

## CHAPTER NO. 13

### HOISTING AND ROOFING

**Notes :-**

- (i) Unless otherwise stated, the labour rates include handling of material within 100 metres.
- (ii) The rates for hoisting are for heights upto 4 metres above plinth. For every additional 4 metres height or part thereof, add 10 per cent on item Nos. 13.1 to 13.5 and add 20 per cent on item Nos. 13.6 to 13.9.
- (iii) The rates for hoisting are not to be paid over and above the rates for manufacture of beams battens, etc., as given in other chapters as *these* rates already include hoisting charges.
- (iv) The labour rates given in this chapter include the cost of water, tools and plant, scaffolding (Labour and material) and cost of good earth for mud mortar and mud plaster wherever required.
- (v) For item No. 13.9 for bridge girders having spans more than 15 metres, special rates will be worked out and paid for on the merits of each case.
- (vi) The rates for item Nos. 13.58 to 13.65 exclude the cost of beading and frame work for base which is to be paid for separately.
- (vii) The rates given are for single storey. For every additional storey of 4 mtr. or part add Rs. 2.00 per sqm for item No. 13.11, 13.13, 13.14 and 13.17.

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
13.1	Hoisting RCC lintel and placing in position.	cum	613.83	613.83	675.21	675.21
13.2	Hoisting RCC battens and placing in position.	cum	767.78	767.78	844.56	844.56
13.3	Hoisting RCC shelves and placing in position.	cum	491.07	491.07	540.18	540.18
13.4	Hoisting RCC bed plates and placing in position.	cum	736.59	736.59	810.25	810.25
13.5	Hoisting wooden battens and placing in position.	cum	489.62	489.62	538.58	538.58
13.6	Hoisting wooden beams and placing in position.	cum	362.62	362.62	398.88	398.88
13.7	Hoisting wooden trusses and placing in position.	cum	1773.68	1773.68	1951.05	1951.05
13.8	Hoisting RS joists and placing in position.	qtl	144.80	144.80	159.28	159.28
13.9	Hoisting steel roof trusses, plate girders of any span for buildings and plate and trussed girders for bridges up to 15 metres span.	qtl	268.34	268.34	295.17	295.17

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
13.10	Assembling at site and hoisting and placing in position tubular trusses, complete with accessories such as purlins, bracings, longitudinal ties, truss shoes, purlin clips and other truss components complete in all respects.	qtl	249.65	249.65	274.61	274.61
<b>Roofing</b>						
13.11	<b>Second class mud roofing consisting of one layer of tiles 22.86 x 11.43 x 3.81 cm laid in cement mortar 1:3 including 6mm thick cement plaster 1:4 on top with two coats of bitumen painting at 2.63 Kg/sqm covered with 10cm of mud and two layers of 25mm mud plaster with gobri on top and cement plaster 1:4 on parapet between tiles and drip course 1:2 cement pointing underside of tiles and filling of spaces between the battens.</b>	sqm	194.37	561.40	213.81	580.84
13.12	<b>Third class mud roofing</b> consisting of two layers of sirki and sarkanda covered with 12.5 cm mud and mud plaster with gobri keeping on top.	sqm	81.81	152.46	89.99	160.64
13.13	Terracing consisting of tiles 22.86x11.43x3.83cm laid over 25 mm mud plaster 7.5 cm mud filling on another layer of 25mm mud plaster including two coats of bitumen laid hot at 1.65 Kg/sqm top of RCC slab including grouting with cement sand mortar 1:4 and top surface to be left clean after wire brushing etc.	sqm	155.96	369.23	171.56	384.83
13.14	Roofing consisting of 5cm thick precast cement concrete 1:2:4 tiles laid in position with cement sand mortar 1:3 over RCC battens 0.6 metre apart excluding cost of RCC battens but including 4 cm thick screed of cement concrete 1:4:8 over tiles 2 coats of bitumen @ 2.34 kg per sqm 25 mm mud plaster. 7.5cm mud, another layer of 25mm mud plaster filling space between battens over beams with cement concrete (1:3:6) blocks in cement mortar 1:3 and cement pointing 1:2 on the underside of tiles.	sqm	349.52	561.24	384.47	596.19
13.15	Thatching 15cm thick including bamboo frame and matting excluding the cost of purlins.	sqm	40.00	433.21	44.00	437.21
13.16	Thatching 23cm thick including bamboo frame and matting excluding the cost of purlins.	sqm	49.41	448.82	54.35	453.76

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
13.17	Tile terracing laid dry over roof consisting of one layer of tiles 22.86 cm x 11.43 cm x 3.83 cm including grouting with cement sand mortar 1:4 top surface to be <i>left clear</i> after wire brushing.	sqm	37.30	185.62	41.03	189.35
13.18	Corrugated GI Sheet roofing 0.80 mm thick fixed with galvanized iron J or L hooks 10mm dia, GI Limpot and bitumen washers complete excluding the cost of purling rafters and trusses.	sqm	34.36	792.56	37.80	796.00
13.19	Corrugated asbestos Sheet roofing 6 mm thick sheets fixed with GI hooks and bolts, limpet and bitumen washers complete fixed in position excluding the cost of perlins, rafters and trusses.	sqm	46.54	353.12	51.19	357.77
13.20	<b>Semi-corrugated asbestos sheet roofing 7mm thick sheet</b> fixed with GI hooks and bolts limpet and bitumen washers complete, fixed in position excluding the cost of purlins, rafters and trusses.	sqm	46.54	363.75	51.19	368.40
13.21	Ridges and valleys 45 cm overall, in plain GI Sheet 0.80mm fixed with galvanized iron J and L hooks 10mm diameter, GI Limpet and bitumen washers complete.	m	74.38	355.16	81.82	362.60
13.22	GI Sheet gutters 0.80mm thick semicircular 15cm diameter including fixing with clamps and making connections with rain water pipes.	m	75.35	380.77	82.89	388.31
13.23	Asbestos cement ridges fixed with galvanised iron J and L hooks 10mm dia, GI plain and bitumen washers complete.	m	21.97	264.49	24.17	266.69
13.24	Asbestos cement valley gutters 45cm x 12.5cm x 15cm size fixed with galvanised iron J and L hooks 10mm dia, and flat iron clamps 25mm x 3mm size, G.I plain and bitumen washers including asbestos rope and plastic compound in joints complete.	m	27.02	560.45	29.72	563.15
13.25	Providing and fixing asbestos cement corrugated and semi corrugated apron-piece with crank bolts in position etc. complete.	m	24.84	322.43	27.32	324.91
13.26	Providing and fixing asbestos cement corrugated ridge final in the ridge.	each	29.91	250.07	32.90	253.06
13.27	Providing and fixing asbestos cement semi - corrugated sheet ridge, final in the ridge.	each	29.91	250.07	32.90	253.06

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			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
13.28	Providing and fixing asbestos cement corrugated sheet eaves filler piece in position etc. complete.	m	18.59	214.85	20.45	216.71
13.29	Providing and fixing asbestos cement semi-corrugated sheet eaves filler piece in position etc. complete.	m	18.59	214.85	20.45	216.71
13.30	Providing and fixing asbestos cement expansion joints for semi-corrugated sheets fixed with 16mm dia GI bolts with bitumen and GI washers etc., complete.	m	14.88	87.12	16.37	88.61
13.31	Providing and fixing asbestos cement semi-corrugated and corrugated sheet North light curves with asbestos sheet roofing and purlins etc.	m	18.59	664.93	20.45	666.79
13.32	Providing and fixing asbestos cement expansion joints for North light curves etc.,	each	22.31	224.29	24.54	226.52
13.33	Providing and fixing asbestos cement expansion joints for ridge, etc., complete.	pair	44.63	246.61	49.09	251.07
13.34	Providing and fixing asbestos cement rain-water pipes 100mm dia, with MS holder clamps fixed on wall face with cement mortar 1:4 complete.	m	56.24	177.47	61.86	183.09
13.35	Embedding asbestos cement 100mm dia, rain-water pipes in cement mortar during masonry work.	m	18.73	117.52	20.60	119.39
13.36	<b>Providing and fixing asbestos cement plain bend 100mm dia</b> in position with gutter etc.	each	23.55	92.47	25.91	94.83
13.37	<b>Providing and fixing asbestos cement swan neck 100mm dia</b> in position with asbestos cement pipe.	each	32.02	171.09	35.22	174.29
13.38	<b>Providing and fixing asbestos cement hexagonal rain-water head 33cm x 24 cm</b> for asbestos cement pipe in position.	each	46.37	252.76	51.01	257.40
13.39	Providing and fixing asbestos cement shoe for asbestos cement rain-water pipe in position.	each	32.02	100.94	35.22	104.14
13.40	Providing and fixing union clips in gutters of asbestos cement sheet roofing etc. complete	each	47.66	168.85	52.43	173.62

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
13.41	<b>Providing and fixing cast iron 100mm dia, rain water pipe</b> with screw and wooden plugs fixed on wall-face, including filling joints with spun yarn and cement mortar 1:2 excluding head and shoe etc.	m	60.14	798.55	66.15	804.56
13.42	<b>Providing and fixing cast iron head</b> for rain water pipe on wooden plugs fixed on wall-face including filling the joints with spun yarn and cement mortar 1:2.	each	49.90	444.53	54.89	449.52
13.43	<b>Providing and fixing cast iron shoe</b> for rain water pipe on wooden plugs fixed on wall face including filling the joints with spun yarn and cement mortar 1:2.	each	49.90	468.20	54.89	473.19
13.44	Embedding 100mm dia CI rain water non pressure ISI mark pipe in cement mortar during masonry work.	m	17.51	732.99	19.26	734.74
13.45	Top khurra 0.6m x 0.6m for rain water pipe in 25mm thick cement concrete 1:2:4 over 50mm thick cement concrete 1:8:16.	each	20.62	65.25	22.68	67.31
13.46	Khurra on roof as per item No. 13.45 with CI Spouts 100 mm dia fixed in position.	each	29.55	79.67	32.51	82.63
13.47	Khurra on roof as per item No. 13.45 with AC Spouts 100 mm dia fixed in position.	each	29.55	78.06	32.51	81.02
13.48	Khurra on roof as per item No. 13.45 with GI Spouts 100 mm dia fixed in position.	each	29.55	77.00	32.51	79.96
13.49	Khurra on roof as per item No. 13.45 with RCC spouts 100 mm dia fixed in position.	each	29.55	78.67	32.51	81.63
13.50	Khassi parnala 12.5 mm thick in cement mortar 1:2 (35cm) out side width and up to 4.25 mm height.	m	28.67	55.03	31.54	57.90
13.51	Bottom Khurra on ground 1.2m x 0.6m consisting of brick on-edge laid in cement mortar 1:3 over 75mm cement concrete 1:8:16 including 12.5mm thick cement plaster 1:3	each	75.08	394.69	82.59	402.20
13.52	Laying 10 cm earth and two coats of 25mm mud plaster with gobri leeping on top including two coats of bitumen painting @1.65kg Per sqm	sqm	95.45	163.82	105.00	173.37
13.53	Applying bitumen on roofs including heating and carriage to roof.	qtl	52.61	4196.00	57.87	4201.26

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
13.54	Extra for bitumen painting @0.69 kg per sqm	sqm	2.97	31.55	3.27	31.85
13.55	Cement concrete 1:2:4 gola 10cm x 10cm concave quadrant along junction of roofs with parapet wall finished smooth, where specially specified.	m	19.41	35.77	21.35	37.71
13.56	Providing and laying four courses of water proofing treatment with bitumen felt over roofs consisting of first and third courses of blown type bitumen grade 85/25 applied hot @1.20kg per sqm of area for each course, second course on roofing felt type 3 grade-I (Hessian base self finished bitumen felt) and fourth and final course of stone grit 6mm and down size or pea-sized grit spread at 0.006 cu.m per sq.m including preparation of surface complete.	sqm	24.13	265.89	26.54	268.30
13.57	Supplying and filling cinder on roof (1st Storey) including light ramming.	cum	169.42	571.48	186.36	588.42
	<b>CEILINGS</b>					
13.58	Kail wood plank ceiling 20mm thick tongued and grooved planking.	sqm	114.66	1684.52	126.13	1695.99
13.59	Providing and fixing Dasuty cloth ceiling.	sqm	22.31	130.03	24.54	132.26
13.60	Providing and fixing hessian cloth ceiling.	sqm	22.31	70.79	24.54	73.02
13.61	Providing and fixing ply-wood (4mm) ceiling.	sqm	18.08	527.36	19.89	529.17
13.62	Providing and fixing 5 mm thick asbestos sheet ceiling.	sqm	144.62	164.43	159.08	178.89
13.63	Providing and fixing 12.5 mm thick insulation perforated board (such as celetex, Treetex etc.) ceiling.	sqm	20.51	623.09	22.56	625.14
13.64	Plaster of paris ceiling 12.5mm thick consisting of 12.5mm thick panels of plaster of paris reinforced with hessian cloth fixed to under side of cradeling of specified design, including cost of fixing in position all materials, etc.(cost of cradeling to be paid saperately)	sqm	241.03	359.53	265.13	383.63
13.65	Providing and Fixing ceiling consisting of 600mmX600mmX12.5mm thick Gypsum Board GI Cradling hanged from the ceiling by means of GI hanger complete as per drawings,specifications and to the entire satisfaction of engineer-in- charge.	sqm	185.47	836.81	204.02	855.36

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
13.66	Providing and Fixing of Copper Sheet 16 Gauge 350mm wide in "V" or "U" shape on expansion joint including covering with C. Concrete complete in all respect as per specifications and to the entire satisfaction of engineer-in-charge.	m	70.27	2482.09	77.30	2489.12
13.67	Providing and fixing 4mm thick 300mm wide Asbestos sheet with gatties and screw on vertical expansion joints one side fixed and one side fixed with slotted holes complete in all respect as per specifications.	m	73.21	119.18	80.53	126.50
13.68	Providing and fixing partition upto ceiling height consisting of GI frame and required board including providing and fixing of frame work made of special section power pressed/ role form GI sheet with zinc coating of grade 175 consisting of floor and ceiling channel 50mm wide having equal flanges of 32mm and 0.5mm thick fixed to the floor and ceiling at the spacing of 610mm centre to centre with dash fastener of 12.5mm dia-meter,40mm length and the studs 48mm wide having one flange of 34mm and other flange 36mm and 0.50mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610mm centre to centre by 6mm dia bolts and nuts at both ends of partition fixed flush to wall with rawl plugs at spacing 450mm centre to centre and fixing of boards to either side of frame work by 25mm drive all screws on studs, floor and ceiling channels at the spacing of 300mm centre to centre, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, joint finisher and two coats of primer suitable for board as per manufacture's specification and direction of engineer-in-charge all complete.					
	(a) 67mm overall thickness partition with 8.5 mm thick double skin Glass reinforced Gypsum (GRG) board conforming to IS: 2095: part III	sqm	184.74	876.19	203.21	894.66

Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
13.69	Providing and fixing, in position concealed GI section for wall panelling using board of required thickness fixed on the 'W profile (0.55mm thick) having a knurled web of 51.55mm and two flanges of 26mm each with lips of 10.55 mm placed @ 610mm C/C in perimeter channel having one flange of 20mm and another flange of 30mm with thickness of 0.55mm and web of length 27mm Perimeter channel is fixed on the floor and the ceiling with the nylon sleeves @ 610mm C/C with fully threaded self-tapping drive all screws. Board is fixed to the 'Wprofile with 25 mm countersunk ribbed head screws @ 200mm C/C, all complete as per the drawing & directions of engineer-in-charge the joints of the boards are finished with specially formulated jointing compound and 48mm wide fiber tape to provide seamless finish.					
	(a) <i>Tapered edge calcium silicate board made with calcareous &amp; siliceous materials reinforced with cellulose fiber manufactured through autoclaving process to give stable crystalline structure, Non combustible &amp; spread of Flame (as per BS standard 476 Part IV &amp; VII), Water, Termite &amp; Fungus resistant, compressive strength 25 kg/sqcm, Bending strength 100 kg/cm</i>					
	(i) <i>10mm thick</i>	sqm	164.09	693.11	180.50	709.52
	(b) Gypsum board conforming to IS: 2095-1996: Part - I					
	(i) <i>12.50mm thick</i>	sqm	164.09	428.49	180.50	444.90
13.70	Providing and fixing thermal insulation of ceiling (under deck insulation) with Resin Bonded Fibre glass wool conforming to IS : 8183 density 24kg/m <sup>3</sup> , 50mm thick, wrapped in 200 G Virgin Polythene bags fixed to ceiling with metallic cleats (50x50x3mm) @ 60 cm and wire mesh of 12.5mm x 24g wire and mesh, for top most ceiling of building.	sqm	183.13	478.20	201.44	496.51



Sr. No.	Description	Unit	Plains		Sub-Mountainous	
			Labour Rate	Through Rate	Labour Rate	Through Rate
1	2	3	4	5	6	7
13.71	Providing and fixing covering 2mm thick 300mm wide first class fiber sheet with gatties and screw on vertical expansion joints one side fixed and one side fixed with slotted holes to allow movement complete in all respect as per specifications and to the entire satisfaction of engineer- in- charge.	m	73.21	317.30	80.53	324.62
13.72	Providing and fixing covering 200mm wide Aluminium Sheet 14 Gauge with gatties and screw on vertical expansion joints one side fixed and one side fixed with slotted holes to allow movement complete in all respect as per specifications and to the entire satisfaction of engineer- in- charge.	m	73.21	330.49	80.53	337.81
13.73	Providing and fixing covering 200mm wide G.I Sheet 14 Gauge with gatties and screw on vertical expansion joints one side fixed and one side fixed with slotted holes to allow movement complete in all respect as per specifications and to the entire satisfaction of engineer- in- charge.	m	73.21	348.93	80.53	356.25
13.74	Providing and fixing 110 mm dia SWR U.P.V.C Rain water pipe (ring fitted type-A) as per IS:13592 including jointing during masonry complete as per specifications and to the entire satisfaction of Engineer-in-charge. (If fixed on wall face clamp to be paid separatly as per respective item)	m	17.69	191.93	19.46	193.70
13.75	Providing and fixing 110 mm dia SWR U.P.V.C bend for Rain water pipe as per IS:14735 including jointing complete as per specifications and to the entire satisfaction of Engineer- in- charge.	each	25.55	112.12	28.11	114.68
13.76	Providing and fixing 110 mm dia SWR U.P.V.C Coupling/Sockete for Rain water pipe as per IS:14735 including jointing complete as per specifications and to the entire satisfaction of Engineer- in- charge.	each	25.55	110.23	28.11	112.79