

CHAPTER NO. 18
STEEL AND IRON WORK

Notes :-

- (i) The rates in this chapter are for both riveted as well as welded work.
- (ii) The labour and through rates for item Nos. 18.1,18.2,18.3,18.6 and 18.7 are for a height up to 4 m above plinth. For additional slab of height of 4 m, or part thereof, the rates for item Nos. 18.1, 18.2 are to be increased by Rs. 2.00 per quintal, and the rates for item Nos. 18.3,18.6,18.7 are to be increased by Rs. 4.00 per quintal.
- (iii) The cost of all rivets, bolts and nuts is included in the through rates.
- (iv) The labour rates given in this chapter include the cost of tools and plants, welding rods and scaffolding (labour and material) where ever required. The labour rates also cover the electrical and gas charges, where welding work is done.
- (v) The rates given in item No. 18.17 are also applicable for the item of "tie rod" provided in the well steining. These rates also includes the cost of flat steel bond ring, threading and welding, whenever done, complete in all respects. Only bottle nuts are payable as per item No. 18.16.
- (vi) Rates for steel boundary gates shall be the same as for the steel roof trusses.
- (vii) Unless otherwise stated, the labour rates include handling of materials with in 100 m.

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
18.1	Steel work, fixed independently without connecting plates, including cutting, hoisting and fixing in position :-					
	(a) R.S. Joists	qtl	634.49	5133.63	697.94	5197.08
	(b) Flats	qtl	460.28	4954.43	506.31	5000.46
	(c) Tees, angles and channels.	qtl	519.16	5013.31	571.08	5065.23
18.2	Steel work in hip and jack rafters, common rafters purlins etc. with angle iron cleats and other connecting plates.	qtl	598.70	5092.85	658.57	5152.72
18.3	Structural steel work in angles, tees and flats, riveted or welded including cutting fixing all gusset plates, bolts, nuts, rivets, welding rod, etc. with hoisting and erecting in position :-					

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
	(a) For roof trusses, well curbs, plates and trussed girders, etc. of any span for buildings and bridges up to 15 m span.	qtl	1970.81	6464.96	2167.89	6662.04
	(b) For roof trusses, well curbs, plates and trussed girders, etc. of any span for buildings and bridges more than 15 m up to 30 m span.	qtl	2359.40	6853.55	2595.34	7089.49
18.4	Wrought iron and mild steel ladders, framed grills, grating etc. with ends of bars, riveted or welded or forged, framed window guards, barred iron doors, stair case, iron railing including cost of bolts and nuts or screws or welding rod, complete fixed in position.	qtl	2400.75	6894.90	2640.83	7134.98
18.5	Iron grated doors, including pintle hinges and arrangements.	qtl	4671.17	9165.32	5138.29	9632.44
18.6	Structural steel work in built-up girders, or stanchions, built up of one joist or channel sections riveted or welded, including cutting and fixing all gusset plates, bolts, nuts, rivets, welding rods, etc. complete with flange plates, heads, sole plates angle connections, etc. with hoisting and erecting in position.	qtl	614.39	5108.54	675.83	5169.98
18.7	Structural steel work in compound built up girders or stanchions built up from two or more R.S. joists or channel section or plates and angles etc. riveted or welded, including cutting and fixing all lattices bars, stiffeners, gusset, plates, bolts nuts, rivets, welding rods, etc. complete with flange plates, heads sole plates, angle connections, etc. with hoisting and erecting in position.	qtl	1074.68	5568.83	1182.15	5676.30
18.8	Providing & fixing G.I. sheet 0.80 mm thick garage doors, with 40mm x 40mm x 6mm angle frame with diagonal braces, 3.15 mm thick gusset plates at the junctions, hooks at the top and 25mm dia pulleys and T-iron 50mm x 50mm x 6mm guides at bottom including locking arrangement with handles, and pintles, etc. complete.	sqm	725.06	2167.54	797.57	2240.05

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			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
18.9	Providing & fixing G.I. sheet 0.80 mm thick sliding shutters, with 40mm x 40mm x 6mm angle iron frame with diagonal braces, 3.15 mm gusset plates at the junctions, hooks at the top and 23mm dia pulleys at the bottom and 40mm x 40mm x 6mm angle iron top and bottom guides including locking arrangements with handles etc. complete.	sqm	744.19	2621.61	818.61	2696.03
18.10	Providing and fixing 14 gauge MS sheet garage doors with 40mmx40mmx6mm angle iron frame with diagonal braces 3.15mm gusset plates including locking arrangement with handles etc. complete in respects.	sqm	980.50	2713.41	1078.55	2811.46
18.11	(a) Supplying and fixing rolling shutters of approved make, made of 80mm x 1.25mm M.S. Laths, interlocked together through their entire length, and jointed together, at the end by end locks, mounted on specially designed pipe shaft, with brackets, side guides 27.5 cm long wire spring grade No. 2 and arrangement for inside and outside locking, with push and pull operation complete, including top cover 0.80mm thick (payment is to be made for the exact size of opening; where rolling shutter is to be fixed).	sqm	65.97	2172.89	72.57	2179.49
	(b) Providing & fixing ball bearing, for push and pull type rolling shutters, from 9.20 to 12 sqm area.	each	-	1059.42	-	1165.36
	(c) Extra for providing mechanical device, chain and crank operation, for operating rolling shutters, exceeding 11.20 sqm In area, of the rolling shutter.	each	-	446.74	-	491.41
Note :- Payment to be made, for area of clear opening.						
18.12	Providing and fixing in position collapsible steel shutters, with vertical channels 20mm x 10mm x 2mm and braced with flat iron diagonals 20mm x 5mm size with top and bottom rails of T-Iron 40mm x 40mm x 6mm with 38mm dia steel pulleys, complete with bolts, nuts, locking arrangements, stoppers, handles etc. complete.	sqm	60.12	1406.65	66.13	1412.66

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			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
18.13	Supplying and fixing fan clamps with 50mm x 6mm flat iron, 50cm long and U-hooks of 16mm diameter M.S. bars, of approved size with nuts including threading etc. complete.	each	54.95	150.97	60.45	156.47
18.14	Providing and fixing M.S. round, or square bars at required spacing in wooden frames of window and clerestory windows.	kg	9.57	52.93	10.53	53.89
18.15	Bolts and nuts of all sizes and length required.	kg	-	60.00	-	60.00
18.16	Mild steel reinforcement for RCC work where not included in the complete rate of RCC including bending, binding and placing in position complete:-					
	(i) Up to 20mm dia bars	qtl	409.25	5034.16	450.18	5075.09
	(ii) above 20mm dia bars	qtl	370.01	4994.92	407.01	5031.92
18.17	Cold twisted deformed (ribbed/ tor steel) Bars Fe 415 grade as per IS 1786-1985 for R.C.C. works, where not included in the complete rate of R.C.C. including bending, binding, and placing in position complete.	qtl	358.23	4983.14	394.05	5018.96
18.18	Cold twisted deformed (Ribbed/ Tor Steel Bar) Bars Fe 500 grade as per IS 1786-1985, for R.C.C works, where not including in the complete rate of RCC including bending and placing in position complete	qtl	358.23	5166.94	394.05	5202.76
18.19	Cold twisted deformed (Ribbed/ Tor Steel Bar) Bars (Fe 550 grade as per IS 1786-1985) , for R.C.C works, where not including in the complete rate of RCC including bending and placing in position complete	qtl	358.23	5228.21	394.05	5264.03
18.20	Supplying and fixing open able steel windows of standards rolled steel sections, joints mitred and electrically flash welded with iron fittings, necessary iron handles, peg stay, catchers bolts, iron lugs and pressed steel projected hinges and glazing clips and labour for fixing during masonry complete (excluding glazing) and finished with two coats of ready mixed paint, red lead non-setting primer					
	(a) Up to One sqm Area	kg	25.65	84.78	28.22	87.35

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
	(b) Above One sqm Area	kg	15.54	73.95	17.09	75.50
18.21	Supplying & fixing fixed steel windows of standard rolled steel sections joints mitred and electrically flash welded including iron lugs and glazing clips, labour for fixing during masonry complete (excluding glazing) and fixing with two coats of ready mixed paint, red lead non-setting primer.	kg	21.28	68.60	23.41	70.73
18.22	Fixing steel windows in walls with lugs, embedded in 15 cm x 12 cm x 7.5 cm cement concrete blocks of 1:2:4 mix, excluding fixing of glass panes and cost of cement concrete.	sqm	80.67	-	88.74	-
18.23	Fixing steel windows in walls with lugs, embedded in 15 cm x 12 cm x 7.5 cm of cement concrete blocks of 1:2:4 mix, including cost of cement concrete for lugs.	sqm	81.80	99.79	89.98	107.97
18.24	Supply & Fixing of pressed steel frames (Chowkats) consisting of 18 gauge (1.25mm) thick steel sheet of the specified section(standard design latest) including iron lugs (hold fasts) iron hinges, conforming to P.W.D. specifications including bolts for fixing stops, lock-notch provision for receiving tower bolts, Hydraulic spring and finished with one priming coat of approved quality, fixed in position, including the cost of cement concrete 1:3:6 for filling in the frame and cement concrete 1:2:4 for lugs complete.					
	(a) Doors and windows frame of size 118mm x 60mm with 40 mm wide single rebate weighing 3.43 kg per meter.	m	91.61	309.27	100.77	318.43
	(b) Doors and windows frame of size 113mm x 60mm with 35 mm wide single rebate weighing 3.38 kg per meter.	m	91.57	306.10	100.73	315.26
	(c) Doors and windows frame of size 151mm x 60mm with 35 mm wide double rebate weighing 3.95 kg per meter.	m	91.86	356.98	101.05	366.17
	(d) Doors and windows frame of size 161mm x 60mm with 40 mm wide double rebate weighing 4.05 kg per meter.	m	91.93	363.52	101.12	372.71

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			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
	Before making the payment the gauge, the size and the section of steel chowkat (whether for single rebate or for double rebate including the sectional size) and the weight of steel chowkats shall be recorded in the measurement book by the Sub Divisional Engineer/ Engineer-in-Charge to ensure conformity with the above stipulations regarding weight.					
18.25	Supplying and fixing glass panes with glazing clips and special metal sash putty of approved make.					
	(a) Glass panes 3mm thick up to 0.40 sqm area	sqm	7.29	449.68	8.02	450.41
	(b) Glass panes 4mm thick above 0.40 sqm area.	sqm	7.29	517.57	8.02	518.30
18.26	Extra for providing & fixing Steel beading of approved shape and section with screw for fixing of glass panes in stead of glazing clips and metal slash putty in steel doors, windows & Ventilators complete in all respect	m	12.55	37.23	13.81	38.49
18.27	Wire gauge fixed on steel windows of standard rolled steel section, with 3mm thick flat iron cover moulding of 12.5mm width, fixed with machine screws, complete in all respects.	sqm	219.82	614.20	241.80	636.18
18.28	Welding by gas or by electric plant, including carriage to and from workshop.	cm	-	2.40	-	2.40
18.29	Providing and fixing M.S. angle iron 40x40x6mm chowkat including iron hold fasts butt hinges fixed in position, finished with red lead non setting primer complete in all respect					
	(a) For single rebate.	kg	13.61	68.61	14.97	69.97
	(b) For double rebate.	kg	13.61	76.18	14.97	77.54
18.30	Providing and fixing stair case railing made out of M.S. square bars 20mm x 20mm as vertical part 0.70 m high fixed with M.S. base plate of 40mm x 40mm x 6mm and flat iron 40mm x 6mm as hand rail complete in all respect.	m	112.51	730.31	123.76	741.56

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1	2	3	4	5	6	7
18.31	Providing & Fixing of 10 guage welded mesh of 25mm x 25mm size fixed on steel glazing with M S flat 20mm x 6mm beeding complete in all respect including painting two coats with Synthetic Enamel Paint and Priming coat.	sqm	83.09	527.03	91.40	535.34
18.32	Providing & Fixing M.S. Flat 50mm x 6mm x 150mm long with 10mm M.S. bar ends 175mm long hooks in R.C.C. slab for fixing false ceiling.	each	13.85	40.72	15.24	42.11
18.33	Deleted	-	-	-	-	-
18.34	Providing & Fixing of 12mm M.S. Rod in cement concrete block of size 675mm x 150mm x 150mm including cost of block for cycle stand as per design required complete in all respect.	per block	21.98	194.08	24.18	196.28
18.35	Extra for work done in each subsequent storey above the first storey for item No.18.17, 18.18 and 18.19	qtl	7.50	7.50	8.25	8.25
18.36	Extra for Work done in each subsequent storey above the first storey for Item No. 18.1 and 18.2	qtl	15.00	15.00	15.00	15.00
18.37	Extra for work done in each subsequent storey above the first storey for Item No.18.3, 18.6 and 18.7.	qtl	30.00	30.00	33.00	33.00
18.38	Providing & fixing of Box type steel windows, made of various ERW section outer 60mm x 25mm, central mullion 60mm x 25mm, for shutter 50mm x 20mm having thickness of 1.25mm (18 gauge), shash bar MS Tee 25mm x 3mm where required joints mitred and electrically flash-welded, with iron fittings including necessary iron handles,hinged cleat, tower bolts, iron hold fast and pintle hinges complete (excluding glazing and wire guage) and finished with ready mixed paint red lead non setting primer complete as per specification, Drawings and to the entire satisfaction of engineer-in-charge. (Note:- Glazing, wire guage and grill will be paid as per respective items)	kg	22.10	78.06	24.31	80.27

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
18.39	Providing & fixing 16 gauge stainless steel pipe railing of grade 304 duly fixed on steps with the help of bolts grouted on steps with hand rail and newel post of 50mm dia Stainless steel pipe, Balusters of 40mm dia Stainless steel pipe and guard 3 Nos of 15mm dia Stainless Steel pipe complete in all respect	m	354.42	3132.09	389.86	3167.53
18.40	Providing & fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded with 15x3mm lugs, 10cm long embedded in cement concrete blocks 15x10x10 cm of 1:3:6 or with wooden plugs and screws or with dash fastener or rawl plugs and screws or with fixing clips or with bolts and nuts as required including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.	kg	11.06	67.18	12.17	68.29