 = 37.90 cm					
	Members:- 2x48/28/2/7x4.83 = 242.87 cm					
	Total					= 356.57 cm
	say 357 cm	cm	357.00	2.00	(1215)	714.00
	Labour:					
	For cutting, assembling, & erection					
	Black smith 1st class	per day	1.50	413.00	(0102)	619.50
	Bandhani	per day	0.75	325.00	(0100)	243.75
	Beldar	per day	5.50	306.00	(0114)	1683.00
	Sundries	LS	80.73	2.12	(9999)	171.15
	total					12288.80
	Add for water charges @ 1%					122.89
						12411.68
	Add GST 12% on "X" except A ( multiplying factor 0.1405)					1731.31
	Total					14142.99 (Y)
	Add for contractor's profit and over-heads @ 15%					2108.07
	Cost of 119 kg					16251.07
	Cost of 1 kg					136.56
	Add labour cess @ 1%					1.37
	Rate including labour cess					137.93
						Say Rs. 137.90 Per Kg

### 10.16.3 Electric resistance or Induciton butt welded tubes

Details of cost for a truss os span 8 metre weight  
119 kg

#### Materials:

50 mm dia tube					
Tie beam-1x8.0 m = 8.00 m					
Principal rafter 2x4.30 m = 8.60 m					
					= 16.60 m
16.60 m @ 5.10 kg/m					= 84.66
40 mm dia tube					
members - 2(0.45+1.25+0.90+2.15)					
= 2x4.75 = 9.50 m					
9.50 m @ 3.61 kg/m					= 34.60 kg
Total					= 118.96 kg
Add wastage @ 5%					= 5.94 kg

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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	= 124.90 kg					
	Say 125.00 kg	kilogram	125.000	50.00	(4011)	6250.00
	Carriage of tubes	tonne	0.125	145.72	(2205)	18.22
	Priming coat					
	50 mm dia tube 16.60x0.157 m = 1.61 sqm					
	40 mm dia tube 9.50x0.125 m = 1.91 sqm					
	= 280 sqm	sqm	2.800	34.30	(13.81.3)	96.04 A
	(Rate as per item 13.81.3 of .SH. Finishing)					
	Welding charges :-					
	Joins of					
	Rafter: - 4x22/7x6.03 = 75.80 cm					
	Ties :- 2x22/7x6.03 = 37.90 cm					
	Members:- 2x4x2x22/7x4.83 = 242.87 cm					
	Total = 356.57 cm					
	say 357 cm cm	cm	357.000	2.00	(1215)	714.00
	<b>Labour:</b>					
	For cutting, assembling, & erection					
	Black smith 1st class	per day	1.500	413.00	(0102)	619.50
	Bandhani	per day	0.750	325.00	(0100)	243.75
	Beldar	per day	5.500	306.00	(0114)	1683.00
	Sundries	LS	80.730	2.12	(9999)	171.15
						9795.66
	Add for water charges @ 1 %					97.00
	Total					9892.65
	Add GST 12% on "X" except A ( multiplying factor 0.1405)					1376.42
	Total					11366.07 (Y)
	Add for contractor's profit and over-heads @ 15%					1690.50
	Cost of 119 kg					13056.58
	Cost of 1 kg					109.72
	Add labour cess @ 1%					1.10
	Rate including labour cess					110.82
	<b>Say Rs. 110.80 Per Kg</b>					
10.17	<b>Providing and fixing M.S.fan clamp type I or II of 16 mm dia.M.S. bar bent to shape with hooked ends in R.C.C slabs during laying including painting the exposed portion of loop,all as per standard design complete.</b>					
	Details of cost for 1 clamp					
	<b>Materials:</b>					
	16 mm dia M.S. bar 1 m @ 1.58 kg/m					
	= 1-1.58 = 1.58 kg					
	Add wastage @ 5% = 0.008 kg					
	= 1.66 kg					
	Say 1.70 kg or 0.017 q	quintal	0.017	5860.00	(1003)	99.62
	<b>Labour:</b>					
	Black smith 2nd class	per day	0.040	369.00	(0103)	14.76
	Beldar	per day	0.040	306.00	(0114)	12.24
	Sundries (Carriage, fixing and painting etc.)	1 time	1.820	2.12	(9999)	3.86
	Add for water charges @ 1 %					1.30
	total					131.78
	Add GST 12% on "X" ( multiplying factor 0.1405)					18.52
	Total					150.30 (Y)
	Add for contractor's profit and over-heads @ 15%					22.54
	Cost of 1 each					172.84
	Add labour cess @ 1%					1.73
	Rate including labour cess					174.57
	<b>Say Rs. 174.60 Each</b>					

Say Rs. 174.60 Each

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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
10.18	Providing and fixing circular/hexagonal cast iron or M.S sheet box for ceiling fan clamp 140 mm internal dia, 73 mm height, 5 mm thick rim bottom and top lids, 1.5 mm thick M.S sheet with its top surface hacked for . proper bonding top lid shall be screwed into the cast iron box by means of 3 3 mm dia round headed screws, one lock at the corners. Clamps shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.					
	<b>Details of cost of one box clamp</b>					
	<b>Materials:</b>					
	Circular, C.I box including bottom and top lids	each	1.000	55.00	(4012)	55.00
	12mm dia M.S. bar 80 cm @ 0.9 kg/m = 0.72 kg					
	Add wastage @ 5% = 0.036kg					
	<b>= 0.756 kg</b>					
	Say 0.008 q	quintal	0.008	5860.00	(1002)	46.88
	<b>Labour:</b>					
	Black smith 2nd class	per day	0.030	369.00	(0103)	11.07
	Beldar	per day	0.030	306.00	(0114)	9.18
	Sundries (Carriage, fixing and painting etc.)	1 time	0.700	2.12	(9999)	1.48
	Add for water charges @ 1 %					1.24
	<b>total</b>					124.85
	Add GST 12% on "X" ( multiplying factor 0.1405)					17.54
	<b>Total</b>					142.39 (Y)
	Add for contractor's profit and over-heads @ 15%					21.36
	<b>Cost of 1 each</b>					163.75
	Add labour cess @ 1%					1.64
	<b>Rate including labour cess</b>					165.39
						<b>Say Rs. 165.40 Each</b>
10.19	Providing and fixing M.S. round holding down bolts with nuts and washer plates complete.					
	<b>Details of cost for 1 bolt 16mm dia &amp; 1200 mm long</b>					
	<b>Materials:</b>					
	1.2 m @ 1.58 kg/m = 1.895 kg - 0.019 q	quintal	0.019	5300.00	(1035)	100.70
	Plate-100*100*6 mm @ 47 kg/sqm					
	Wt.= 0.47 kg = 0.005 q	quintal	0.005	5400.00	(1010)	27.00
	<b>Labour:</b>					
	Black smith 2nd class	per day	0.030	369.00	(0103)	11.07
	Carriage and labour for fixing	1 time	4.550	2.12	(9999)	9.65
	Add for water charges @ 1 %					1.48
	<b>total</b>					149.90
	Add GST 12% on "X" ( multiplying factor 0.1405)					21.06
	<b>Total</b>					170.96 (Y)
	Add for contractor's profit and over-heads @ 15%					25.64
	<b>Cost of 2.4 kg</b>					196.61
	Cost of 1 kg					81.92
	Add labour cess @ 1%					0.82
	<b>Rate including labour cess</b>					82.74
						<b>Say Rs. 82.70 Kg</b>
10.20(a)	providing and fixing bolts upto 300 mm in length including nuts and washers complete.					
	Details of cost for 0.10 q of nuts and washerw	quintal	0.100	5200.00	(1034)	520.00
	Carriage	tonne	0.010	145.72	(2205)	1.46
	<b>Labour:</b>					
	Black smith 2nd class	per day	0.380	369.00	(0103)	140.22
	Beldar	per day	0.380	306.00	(0114)	116.28
	Sundries	1 time	1.750	2.12	(9999)	3.71
	<b>total</b>					781.67
	Add for water charges @ 1 %					7.82
	<b>Total</b>					789.48
	Add GST 12% on "X" ( multiplying factor 0.1405)					110.92
	<b>Total</b>					900.41 (Y)
	Add for contractor's profit and over-heads @ 15%					135.06
	<b>Cost of 10 kg</b>					1035.47
	Cost of 1 kg					103.55

## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add labour cess @ 1%					1.04
	Rate including labour cess					104.59

Say Rs. 104.60 Kg

### 10.20(b) providing and fixing bolts above 300 mm in length including nuts and washers complete.

Details of cost for 0.10 q of nuts and washers

**Materials:**

Bolts, nuts and washers	quintal	0.100	5300.00	(1035)	530.00
Carriage	tonno	0.010	145.72	(2205)	1.46

**Labour:**

Same as in item No. 10.23					256.50
Sundries	1 time	1.750	2.12	(9999)	3.71
Add for water charges @ 1%					7.92
<b>Total</b>					799.58 (X)

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

					112.34
<b>Total</b>					911.93 (Y)

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

					136.79
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Cost of 10 kg					1048.71
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Cost of 1 kg					104.87
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Add labour cess @ 1%					1.05
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Rate including labour cess					105.92
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Say 105.90 Kg

### 10.21 Providing and fixing M.S. rivets of sizes in position

Details of cost for 0.10 q of rivets

**Materials:**

Rivets	quintal	0.100	5100.00	(1020)	510.00
Carriage	tonno	0.010	145.72	(2205)	1.46

**Labour:**

Fitter (Grade I)	per day	0.830	420.00	(0116)	348.60
Beldar special	per day	0.830	369.00	(0139)	306.27
Sundries	1 time	4.150	2.12	(9999)	8.80

Add for water charges @ 1%

					11.75
<b>Total</b>					1186.88 (X)

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

					166.76
<b>Total</b>					1353.63 (Y)

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

					203.04
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Cost of 10 kg					1556.68
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Cost of 1 kg					155.67
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Add labour cess @ 1%					1.56
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Rate including labour cess					157.23
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Say Rs. 157.20 Kg

### 10.22(a) Welding by gas plant including transportation of gas welding plant at site etc. complete.

Details of cost for one cm. welding by gas plant including transportation of gas welding plant at site etc. complete.	cm	1.000	2.00	(1214)	2.00
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Sundries	1 time	0.260	2.12	(9999)	0.55
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Add for water charges @ 1%					0.03
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<b>Total</b>					2.58 (X)
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Add GST 12% on "X" ( multiplying factor 0.1405)

					0.36
<b>Total</b>					2.94 (Y)


Add for contractor's profit and over-heads @ 15% on "Y"					0.39
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Cost of 1 cm					3.33
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Add labour cess @ 1%					0.03
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Rate including labour cess					3.36
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Say Rs. 3.40 Per cm


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
<b>10.22(b) Welding by electric plant including transportation of electric welding plant at site etc. complete.</b>						
	Details of cost for one cm Welding by electric plant including transportation of electric welding plant at site etc. complete.	cm	1.000	2.00	(1215)	2.00
	Sundries	1 time	0.260	2.12	(9999)	0.55
	Add for water charges @ 1 %					0.03
	Total					2.58 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					0.36
	Total					2.94 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					0.50
	Cost of 1 cm					3.43
	Add labour cess @ 1%					0.03
	Rate including labour cess					3.46
	Say			Rs. 3.50	Per cm	
<b>10.28 Providing and fixing bright finished brass casement window fastners of minimum weight 200 gms to side hung steel windows with necessary welding and machine screws etc. complete.</b>						
	<b>Materials:</b>					
	Brass casement window fastener	each	10.000	45.00	(0423)	450.00
	Fixing charges including welding and materials etc.	1 time	48.300	2.12	(9999)	102.40
	Carriage of materials	1 time	1.400	2.12	(9999)	2.97
	Add for water charges @ 1 %					5.55
	Total					560.92 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					78.81
	Total					639.73 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					95.96
	Cost of 10 each					735.69
	Cost of 1 each					73.57
	Add labour cess @ 1%					0.74
	Rate including labour cess					74.31
	Say			Rs. 74.30	Each	
<b>10.29 Providing and fixing bright finished brass peg stays 300 mm long of minimum weight 330 gms.to side hung steel windows with necessary welding and machine screws etc. complete.</b>						
	<b>Materials:</b>					
	Brass casement window fastener	each	10.000	126.00	(0424)	1260.00
	Fixing charges including welding and materials etc.	1 time	48.300	2.12	(9999)	102.40
	Carriage of materials	1 time	1.400	2.12	(9999)	2.97
	Add for water charges @ 1 %					13.65
	Total					1379.02 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					193.75
	Total					1572.77 (Y)
	Add for contractor's profit and over-heads @ 15%					235.92
	Cost of 10 each					1808.69
	Cost of 1 each					180.87
	Add labour cess @ 1%					1.81
	Rate including labour cess					182.68
	Say			Rs. 182.70	Each	
<b>10.30 Providing and fixing bright finished brass peg stays to steel ventilators with necessary welding and machine screws etc. complete.</b>						
<b>10.30.1 300 mm long of minimum weight of 330 grams.</b>						
	<b>Materials:</b>					

## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Brass casement window fastener	each	10.000	126.00	(0424)	1260.00
	Fixing charges including welding and materials	1 time	48.300	2.12	(9999)	102.40
	Carriage of materials	1 time	1.400	2.12	(9999)	2.97
	Add for water charges (a) 1 %					13.65
	Total					1379.02 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					193.75
	Total					1572.77 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					235.92
	Cost of 10 each					1808.69
	Cost of 1 each					180.87
	Add labour cess @ 1%					1.81
	Rate including labour cess					182.68
						Say Rs. 182.70 Each

### 10.30.2 250 mm long of minimum weight of 240 grams.

<b>Materials:</b>						
	Brass casement window fastener	each	10	100.00	(0425)	1000.00
	Fixing charges including welding and materials etc.	1 time	48.3	2.12	(9999)	102.40
	Carriage of materials	1 time	1.4	2.12	(9999)	2.97
	Add for water charges @ 1 %					11.05
	Total					1116.42 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					156.86
	Total					1273.27 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					190.99
	Cost of 10 each					1464.27
	Cost of 1 each					146.43
	Add labour cess @ 1%					1.46
	Rate including labour cess					147.89
						Say Rs. 147.90 Each

### 10.31 providing and fixing 14 mm bright finished brass Spring catch to steel centre hung ventilators with necessary welding and machine screws etc. complete.

<b>Materials:</b>						
	Brass casement window fastener	each	10	170.00	(0428)	1700.00
	Fixing charges including welding and materials etc.	1 time	48.3	2.12	(9999)	102.40
	Carriage of materials	1 time	1.4	2.12	(9999)	2.97
	Add for water charges @ 1%					18.05
	Total					1823.42 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					256.19
	Total					2079.61 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					311.94
	Cost of 10 each					2391.55
	Cost of 1 each					239.15
	Add labour cess @ 1%					2.39
	Rate including labour cess					241.54
						Say Rs. 241.50 Each

### 10.32 Steel work welded in built up sections/framed work including cutting hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel, etc. as required.

#### 10.32.1 In stringers, treads landings etc. of stair cases including use of required plates wherever required all complete.

Consider a flight of staircase of 2.8 m height with tread and riser of 200 mm & 0.60 m wide

**Materials:**


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	i) unequal angles as stringers 75*50*6 mm 4*12.69*5.6 = 248.25 kg Add wastage @5% = 14.21 kg = 298.46 kg      Say 2.985 q					
	ii) unequal angles at sides 50*30*5 mm 2*14*0.2*3.00 = 16.8 kg Add wastage @ 5% = 0.84 kg = 17.64 kg      Say 0.176 q = 3.161 q	quintal	3.161	5703.33	(1007)	18028.23
	iii) plate for tread 8 mm thick 14.75 = 105.00 kg Add wastage @ 5% = 5.25 kg = 110.25 kg      Say 1103q	quintal	1.103	5400.00	(1010)	5956.20
	iv) G.I pipe for rolling 40 mm 2*12.69m = 25.38m Add wastage @ 5% = 1.27 m = 26.65m	metre	26.65	290.00	(1549)	7728.50
	v) M.S. round bars 16 mm dia 15*0.75*2*1.58 = 35.55 kg Add wastage @ 5% = 1.78 kg = 37.33 kg      Say 0.373 q	quintal	0.373	5860.00	(1003)	31712.93 31712.93
	Carriage of steel (3.161+1.103+0.373) = 4.637 q = 0.4637 tonne	tonne	0.464	145.72	(2205)	67.57
	Carriage of G.I. pipe approx.wt. 3.72*26.65 = 99.14 kg	tonne	0.099	145.72	(2271)	14.44
	welding charge ( electric) 23.20 m	cm	2320.0	2.00	(1215)	4640.00
	<b>Labour:</b> Blacksmith      per day      1.850      413.00      (0102)      764.05 B'eldar      per day      1.250      306.00      (0114)      382.50 bandhani      per day      0.600      325.00      (0100)      195.00					
	Aplying pmr.ing coat i) steps 2.4*14 = 33.60 sqm ii) angles 4*12.69*0.25 = 12.69 sqm iii) Bars and other componeats = 2.00 sqm ( L.S.) = 48.29 sqm	sqm	48.290	34.30	(13.81.3)	1656.40 (B)
	(Rate as per item no. 13.81.3 ) sundries	1 time	110.890	2.12	(9999)	235.09
	<b>TOTAL</b>					41853.76
	Add for water charges @ 1% on all except 'B'					401.97
	Total					42255.73 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405) on all except on 'B'					5704.21
	Total					47959.94 (Y)
	Add for contractor's profit and overheads @ 15% on all except on 'B'					6945.53
	Cost of 533.1 kg					54905.47
	Cost of 1 kg					102.99
	Add labour cess @ 1%					1.03
	Rate including labour cess					104.02
	<b>Say Rs. 104.00 per Kg</b>					

### 10.32.2 In gratings, frames, guard bar, ladders, railings, brackts. gates & similar works.

Details of 1 m\*1m framed guard bar grating.

**Materials:**

i) M.S fiat 50*6 mm 2.4 kg/per metre 5.75*2.40 = 13.8 kg Add wastage @ 5% = 0.69 kg = 14.49 kg      Say 14.5 kg	quintal	0.145	4850.00	(1008)	703.25
ii) 12 mm dia bars @ 0.89 kg/m 9*1 = 9 metre @ 0.89 kg/m					

## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add wastage @ 5% = 0.40 kg = 8.41 kg Say 0.084	quintal	0.084	5860.00	(1002)	492.24
	Carriage of steel	tonne	0.023	145.72	(2205)	3.34
	Welding charges ( electric) 60 cm	cm	60.000	2.00	(1215)	120.00
	<b>Labour:</b>					
	Blacksmith 1st class	per day	0.700	413.00	(0102)	289.10
	Beldar	per day	0.500	306.00	(0114)	153.00
	bandhani	per day	0.250	325.00	(0100)	81.25
	Applying priming coat 0.60 sqm ( Rate as per item no. 13.81.3 )	sqm	0.600	34.30	(13.81.3)	20.58 (B)
	Sundries	1 time	4.550	2.12	(9999)	9.65
	Total					1872.40
	Add for water charges @ 1% on all except on 'B'					18.52
	Total					1890.92 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405) on all except on 'B'					262.78
	Total					2153.70 (Y)
	Add for contractor's profit and overheads @ 15% on all except on 'B'					319.97
	Cost of 21.8 kg					2473.67
	Cost of 1 kg					113.47
	Add labour cess @ 1%					1.13
	Rate including labour cess					114.60
	Say					Rs. 114.60 per kg

**10.33 Providing and fixing hand rail by welding etc. to steel ladder railings & staircases railing including applying a priming coat of approved steel primer**

**10.33.1 MS tube (medium) 40mm nominal bore**

Details of cost for hand rail of railing of two flights of staircase, length of hand rail=5.40m

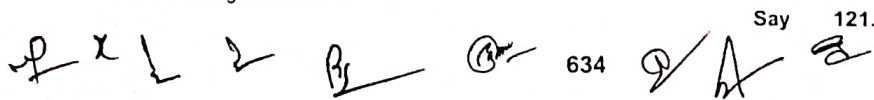
**Materials:**

MS tube 40mm nominal bore (medium)=5.40m	kilogram	19.46	60.00	(4009)	1167.60
@3 61 kg/m=19.46 Say 0.195 quintal					
Carriage of tube	Tone	0.02	145.72	(2205)	2.99
Priming coat 40mm dia tube 5.4x22/7 x 0.0483=0.82	sqm	0.82	34.30	(13.81.3)	28.13 (B)

(Rate as per item no. 13.81.3 )

Welding charges (joints of hand rail and ballustards)

18x4x1.00=72cm	cm	72.00	2.00	(1215)	144.00
<b>Labour for cutting assembling &amp; erection:</b>					
Blacksmith 1st class	per day	0.24	413.00	(0102)	99.12
Beldar	per day	0.90	306.00	(0114)	275.40
bandhan'	per day	0.12	325.00	(0100)	39.00
Sundries	1 time	12.48	2.12	(9999)	26.46
Total					1782.69
Add for water charges @ 1 % on all except on 'B'					17.55
Total					1800.24 (X)
Add GST 12% on "X" ( multiplying factor 0.1405) on all except on 'B'					248.98
Total					2049.22 (Y)
Add for contractor's profit and overheads @ 15% on all except on 'B'					303.16
Cost of 19.494 kg					2352.38
Cost of 1 kg					120.67
Add labour cess @ 1%					1.21
Rate including labour cess					121.88
Say					121.90 per kg


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Say 121.90 per kg
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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
10.33.2	E.R.W tube 40 mm nominal dia					
	Details of cost for hand rail of railing of two flights of a stair case, length of hand rail = 5.4 m					
	Materials:					
	E.R.W. tubes 40 mm dia		= 5.4 m			
	5.4 m @ 3.28 kg/per m		= 1 7.71 kg			
	Add wastage @ 5%		= 0.88 kg			
			= 18.59 kg			
	Carriage of tube	kilogram	18.59	50.00	(4011)	929.50
	Priming coat 40mm dia tube	tonne	0.02	145.72	(2205)	2.71
	5.4x22/7 x 0.0483=0.82	sqm	0.82	34.30	(13.81.3)	28.13 (B)
	(Rate as per item no. 13.81.3 )					
	Welding charges (joints of hand rail and ballustrards)					
	18x4x1 00=72cm	cm	72.00	2 00	(1215)	144 00
	Labour for cutting assembling & erection:					
	Blacksmith 1st class	per day	0.24	413.00	(0102)	99.12
	Beldar	per day	0.90	306.00	(0114)	275.40
	bandhani	per day	0.12	325.00	(0100)	39.00
	Sundries	1 time	12.48	2.12	(9999)	26.46
	Total					1544.31
	Add for water charges @ 1 % on all except on 'B'					15.16
	Total					1559.48 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405) on all except on 'B'					215.15
	Total					1774.63 (Y)
	Add for contractor's" profit and overheads @ 15% on all except on 'B'					261.98
	Cost of 17.71 kg					2036.61
	Cost of 1 kg					115.00
	Add labour cess @ 1%					1.15
	Rate including labour cess					116.15
		Say		116.10	Per Kg	

### 10.33.3 G.I pipes 40 mm nominal bore ( class B)

Details of cost for hand rail of railing of two flights of a

stair case, length of hand rail = 5.4 m

Materials:

G.I. pipe 40 mm bore = 5.4 m

Add wastage @ 5% = 0.27 m

= 5.67 m

Carriage of pipe metre 5.670 290.00 (1549) 1644.30

( 5.4 m @ 3.72 kg/per m = 21.09 kg) tonne 0.021 145.72 (2271) 3.07

Priming coat 40mm dia tube

(Rate as per item no. 13.81.3 ) sqm 0.820 34.30 (13.81.3) 28.13 B

Welding charges (joints of hand (m) a: id ballustrards)

18x4x1.00=72cm cm 72.000 2.00 (1215) 144.00

Labour for cutting assembling & erection:

Blacksmith 1st class per day 0.240 413.00 (0102) 99.12

Beldar per day 0.900 306.00 (0114) 275.40

bandhani per day 0.120 325.00 (0100) 39.00

Sundries 1 time 12.480 2.12 (9999) 26.46

Total 2259.48

Add for water charges @ 1 % on all except on 'B' 22.31

Total 2281.79

Add GST 12% on "X" ( multiplying factor 0.1405) on all except on 'B' 316.64

Total 2598.43 (Y)

Add for contractor's profit and overheads @ 15% 385.55

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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	on all except on 'B'					2983.98
	Cost of 20.09 kg					148.53
	Cost of 1 kg					1.49
	Add labour cess @ 1%					150.02
	Rate including labour cess					150.02
			Say	150.00	Per Kg	

**10.33.4 Labour for fitting and fixing barbed wire fencing in six rows horizontal up to a height of 1.85m and two diagonals including fixing of post in cement concrete at 2.5m centres including cost of staples (but excluding the cost of cement concrete, angle, iron post, its cutting and making holes, nuts & bolts) all complete as per building specification and direction of E/I.**

Assuming 30m long fencing

<u>(A) Materials</u>						
(I) Cost of staples & Sundries	1 time	8	2.12	(9999)		16.96
<u>(B) Labour</u>						
(I) Black smith gr-II	per day	1.5	369.00	(0103)		553.50
(ii) Unskilled mazdoor	per day	3	306.00	(0L01)		918.00
(iii) Mason gr-II	per day	0.5	369.00	(0124)		184.50
Total						1672.96
Add for water charges @ 1 %						16.73
Total						1689.69
Add GST 12% on "X" ( multiplying factor 0.1405)						237.40
	Total					1927.09 (Y)
Add 15% C.P.&OHC						289.06
Total						2216.15
Cost per metre						73.87
labour cess @ 1%						0.74
						74.61
			Say	74.60	Per m	

**10.33.5 Labour for fitting and fixing barbed wire fencing in FOUR rows horizontal up to a height of 1.25m and two diagonals including fixing of post in cement concrete at 2.5m centres including cost of staples (but excluding the cost of cement concrete, angle, iron post, its cutting and making holes, nuts & bolts) all complete as per building specification and direction of E/I.**

(A) Materials

(I) Cost of staples & Sndries	1 time	6	2.12	(9999)		12.72
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(B) Labour

(I) Black smith	No	1	369.00	(0103)		369.00
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(ii) Unskilled mazdoor	No	2	306.00	(0L01)		612.00
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(iii) Mason gr-II	No	0.5	369.00	(0124)		184.50
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Total						1178.22
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Add for water charges @ 1 %						11.78
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Total						1190.00 (X)
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Add GST 12% on "X" ( multiplying factor 0.1405)						167.20
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	Total					1357.20 (Y)
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Add 15% C.P.& OHC						203.58
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Total						1560.78
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Cost per metre						52.03
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labour cess @ 1%						0.52
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Rate including labour cess						52.55
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Say 52.50 Per m

**10.33.6 Drilling 6mm Dia. In M.S. angle iron for fixing of staples etc. as per building specification and direction of E/I.**

Assuming 100 No holes

(A) Labour

(I) Black smith-II	each	1No	369.00	(0103)		369.00
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(ii) Un skilled mazdoor	each	1No	306.00	(0L01)		306.00
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675.00


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Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add for water charges @ 1 %					6.75
	Total					681.75 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					95.79
	Total					777.54 (Y)
	Add 15% C.P.& OHC					116.63
						894.17
	Hence rate for each = 894.16625625 / 100					8.94
	labour cess @ 1%					0.09
	Rate including labour cess					9.03
			For Each		Say 9.00	

10.33.7 Labour for cutting of M.S. angle iron post to required length, one end splitted as fish tailed in a length of 150mm complete as per building specification and direction of E/I.

Assuming 16No of M.S. angle iron post

(A) Labour						
(I) Black smith gr-II	each	0.5No	369.00	(0103)		184.50
(ii) Un skilled mazdoor	each	0.5No	306.00	(0L01)		153.00
						337.50
						3.38
Add for water charges @ 1 %						340.88 (X)
Total						47.89
Add GST 12% on "X" ( multiplying factor 0.1405)						388.77 (Y)
Total						58.32
Add 15% C.P.& OHC						447.08
						27.94
Hence rate for each = 447.08 / 16						0.28
labour cess @ 1%						28.22
Rate including labour cess						28.22
			For Each		Say 28.20	

10.35 Providing and fixing carbon steel galvanised ( minimum coating 5 micron ) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm<sup>2</sup>), counter sunk head, comprising of 10 mm dia polyamide PA 6 grade sleeve, including drilling of hole in frame , concrete/ masonry, etc. as per direction of Engineer-in-charge.

10.35.1 10 x60 mm.

Details of cost for 10 Nos.

MATERIAL:

Carbon Steel galvanised dash fastner (min 5 micron) of 10 mm dia double threaded 6.8 grade counter sunk head screw comprising of 10 mm dia polyamide PA 6 grade sleeve. Size 10 mm x 60 mm	10 nos	10	270.00	2506		270.00
Mason (brick layer) 2nd class	day	0.4	369.00	0124		147.60
Beldar	day	0.4	306.00	0114		122.40
Sundries for carriage of material	L.S.	10	2.12	9999		21.20
						561.20
TOTAL						5.61
Add Water Charges @ 1%						566.81 (X)
TOTAL						79.64
Add GST 12% on "X" ( multiplying factor 0.1405)						646.45 (Y)
Total						96.97
Add for contractor's profit and over-heads @ 15% on "Y"						743.42
						74.34
Cost of 10 nos						0.74
Cost of each						75.09
Add 1% labour cess						75.09
			Say		Say 75.10	each

10.35.2 10 x80 mm.

Details of cost for 10 Nos.

MATERIAL:

Carbon Steel galvanised dash fastner (min 5	10 nos	10	312.00	2507		312.00
---------------------------------------------	--------	----	--------	------	--	--------

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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	micron) of 10 mm dia double threaded 6.8 grade counter sunk head screw comprising of 10 mm dia polyamide PA 6 grade sleeve. Size 10 mm x 80 mm					
	Mason (brick layer) 2nd class	day	0.4	369.00	124	147.60
	Beldar	day	0.4	306.00	114	122.40
	Sundries for carriage of material	L.S.	10	2.12	9999	21.20
	TOTAL					603.20
	Add Water Charges @ 1%					6.03
	TOTAL					609.23 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					85.60
	Total					694.83 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					104.22
	Cost of 10 nos					799.05
	Cost of each					79.91
	Add 1% labour cess					0.80
						80.70
	Say		Say	80.70	each	
<b>10.35.3</b>	<b>10 x120 mm.</b>					
	Details of cost for 10 Nos.					
	MATERIAL:					
	Carbon Steel galvanised dash fastner (min 5 micron) of 10 mm dia double threaded 6.8 grade counter sunk head screw comprising of 10 mm dia polyamide PA 6 grade sleeve. Size 10 mm x 120 mm					
	Mason (brick layer) 2nd class	day	0.5	369.00	124	184.50
	Beldar	day	0.5	306.00	114	153.00
	Sundries for carriage of material	L.S.	10	2.12	9999	21.20
	TOTAL					738.70
	Add Water Charges @ 1%					7.39
	TOTAL					746.09 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					104.83
	Total					850.91 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					127.64
	Cost of 10 nos					978.55
	Cost of each					97.85
	Add 1% labour cess					0.98
						98.83
	Say		Say	98.80	each	
<b>10.35.4</b>	<b>10 x140 mm.</b>					
	Details of cost for 10 Nos.					
	MATERIAL:					
	Carbon Steel galvanised dash fastner (min 5 micron) of 10 mm dia double threaded 6.8 grade counter sunk head screw comprising of 10 mm dia polyamide PA 6 grade sleeve. Size 10 mm x 140 mm					
	Mason (brick layer) 2nd class	day	0.5	369.00	124	184.50
	Beldar	day	0.5	306.00	114	153.00
	Sundries for carriage of material	L.S.	10	2.12	9999	21.20
	TOTAL					826.70
	Add Water Charges @ 1%					8.27
	TOTAL					834.97 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					117.31
	Total					952.28 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					142.84
	Cost of 10 nos					1095.12
	Cost of each					109.51

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*Handwritten marks: A, B*

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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Add 1% labour cess					1.10
						110.61
		Say	Say	110.60	each	
<b>10.35.5</b>	<b>10 x160 mm.</b>					
	Details of cost for 10 Nos.					
	MATERIAL:					
	Carbon Steel galvanised dash fastner (min 5 micron) of 10 mm dia double threaded 6.8 grade counter sunk head screw comprising of 10 mm dia polyamide PA 6 grade sleeve.	10 Nos	10	598.00	2510	598.00
	Size 10 mm x 160 mm					
	Mason (brick layer) 2nd class	day	0.6	369.00	124	221.40
	Beldar	day	0.6	306.00	114	183.60
	Sundries for carriage of material	L.S.	10	2.12	9999	21.20
	TOTAL					1024.20
	Add Water Charges @ 1%					10.24
	TOTAL					1034.44 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					145.34
	Total					1179.78 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					176.97
	Cost of 10 nos					1356.75
	Cost of each					135.67
	Add 1% labour cess					1.36
						137.03
		Say	Say	137.00	each	
<b>10.36</b>	<b>Providing and fixing stainless steel ( Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories &amp; the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, ( for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts,fasteners etc.).</b>					
	Details of cost for 2 kg (length approx. 1 feet).					
	MATERIAL:					
	Qty= 2 +					
	Add wastage @ 5% = 0.10					
	Total = 2.1 kg					
	Stainless steel (Grade-304)hollow section round/square tubes	kg	2.10	230.00	4001	483.00
	Stainless steel bolts/square bar and plates	kg	1.00	120.00	4002	120.00
	LABOUR:					
	for fabrication, assembling, erection, welding, curvaturung, grinding, buffling etc.					
	Blacksmith 1st class	day	0.06	413.00	0102	24.78
	Beldar	day	0.20	306.00	0114	61.20
	Bandhani	day	0.02	325.00	0100	6.50
	Welding of stainless steel section	L.S.	30.00	2.12	9999	63.60
	Curvaturung, grinding, finishing, buffing	L.S.	20.00	2.12	9999	42.40
	Sundries for making good wall and floors	L.S.	7.50	2.12	9999	15.90
	TOTAL					817.38
	Add Water Charges @ 1%					8.17
	TOTAL					825.55 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					115.99
	Total					941.54 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					141.23
	Cost of 2 kg					1082.78
	Cost of 1 kg					541.39
	Add 1% labour cess					5.41
						546.80
		Say		546.80	per Kg	

## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
10.37	Providing & fixing fly proof wire gauze to windows, clerestory windows & doors with M.S. Flat 15x3 mm and nuts & bolts complete.					
10.37.1	Galvanised M.S. Wire gauze with 0.63 mm dia wire and 1.4 mm aperture on both sides.					
	Details of cost for a window shutter 1.40x1.10=1.54 sqm.					
	MATERIAL:					
	Wire gauze 1.40x1.10=1.54 sqm					
	Add wastage @ 10 %=0.15 sqm					
	Total=1.69 sqm.					
	Galvanised wire mesh of average width of aperture 1.4 mm and nominal dia of wire 0.63 mm	sqm	1.69	250.00	7029	422.50
	Carriage	L.S.	1.82	2.12	9999	3.86
	M.S Flat 15x3=2x(1.40+1.10)=5.0 metre					
	Add wastage @ 5%=0.25 m					
	Total=5.25 m					
	5.25@0.35kg/m=1.84 kg					
	Flats up to 10 mm in thickness	quintal	0.0184	4850.00	1008	89.24
	Carriage	L.S.	1.82	2.12	9999	3.86
	LABOUR:					
	Blacksmith 2nd class	day	0.17	369.00	103	62.73
	Carpenter 2nd class	day	0.17	369.00	112	62.73
	Beldar	day	0.06	306.00	114	18.36
	Sundries	L.S.	19.76	2.12	9999	41.89
	TOTAL					705.17
	Add Water Charges @ 1%					7.05
	TOTAL					712.22 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					
	Total					812.29 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					
	Cost of 1.54 sqm					934.13
	Cost of 1 sqm					467.06
	Add 1% labour cess					4.67
	Say			471.70	Per sqm	471.74

### 10.37.2 Stainless steel (grade 304) wire gauze of 0.5 mm dia wire and 1.4 mm aperture on both sides.

Details of cost for a window shutter 1.40x1.10=1.54 sqm.

1.10=1.54 sqm.

MATERIAL:

Wire gauze 1.40x1.10=1.54 sqm

Add wastage @ 10 %=0.15 sqm

Total=1.69 sqm.

Stainless steel wire guage (Grade-304) aperture 1.4 mm and 0.50 mm dia wire

Carriage

M S Flat 15x3=2x(1.40+1.10)=5.0 metre

Add wastage @ 5%=0.25 m

Total=5.25 m

5.25@0.35kg/m=1.84 kg

Flats up to 10 mm in thickness

Carriage

LABOUR:

Blacksmith 2nd class

Carpenter 2nd class

Beldar

Sundries

TOTAL

Add Water Charges @ 1%

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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	TOTAL					990.44 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					139.16
	Total					1129.60 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					169.44
	Cost of 1.54 sqm					1299.04
	Cost of 1 sqm					649.52
	Add 1% labour cess					6.50
						656.02
	Say			656.00	Per sqm	
<b>10.38</b>	<b>Providing &amp; fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows all complete with.</b>					
<b>10.38.1</b>	<b>4.0 mm thick glass panes.</b>					
	Details of cost for 10 glass panes (area of each pane = 0.10 sqm).					
	MATERIAL:					
	Area of glass panes = 1.00 sqm +					
	Add wastage @ 10% = 0.10					
	Total = 1.10 sqm					
	Float glass sheet of nominal thickness 4 mm	sqm	1.1	309.00	2406	339.90
	(weight not less than 10 kg/sqm)					
	Carriage	L.S.	1.82	2.12	9999	3.86
	LABOUR:					
	Glazier	day	0.13	344.00	119	44.72
	Sundries, putty, glazing clips, scaffolding etc.	L.S.	125.58	2.12	9999	266.23
	TOTAL					654.71
	Add Water Charges @ 1%					6.55
	TOTAL					661.26 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					92.91
	Total					754.16 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					113.12
	Cost of 1 sqm					867.29
	Add 1% labour cess					8.67
						875.96
	Say			876.00	Per sqm	
<b>10.38.2</b>	<b>5.5 mm thick glass panes.</b>					
	Details of cost for 10 glass panes (area of each glass pane = 0.10 sqm).					
	MATERIAL:					
	Area of glass panes = 1.00 sqm +					
	Add wastage @ 10% = 0.10					
	Total = 1.10 sqm					
	Float glass sheet of nominal thickness 5.5 mm	sqm	1.1	515.00	2407	566.50
	(weight not less than 13.50 kg/sqm)					
	Carriage	L.S.	1.82	2.12	9999	3.86
	LABOUR:					
	Glazier	day	0.13	344.00	119	44.72
	Sundries, putty, glazing clips, scaffolding etc.	L.S.	125.58	2.12	9999	266.23
	TOTAL					881.31
	Add Water Charges @ 1%					8.81
	TOTAL					890.12 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					125.06
	Total					1015.18 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					152.28
	Cost of 1 sqm					1167.46
	Add 1% labour cess					11.67
						1179.14
	Say			1179.10	Per sqm	

## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
10.39	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side / top / centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment).					
10.39.1	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).					
	Details of cost for a double leaf door of size 2.075x1.175m = 2.44 sqm. (weight 30 kg).					
	MATERIAL:					
	Steel glazed door, window/ ventilator, all members viz. F7D, F4B, K11 and K12B etc.	kg	30	54.00	1011	1620.00
	Carriage of steel door	L.S.	40.37	2.12	9999	85.58
	LABOUR:					
	for fabrication					
	Blacksmith 2nd class	day	0.17	369.00	103	62.73
	Fitter (grade 1)	day	0.26	420.00	116	109.20
	Beldar	day	0.34	306.00	114	104.04
	Sundries	L.S.	15.37	2.12	9999	32.58
	Fixing with CC 1:3:6 blocks, wooden plugs and screws or rawl plugs and screws or with fixing clips and bolts and nuts as required including metal sash putty for glass fixing					
	Rate as per Item Number 10.10.1	kg	30	45.71	10.10.1	1371.28 A
	Apply steel primer (2.44x 1.00 for both sides =2.44 sqm					
	Rate as per Item Number 13.50.3 of SH:	sqm	2.44	34.30	13.50.3	83.69 A
	Finishing					
	TOTAL					3469.12
	Add Water Charges @ 1% except on A i.e on					20.14
	TOTAL					3489.26 (X)
	Add GST 12% on "X" except A ( multiplying factor 0.1405)					285.82
	Total					3775.07 (Y)
	Add CPOH @ 15% except on A i.e on "Y"					348.01
						4123.09
	Cost of 30 kg					
	Cost of 1 kg					137.44
	Add 1% labour cess					1.37
						138.81
	Say			138.80	Per Kg	
10.39.2	Fixing with carbon steel galvanised dash fastener of required dia and size (to be paid for separately).					
	Details of cost for a double leaf door of size 2.075x1.175m = 2.44 sqm. (weight 30 kg).					
	MATERIAL:					
	Steel glazed door, window/ ventilator, all members viz. F7D, F4B, K11 and K12B etc.	kg	30	54.00	1011	1620.00
	Carriage of steel door	L.S.	40.37	2.12	9999	85.58
	LABOUR:					
	for fabrication					
	Blacksmith 2nd class	day	0.17	369.00	103	62.73
	Fitter (grade 1)	day	0.26	420.00	116	109.20
	Beldar	day	0.34	306.00	114	104.04
	Sundries	L.S.	15.37	2.12	9999	32.58
	Apply steel primer (2.44x 1.00 for both sides =2.44 sqm					
	Rate as per Item Number 13.50.3 of SH:	sqm	2.44	34.30	13.50.3	83.69 A
	Finishing					
	TOTAL					2097.83
	Add Water Charges @ 1% except on A i.e on					20.14

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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	TOTAL					2117.98
	Add GST 12% on "X" except A ( multiplying factor 0.1405)					285.82
	Total					2403.79 (Y)
	Add CPOH @ 15% except on A i.e on					348.01
	Cost of 30 kg					2751.81
	Cost of 1 kg					91.73
	Add 1% labour cess					0.92
						92.64
			Say	92.60	Per Kg	
10.40	Extra for providing and fixing steel beading of size 10 x 10 x 1.6 mm (box type), approved shape and section with screws instead of glazing clips and metal sash putty, in steel doors, windows, ventilators and composite units.					
	Details of cost for 1 metre beading for doors, windows, Ventilators and composite units.					
	Steel beading	metre	1	27.00	1143	27.00
	Applying priming coat	L.S.	0.46	2.12	9999	0.98
	Fixing charges	L.S.	3.01	2.12	9999	6.38
	TOTAL					34.36
	Add Water Charges @ 1%					0.34
	TOTAL					34.70 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					4.88
	Total					39.58 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					5.94
	Cost of 1 metre					45.51
	Add 1% labour cess					0.46
						45.97
			Say	46.00	Per metre	
10.41	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.					
10.41.1	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 ( Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).					
	Details of cost for 7.13 Kg.					
	L- section - 32x22x28mm 1.60mm thick					
	2.00+2.00+1.00 = 5.00 m					
	Width of MS sheet =					
	32+24.80+22+24.80+10mm = 113.60mm =					
	0 1136m					
	Area of MS sheet = 0.1136x5.00x0.0016 =					
	0.0009088 sqm					
	Weight of Sheet = 0.0009088x7850 = 7.134 kg					
	Add wastage @ 5% = 0.357kg.					
	Total = 7.491 kg Say 7.49 kg					
	Mild steel tubes electric resistant or induction butt welded	kilogram	7.49	50.00	4011	374.50
	M.S bars 10mm = 1x1m = 1 metre					
	1 metre @ 0.60kg/m = 0.60kg.					
	Add wastage @ 5% = 0.03 kg.					
	Total = 0.63 kg. Say = 0.006 quintal					
	Mild steel round bar 12 mm dia and below	quintal	0.006	5860.00	1002	35.16
	M.S flat 15x3mm = 6x10cm = 0.60 metre					
	0.6 metre @ 0.35kg/m = 0.21 kg					
	Add wastage @ 5% = 0.01 kg.					
	Total = 0.22 kg					
	Flats up to 10 mm in thickness	quintal	0.002	4850.00	1008	9.70
	Cement concrete block 1:3:6- 6x15x10x10cm= 0.009 cum					
	Rate as per Item Number 4.2.5 of SH: Concrete work	cum	0.009	4519.03	4.2.5	40.67 A

## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
	Bright finished or black enameled mild steel	10 Nos	6	80.00	0595	480.00
	butt hinges 100x58x1.90 mm					
	for screws and nuts and bolts	L.S.	35.88	2.12	9999	76.07
	for applying steel primer	L.S.	17.94	2.12	9999	38.03
	Carriage of material	L.S.	5.33	2.12	9999	11.30
	LABOUR:					
	Blacksmith 2nd class	day	0.04	369.00	0103	14.76
	Fitter (grade 1)	day	0.06	420.00	0116	25.20
	Beldar	day	0.08	306.00	0114	24.48
	Sundries	L.S.	3.64	2.12	9999	7.72
	TOTAL					1137.59
	Add Water Charges @ 1% except on A i.e on					10.97
	TOTAL					1148.56 (X)
	Add GST 12% on "X" except A ( multiplying factor 0.1405)					155.66
	Total					1304.21 (Y)
	Add CPOH @ 15% except on A i.e on					189.53
	Cost of 7.13 kg					1493.74
	Cost of 1 kg					209.50
	Add 1% labour cess					2.10
						211.60

Say 211.60 Per Kg

### 10.41.2 Fixing with carbon steel galvanised dash fastener of required dia and size (to be paid for separately).

Details of cost for 7.13 kg.

L- section - 32x22x28mm 1.60mm thick

2.00+2.00+1.00 = 5.00 m

Width of MS sheet =

32+24.80+22+24.80+10mm = 113.60mm =

0.1136m

Area of MS sheet = 0.1136x5.00x0.0016 =

0.0009088 sqm

Weight of Sheet = 0.0009088x7850 = 7.134 kg

Add wastage @ 5% = 0.357kg.

Total = 7.491 kg Say 7.49 kg

Mild steel tubes electric resistant or induction

butt welded

M.S. bars 10mm = l x l m = 1 metre

1 metre @ 0.60kg/m = 0.60kg.

Add wastage @ 5% = 0.03 kg.

Total = 0.63 kg. Say = 0.006 quintal

Mild steel round bar 12 mm dia and below

Bright finished or black enameled mild steel

butt hinges 100x58x1.90 mm

for screws and nuts and bolts

for applying steel primer

Carriage of material

LABOUR:

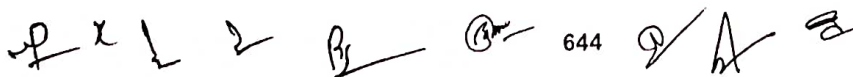
Blacksmith 2nd class

Fitter (grade 1)

Beldar

Sundries

	Mild steel tubes electric resistant or induction	kilogram	7.49	50.00	4011	374.50
	M.S. bars 10mm = l x l m = 1 metre					
	1 metre @ 0.60kg/m = 0.60kg.					
	Add wastage @ 5% = 0.03 kg.					
	Total = 0.63 kg. Say = 0.006 quintal					
	Mild steel round bar 12 mm dia and below	quintal	0.006	5860.00	1002	35.16
	Bright finished or black enameled mild steel	10 Nos	6	80.00	595	480.00
	butt hinges 100x58x1.90 mm					
	for screws and nuts and bolts	L.S.	35.88	2.12	9999	76.07
	for applying steel primer	L.S.	17.94	2.12	9999	38.03
	Carriage of material	L.S.	5.33	2.12	9999	11.30
	LABOUR:					
	Blacksmith 2nd class	day	0.04	369.00	103	14.76
	Fitter (grade 1)	day	0.06	420.00	116	25.20
	Beldar	day	0.08	306.00	114	24.48
	Sundries	L.S.	3.64	2.12	9999	7.72
	TOTAL					1087.21
	Add Water Charges @ 1%					10.87
	TOTAL					1098.09 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					154.28
	Total					1252.37 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					187.86
	Cost of 7.13 kg					1440.22
	Cost of 1 kg					201.99
	Add 1% labour cess					2.02
						204.01

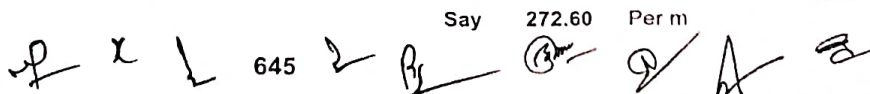


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## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
			Say	204.00	Per Kg	
10.42	<b>Providing and fixing bolts including nuts and washers complete.</b> Details of cost for 0.10 quintal of nuts and washers.					
	<b>MATERIAL:</b>					
	Bolts and nuts up to 300 mm in length	quintal	0.1	5200.00	1034	520 00
	Carriage of steel	tonne	0.01	94 80	2205	0 95
	<b>LABOUR:</b>					
	Blacksmith 2nd class	day	0.38	369.00	103	140.22
	Beldar	day	0.38	306.00	114	116.28
	Sundries	L.S.	4.55	2.12	9999	9.65
	TOTAL					787 09
	Add Water Charges @ 1%					7.87
	TOTAL					794.96 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					111.69
	Total					906.66 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					136.00
	Cost of 10 kg					1042.66
	Cost of 1 kg					104.27
	Add 1% labour cess					1.04
						105.31
			Say	105.30	Per Kg	
10.43	<b>Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia 10 metre openable length ( total length 90 m), having 50 nos rounds per 6 metre length, upto 3 m height of wall with existing angle iron 'Y' shaped placed 2.4 m or 3.00 m apart and with 9 horizontal R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron, all complete as per direction of Engineer-in-charge, with reinforced barbed tape(R.B.T.) / Spring core (2.5 mm thick) wire of high tensile strength of 165 kg/ sq mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (cost of M.S. angle, C.C. blocks shall be paid separately)</b>					
	Details of cost for 30 metre length					
	<b>MATERIAL:</b>					
	Punched tape concertina coil 600 mm dia 10 m openable length (Total length 90 m) (Having 50 Nos. of rounds per 6 meter = 1 bundles) Therefore, Nos. of bundles 30/6=5 bundles Nos. of bundles 30/10=3bundles	bundle	5	600.00	(8691)	3000.00
	RBT reinforced barbed wire 9 rounds = 9x30 = 270m	metre	270.00	7.00	(8692)	1890.00
	Turn buckle and strengthening bolt	each set	10	42.00	(8693)	420.00
	G.I. staples clips etc.	L.S.	49.40	2.12	(9999)	104.73
	<b>LABOUR:</b>					
	for fixing straightening cutting of tape/ coils & wire					
	Beldar 0.50x2 = 1.00 Nos (Taken double due to height)	day	1.0	306.00	(0114)	306.00
	Blacksmith 1 st class	day	0.5	413.00	(0102)	206.50
	Blacksmith 2nd class	day	0.5	369.00	(0103)	184.50
	TOTAL					6111.73
	Add Water Charges @ 1%					61.12
	TOTAL					6172.85 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					867 28
	Total					7040.13 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					1056.02
	Cost of 30 metre					8096.15
	Cost of 1 metre					269.87
	Add 1% labour cess					2.70
						272.57
			Say	272.60	Per m	

BCD/SOR\_11<sup>th</sup> Edition\_2022



## BCD Analysis of Rates 2022

Item No.	Description	Unit	Qty	Rate	Rate Code.	Cost Rs.
10.44	Providing and fixing angle iron frames for doors, windows and ventilators of mild steel Angle sections of size 35x35x5 mm, joints mitred and welded by angle iron 35x35x5 mm or 35x 5 mm flat pieces to the existing T-iron frame or to the wall with dash fastener, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer, all complete as per the direction of Engineer_In_charge.					
	Details of cost for 17.50 kg					
	MATERIAL					
	Angle/Tee iron 40x40x6 mm= 2+2+1 = 5 m					
	5 Meters @3.5 Kg/m = 17.5 Kg+ Add					
	Wastage @5% =0.87Kg."Total =18.37 Kg.					
	Say 0.18 Quintal					
	Structural steel such as tees, angles, channels and R.S. Joists	quintal	0.18	5610.00	(1007)	1009.80
	M.S. Flats 3x5 mm for fixing frame	quintal	0.0037	4850.00	(1008)	17.95
	6x0.05= 0.3 Metre @1.18 Kg/m= 0.354 Kg					
	Add wastage @5% = 0.018 Kg Total=0.37Kg. Say 0.0037 Quintal					
	M.S. Bars 10mm =1x1 m = 1Metre 1 Metre	quintal	0.006	5860.00	(1002)	35.16
	@0.60Kg/m =0.60Kg + Add wastage @5% = 0.03 Kg.Total =0.63 Kg, say 0.006 Quintal					
	Mild steel round bars 10mm dia and below					
	For applying steel primer	L.S.	17.94	2.12	(9999)	38.03
	Carriage of material	L.S.	5.33	2.12	(9999)	11.30
	Welding by electric plant	cm	16	2.00	(1215)	32.00
	LABOUR					
	Blacksmith 2nd Class	day	0.1	369.00	(0103)	36.90
	Fitter (Grade-I)	day	0.15	420.00	(0116)	63.00
	Beldar	day	0.2	306.00	(0114)	61.20
	Sundries	L.S.	8.97	2.12	(9999)	19.02
	TOTAL					1324.35
	Add Water Charges @ 1%					13.24
	TOTAL					1337.60 (X)
	Add GST 12% on "X" ( multiplying factor 0.1405)					187.93
	Total					1525.53 (Y)
	Add for contractor's profit and over-heads @ 15% on "Y"					228.83
	Cost for 17.50 kg					1754.36
	Rate per kg					100.25
	Add 1% labour cess					1.00
						101.25
				Say	101.30	Per Kg

