

CHAPTER - 10 : ROOFS AND CEILINGS				
Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
	C G S SHEET ROOFING			
101010	Providing corrugated G.S. sheet roofing, including vertical/curved surface, fixed with polymer coated J or L hooks, bolts and nuts 8mm diameter with bitumen and G.I. limpet washers or with G.I. limpet washers filled with white lead and including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (upto any pitch in horizontal/vertical or curved surfaces) excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required			
101011	1.00mm thick with zinc coating not less than 275gm/ sqm	Sqm	908.43	
101012	0.80mm thick with zinc coating not less than 275gm/ sqm	Sqm	761.44	
101013	0.63mm thick with zinc coating not less than 275gm/ sqm	Sqm	636.65	
101020	Extra for straight cutting in C.G.S. sheet roofing for making opening of area exceeding 0.4sqdm for chimney stacks, sky light etc.			
101021	1.00mm thick	metre	22.05	
101022	0.80mm thick	metre	17.64	
101023	0.63mm thick	metre	17.64	
101030	Extra for circular cutting in C.G.S. sheet roofing for making opening of area exceeding 40 sqdm			
101031	1.00mm thick	metre	127.43	
101032	0.80mm thick	metre	101.78	
101033	0.63mm thick	metre	101.78	
101040	Providing ridges or hips of width 60cm overall width plain G.S. sheet fixed with polymer coated J or L hooks, bolts and nuts 8mm dia. G.I. limpet and bitumen washers complete			
101041	0.80mm thick with zinc coating not less than 275gm/ sqm	metre	419.93	
101042	0.63mm thick with zinc coating not less than 275gm/ sqm	metre	361.91	
101050	Providing valleys 90cm wide overall in plain G.S. sheet fixed with polymer coated J or L hooks, bolts and nuts 8mm dia. G.I. limpet and bitumen washers complete			
101051	1.60 mm thick with zinc coating not less than 350gm/ sqm	metre	833.34	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
101052	1.00 mm thick with zinc coating not less than 350gm/ sqm	metre	556.58	
101060	Providing flashing of 40cm overall width in plain, G.S. sheet, 1.00mm thick with zinc coating not less than 275gm/ sqm., fixed with polymer coated J or L hooks, bolts and nuts, G,I, limpet and bitumen washer complete, bent to shape and fixed in wall with cement mortar 1:3 (1cement: 3coarse sand)	metre	298.29	
101070	Providing and fixing 15cm wide 45cm over all semi circular plain G.S. sheet gutter with iron brackets 40x3mm size, bolts, nuts and washers etc. including making necessary connections with rain water pipes complete			
101071	0.80mm thick with zinc coating not less than 275gm/ sqm	metre	380.14	
101072	0.63mm thick with zinc coating not less than 275gm/ sqm	metre	331.83	
101080	Supply & installation of precoated galvanized iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50mm +/- 5% total coated thickness (TCT) thick Zinc coating 120gsm as per IS:277 in 240mpa steel grade, 5-7microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches while transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling / self tapping screws of size (5.5 x 55mm) with EPDM seal or with polymer coated J or L hooks, bolts and nuts 8mm diameter with bitumen and G.I. limpet washers or with G.I. limpet washers filled with white lead complete upto any pitch in horizontal/vertical or curved surfaces excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required	Sqm	539.62	
101090	Providing and fixing precoated galvanised steel sheet roofing accessories 0.50mm +/- 5% total coated thickness (TCT) thick Zinc coating 120 gsm as per IS:277 in 240mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self drilling/self tapping screws or with polymer coated J or L hooks, bolts and nuts and or G.I. seam bolts and nuts, G.I. plain and bitumen washers complete :	0	0.00	
101091	Ridges plain (500-600mm)	metre	369.22	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
101092	Flashings/Aprons.(Upto 600mm)	metre	399.07	
101093	North light curves	metre	497.75	
101094	Barge board (Upto 300mm)	metre	443.25	
101095	Crimp curve	metre	61.30	
101096	Gutter (600mm over all girth)	metre	577.26	
	A.C. SHEET ROOFING & A.C. Accessories			
102010	Providing and fixing asbestos cement 6 mm thick corrugated / semi corrugated sheet roofing upto any pitch and fixing with polymer coated J or L hooks, bolts and nuts 8mm dia. G.I. plain and bitumen washers complete excluding the cost of purlins, rafters and trusses :	Sqm	269.16	
102020	Extra for straight cutting in A.C. corrugated, semi-corrugated 6mm thick sheet roofing for making openings of area exceeding 40sq. decimeter for chimney stacks, sky lights etc.	metre of periphery	17.25	
102030	Extra for circular cutting in A.C. corrugated/ semi-corrugated 6mm thick sheet roofing for making openings of area exceeding 40 sq. Decimeter	metre of periphery	47.66	
102040	Providing and fixing ridges and hips in asbestos cement sheet roofing			
102041	One piece plain angular ridges	metre	172.85	
102042	Serrated or plain wing adjustable ridges	metre	230.21	
102043	Close fitting adjustable ridges	metre	252.21	
102044	North light adjustable ridges	metre	213.02	
102045	Unserrated adjustable hips	metre	212.99	
102050	Providing and fixing asbestos cement roofing accessories with polymer coated J or L hooks, bolts and nuts and or G.I. seam bolts and nuts, G.I. plain and bitumen washers complete	metre		
102051	Apron flashing pieces	metre	162.24	
102052	Eave's filler pieces	metre	120.58	
102053	North light and ventilator curves	metre	286.45	
102054	Barge boards	metre	145.67	
102055	Ridge finials	Pair	134.49	
102056	Curved barge boards for north light curves	Each	216.50	
102057	Expansion joints for ridges	Each	305.29	
102058	Expansion joints for north light curves	Each	264.93	
102059	S type louvers	metre	85.60	
	NON-A.C. SHEET ROOFING & Accessories			

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
103010	Providing and fixing non-asbestos high impact Polypropylene reinforced cement 6 mm thick corrugated sheets (as per IS: 14871) roofing up to any pitch and fixing with polymer coated J or L hooks, bolts and nuts 8mm dia. G.I. plain and bitumen washers or with self drilling fastener and EDPM washers etc. complete excluding the cost of purlins, rafters and trusses including cutting to size and shape wherever required	Sqm	444.66	
103020	Extra for straight cutting in non-asbestos Polypropylene reinforced cement corrugated/ semi-corrugated 6mm thick sheet roofing for making openings of area exceeding 40sq. decimeter for chimney stacks, sky lights etc.	metre of periphery	17.25	
103030	Extra for circular cutting in non-asbestos Polypropylene reinforced cement corrugated/ semi-corrugated 6mm thick sheet roofing for making openings of area exceeding 40 sq. decimeter	metre of periphery	47.66	
103040	Extra for providing and fixing wind ties of 40x6mm flat iron section complete with hooks, nuts, washers etc.	metre	84.63	
103050	Providing and fixing ridges and hips in non-asbestos fibre cement high impact Polypropylene reinforced roofing with suitable fixing accessories or self drilling fastener and EDPM washer etc. complete			
103051	Corrugated serrated adjustable ridges	metre	514.40	
103052	Plain wing adjustable ridges	metre	536.48	
103053	Close fitting adjustable ridges	metre	502.59	
103054	Unserrated adjustable hips	metre	579.79	
103060	Providing and fixing non-asbestos fibre cement high impact Polypropylene reinforced roofing accessories in all colours with polymer coated J or L hooks, bolts and nuts and or G.I. seam bolts and nuts, G.I. plain and bitumen washers or with self drilling fastener and			
103061	Corrugated Apron pieces	metre	305.66	
103062	Eave's filler pieces	metre	256.42	
103063	North light curves	metre	454.58	
103064	Ventilator Curves	metre	563.47	
103065	Barge boards	metre	391.17	
103066	Ridge finials	Pair	201.74	
103067	Special north light curves	metre	685.07	
103068	S type louvers	metre	298.62	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
103070	Providing and fixing flat iron brackets 50x3mm size with necessary bolts, nuts and washers etc. for fixing asbestos cement/ G.S. sheet gutters with purlins to be fixed at suitable interval, as per direction of engineer-in-charge	metre	26.24	
103080	Supplying fitting/ fixing corrugated fibre glass reinforced perspex sheet 3 mm. thick on existing wooden or iron frames / purlins with Contractor's stitching bolts, hook bolts, crank bolts, coach screws, nuts, limpets, G.I and bitumen washers etc. complete	Sqm	426.25	
103090	Providing & fixing machine made UV stabilised fibreglass reinforced plastic sheet roofing upto any pitch including fixing with polymer coated 'J' or 'L' hooks, bolts and nuts 8mm dia. G.I. plain/bitumen washers complete but excluding the cost of purlins, rafters, trusses etc. The sheets shall be manufactured out of 2400 TEX panel rovigs incorporating minimum 0.3% Ultra-violet stabilizer in resin system under approximately 2400 psi and hot cured. They shall be of uniform pigmentation and thickness without air pockets and shall conform to IS 12866. The sheets shall be opaque or translucent, clear or pigmented, textured or smooth as specified			
103091	2mm thick corrugated / 2mm thick Profile Sheets	Sqm	1172.26	
103092	2mm thick flat sheets	Sqm	1051.19	
103093	Providing & fixing fibre glass reinforced 90cm wide, 4mm thick valley gutter, having two coats of U/V stabilised gel coat as top coating giving glossy smooth surface. To be fixed with suitable clamp made of 25mm MS flat of 3mm thickness, provided at 1m interval, complete with required nuts/bolts	Rm	2224.04	
104000	Extra over item no. 103010, 103050 & 103060 for using corrugated sheets and fittings having polyester coating of approved shade on the top surface instead of natural cement colour sheets and fittings	Each	25% of the respective items	
	FLAT ROOFS			
104010	10cm thick (average) mud phaska of damped brick earth on roofs laid to slope consolidated and plastered with 25mm thick mud mortar with bhusa at 35 kg per cum. of earth and gobri leaping with mix 1:1 (1clay: 1cow dung) and covered with tile bricks grouted with cement mortar 1:3 (1cement: 3fine sand) mixed with 2% of integral water proofing compound by weight of cement and finished neat - upto floor two level			

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
104011	With F.P.S. flat brick tiles of class designation 10	Sqm	256.82	0.031
104012	With machine moulded F.P.S. brick tiles of class designation 12.5	Sqm	270.06	0.031
104020	Extra over Items 104012 above floor two level for every floor or part thereof	Sqm	51.36	
104030	Extra for every additional 1cm thickness of mud phaska	Sqm	5.95	
104040	Providing and laying FPS brick tiles of class designation 10 over mumty roofs grouted with cement mortar 1:3 (1cement: 3fine sand) mixed with 2% of integral water proofing compound by weight of cement, over a 12mm layer of cement mortar 1:3 (1cement: 3fine sand) and finished neat	Sqm	166.72	0.091
104050	Providing and laying pressed clay tiles (as per approved pattern 20mm nominal thickness and of approved size) on roofs jointed with cement mortar 1:4 (1cement: 4coarse sand) mixed with 2% integral water proofing compound laid over a bed of 20mm thick cement mortar 1:4 (1cement: 4coarse sand) and finished neat complete	Sqm	328.12	0.198
104060	Lime concrete terracing on roofs average thickness 10cm laid to fall with 25mm nominal size brick aggregate and 50% lime mortar 1:2 (1lime putty: 2surkhi) rammed and finished with gur and belgiri treatment complete including rounding of junctions with parapet wall complete - upto floor two level	Sqm	317.89	
104070	Lime concrete terracing on roofs, average thickness 10cm laid to fall with 25mm nominal size brick aggregate and 50% lime mortar 1:2 (1lime putty: 2surkhi) rammed and finished with gur and belgiri treatment complete and covered with FPS flat brick tiles of class designation 10 grouted with cement mortar 1:3 (1cement: 3fine sand) mixed with 2% integral water proofing compound by weight of cement, over 12mm layer of cement mortar 1:3 (1cement: 3fine sand) and finished neat- upto floor two level	Sqm	374.27	0.031
104080	Add or deduct over Items 104060 and 104070 for every additional/less 5mm thickness of lime concrete terracing	Sqm	17.40	
104090	Extra over Items 104060, 104070 and 104080 for using LUNA, RTC or equivalent treatment in place of Bel and Gur treatment. (Quantity to be used as per specifications of the Manufacturer)	Sqm	28.82	
104100	Extra over Items 104060 and 104070 above floor two level for every floor or part thereof	Sqm	34.61	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
104110	Picking upto a minimum depth of 50 mm including a) removing dismantled concrete and thorough cleaning and washing of exposed surface to make it free of dislodged particles and dust and b) redoing of lime concrete terracing with 20mm nominal size brick aggregate and 50% lime mortar 1:2 (1lime putty: 2surkhi) rammed and finished with gur and belgiri treatment complete trowelled smooth to a polished finish- upto floor two level	cum	3056.48	
104120	Extra over Items 104110 above floor two level for every floor or part thereof	cum	91.69	
104130	Providing gola 75x75mm in cement concrete 1:2:4 (1cement: 2coarse sand: 4graded stone aggregate 10mm and down gauge) including finishing with cement mortar 1:3 (1cement: 3fine sand) as per standard design -in 75x75mm deep chase	metre	56.32	0.031
104140	Making khurras 45x45cm with average minimum thickness of 5cm cement concrete 1:2:4 (1cement: 2coarse sand: 4graded stone aggregate of 20mm nominal size) over P.V.C. sheet 1mx1mx400micron, finished with 12mm cement plaster 1:3 (1cement: 3coarse sand) and a coat of neat cement rounding the edges and making and finishing the outlet complete	Each	95.44	0.060
104150	Providing sand stone slab for roofing and laying them in cement mortar 1:4 (1cement: 4coarse sand) over wooden karries or R.C.C. battens etc (Karries and battens etc to be paid separately) including pointing the ceiling joints with cement mortar 1:3 (1cement: 3fine sand) complete			
104151	Red sand stone slab, 40mm to 50mm thick	Sqm	471.12	0.007
104152	White sand stone slab, 40mm to 50mm thick	Sqm	438.15	0.007
	WATER PROOFING			
105010	Providing & laying water-proof treatment on roof slabs by applying after preparation, cement slurry mixed with Tapecrete acrylic based polymer water proofing compound (having solid content 30% ± 2, pH >7) in a ratio of 2:1 (2 cement : 1 water proofing compound), followed by laying of fibre glass cloth; 2nd coat of cement slurry mixed with acrylic based polymer water proofing compound and a final coat of water proofing compound brush topping having water proofing compound, cement and c/sand @ 1:2:2 by weight. Complete job to be carried out as per specifications	Sqm	303.14	0.020

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
105020	Providing & laying corner fillet (Gola) 25mmx25mm size at junction of walls & slab and pipe joints sealing by cement sand mortar 1:3 mixed with Tapecrete acrylic based polymer water proofing compound (having solid content 30% ± 2, pH >7) at 0.5% of cement by weight.	metre	23.20	0.015
105030	Painting top of roofs with residual type petroleum bitumen of penetration 80/100 of approved quality at 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm. Per 10sqm. including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete	Sqm	90.02	
105040	Providing and laying four courses water proofing treatment with bitumen felt over roofs consisting of 1st and 3rd courses of blown bitumen 85/ 25 or 90/ 15 conforming to IS: 702 applied hot @ 1.45kg/sqm of area for each course, 2nd course of roofing felt type 3 grade-I (Hessian base self finished bitumen felt) conforming to IS:1322 and 4th and final course of stone grit 6mm and down size or pea-sized gravel spread at 6 cudm/sqm including preparation of surface but excluding grading complete	Sqm	265.82	
105050	Providing and laying six courses water proofing treatment with bitumen felt over roofs consisting of first, third and fifth course of blown bitumen 85/ 25 or 90/ 15 conforming to IS: 702 applied hot @ 1.45, 1.20 and 1.45 kg/sqm of area respectively, second and fourth courses of roofing felt type 3 grade I conforming to IS: 1322 (Hessian based self finished bitumen felt) conforming to IS: 1322 and sixth and final course of stone grit 6mm and down size or pea- sized gravel spread at 6cudm/sqm including preparation of surface but excluding grading complete	Sqm	430.53	
105060	Providing and laying six courses water proofing treatment with bitumen felt over roofs consisting of first, third and fifth courses of blown or/ and residual bitumen applied hot at 1.45, 1.20 and 1.70kg per square metre of area respectively, second and fourth courses of roofing felt type 2 grade I (fibre base self finished bitumen felt) sixth and final course of stone grit 6mm and down size or pea-sized gravel spread at 6cudm/sqm including preparation of surface, excluding grading complete	Sqm	458.41	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
105070	Providing and laying six courses water proofing treatment with bitumen felt over roofs consisting of first, third and fifth courses of blown or/ and residual bitumen applied hot at 1.45, 1.20 and 1.70kg/sqm of area respectively, second and fourth courses of roofing felt type 2 grade II (glass fibre base self finished bitumen felt) and sixth and final course of stone grit 6mm and down size or pea-sized gravel spread at 6cudm/sqm including preparation of surface but excluding grading, complete	Sqm	459.08	
105080	Supplying and applying bituminous solution primer on roof and or wall surface at 0.24litre/sqm	Sqm	22.88	
105090	Deduct for omitting in water proofing treatment final course of spreading stone grit 6mm down size or pea-sized gravel at 6 cudm/sqm	Sqm	9.17	
105110	Providing and laying in situ over roofs seven course water proofing treatment with APP (Atactic Poly Propylene) modified Polymeric membrane 1.5mm thick of 2.25kg/sqm weight.7th, the top most layer shall be of specified surface finish which shall be paid for separately	Sqm	477.28	
105120	Providing and laying in situ over roofs five course water proofing treatment with APP (Atactic Poly Propylene) modified Polymeric membrane 2.0mm thick of 3.00kg/sqm weight.5th, the top most layer shall be of specified surface finish which shall be paid for separately	Sqm	339.23	
105130	Providing and laying in situ over roofs seven course water proofing treatment with APP (Atactic Poly Propylene) modified Polymeric membrane 2.0mm thick of 3.00kg/sqm weight.7th, the top most layer shall be of specified surface finish which shall be paid for separately	Sqm	579.50	
105140	Providing and fixing APP (Atactic Polypropylene polymer) modified prefabricated five layer water proofing membrane of specified thickness, black finished reinforced with glass fibre matt over a coat of bitumen primer for bitumen membrane @ 0.40litre/sqm by the same membrane manufacturer of density at 25oC, 0.87-0.89kg/ litre and viscosity 70- 160cps			
105141	2mm thick (for corrugated roof sheets)	Sqm	357.25	
105142	3mm thick	Sqm	456.26	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
105150	Providing and laying APP (Atactic Polypropylene polymer) modified prefabricated seven layer 3mm thick water proofing membrane, reinforced with non-woven polyester matt over a coat of bitumen primer for bitumen membrane @ 0.25 Kg/sqm. by the same membrane manufacture as per specification	Sqm	449.88	
	Note for Items 105020 to 105150 : The laying of membrane shall be got done through the authorized applicator of the manufacturer of membrane, if possible			
105160	Extra for covering top of membrane with Geotextile 120 gsm non woven 100% polyester of thickness 1 to 1.25mm thickness bonded to the membrane by heating by	Sqm	53.66	
105170	Cutting to 'V' section, cleaning and washing cracks for repairs to roof. Grouting with cement slurry 1:1 and plastering over crack with cement mortar 1:3	metre	10.77	
105180	Cutting to 'V' section, cleaning and washing cracks for repairs to roof. Grouting with special compound such as valamoid or any other similar compound	metre	18.30	
105190	Grading roof for water proofing treatment with-			
105191	Cement concrete 1:2:4 (1 cement, 2 coarse sand and 4 graded stone aggregate of 20mm nominal size)	cum	1602.96	3.200
105192	Cement mortar 1:3 (1 cement, 3 coarse sand)	cum	1361.60	5.100
	CEILING :			
106010	Providing and fixing insulating board ceiling of approved quality as per IS:3348 with necessary nails etc. complete (frame work to be paid separately)			
106011	Natural colour insulating board, 12mm thick	Sqm	412.74	
106012	White/ivory face insulating board, 12mm thick	Sqm	492.28	
106013	Flame retardant face insulating board, 12mm thick	Sqm	486.74	
106020	Providing and fixing flat pressed 3 layer medium density particle board or graded particle board (Grade-1) IS: 3087 marked 12mm thick in ceiling with necessary nails etc. complete (frame work to be paid separately)	Sqm	510.70	
106030	Extra for circular cutting and waste in ceiling with :			
106031	Insulating board	Sqm	120.80	
106032	Particle board	Sqm	132.99	
106040	Extra over 106011 to 106013 and 106020 for providing and fixing ceiling to curved surfaces in narrow widths	Sqm	83.67	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
106050	Providing and fixing false ceiling with 12mm thick plain/semi perforated or with design ceiling tiles of BWP type phenol formaldehyde synthetic resin bonded pressed particle board conforming to IS:3087 finished with a coat of aluminium primer on both sides & edges and two coats of synthetic enamel paint of approved quality on exposed face fixed to a grid made out of anodised aluminium (with 15 micron anodic coating) T-sections 35 x 15 x 1.5mm size main runners and cross runners 23.5x19x1.5 mm fixed to main runners placed 600 mm centre to centre both ways so as to form a grid of 600 mm square. The frame work shall be suspended from ceiling by level adjusting hangers of 6mm dia M.S. rod fixed to roof slab by means of ceiling cleats. The suspenders shall be placed 600 x 1200 mm centre to centre including fixing to the frame with C.P. brace screws and applying a priming coat of zinc chromate yellow primer (aluminium frame work and hangers shall be paid separately)	Sqm	251.97	
106060	Extra for providing 3mm thick translucent white acrylic plastic sheets of approved quality in false ceiling instead of 12mm thick plain/ or with design particle board ceiling tiles in Item 106050	Sqm	564.78	
106070	Providing and fixing 8mm thick non-asbestos multipurpose cement board, reinforced with cellulose fibre, manufactured through auto-claving process (high pressure steam-cured) as per IS:14862 with suitable fibre cement with screws (framework to be paid separately)	Sqm	427.65	
106080	Providing & fixing PVC multiple hollow section of approved colour with tongue and groove fixture having wall thickness 1mm and overall thickness 12mm in ceiling on existing frame work	Sqm	1668.37	
106090	Providing and fixing Tiled False Ceiling Tiles of approved materials of size 595x595mm in true horizontal level suspended on interlocking metal grid of galvanized steel sections (galvanized @ 170gsm/sqm) consisting of main "T" runners suitably spaced at joints to get required length and of size 24x38mm made from 0.30mm thick (minimum) sheet spaced at 1200mm centre to centre and cross "T" of size 24x25mm made of 0.3mm thick (min.) sheet, 1200mm long ... contd. -	Sqm	396.55	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
	... contd. - spaced between main "T" at 600mm centre to centre to form a grid of 1200x600mm and secondary cross "T" of length 600mm and size 24x25mm made of 0.30mm thick minimum sheet to be interlocked at middle of the 1200x600mm panel to form grids of 600x600mm wall angle of size 21x21x 3mm and laying false ceiling tiles of approved texture in the grid including, wherever required, cutting/making openings for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. ... contd. -			
	... contd. - Main "T" runners to be suspended from ceiling using GI slotted cleats fixed to ceiling with 6mm dia and 50mm long dash fasteners, 4mm dia GI adjustable rods with galvanized level clips spaced at 1200mm centre to centre along main "T", bottom exposed width of 24mm of all T-sections shall be pre painted with polyester paint, all complete at all heights as per specifications drawings and as directed by Engineer-in-charge. (The rate is excluding the cost of tiles which will be paid separately)			
106100	Providing and fixing at all height false ceiling of 12.5mm thick tapered edge gypsum board conforming to IS: 2095-Part I, including providing and fixing of frame work made of special sections power pressed from M.S. sheet and galvanised with zinc coating of grade 350 as per IS: 277 and consisting of angle cleats of size 25mm x 1.6mm with flanges of 22mm and 37mm at 1200mm centre to centre one flange fixed to the ceiling with stener 12.5mm dia x 40mm long with 6mm dia bolts to the angle hangers of 25x25x0.55mm of required length ... contd. -	Sqm	627.97	
	... Contd. -- and other end of angle hanger being fixed with nut and bolts to G.I. channels 45x15x0.9mm running at the rate of 1200mm centre to centre to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26mm each having clips of 10.5mm at 450mm centre to centre shall be fixed in a direction perpendicular to G.I. channel with connecting clips made out of 2.64mm dia x 230mm long G.I. wire at every junction including fixing the gypsum board with ceiling section and perimeter channels 0.5mm thick 27mm high having flanges of 20mm and 30mm long, - contd. ...			

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
	... contd. - the perimeter of ceiling fixed to wall/ partition with the help of rawl plugs at 450mm centre to centre with 25mm long drive all screws @ 230mm interval including jointing and fixing to a flush finish of tapered and square edges of the gypsum board with recommended filler, paper tapes, finisher and two coats of primer suitable for gypsum board as per manufacturers specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed all complete as per drawing and specification and direction of the Engineer-in-Charge but excluding the cost of painting			
106110	Providing 10mm thick Plaster of Paris (gypsum anhydrous) ceiling upto a height of 5m above floor level over 1st class kail or similar wood strips 25x6mm with 10mm gap in between and reinforced with rabbit wire mesh fixed to wooden frame (frame work to be paid separately)			
106111	Flat surfaces	Sqm	599.29	
106112	Curved surfaces	Sqm	664.95	
106120	Extra for any sunk or raised Moulding in the Plaster of Paris (gypsum anhydrous) ceiling	Sqm	174.24	
106130	Extra for providing Plaster of Paris (Gypsum anhydrous) ceiling above 5 metres height from floor level for every additional metre	Sqm	50.38	
106140	Providing and fixing Dasuti Cloth ceiling of approved quality with necessary nails / Screws etc. complete (frame work and beading to be paid separately)	Sqm	52.26	
106150	Providing, cutting and fixing with screws on existing wooden / Aluminium / M. S. frames, thermocol board 10 to 15 mm (as directed by the Engineer) thick, of approved shape and sizes and in regular pattern in panels in ceiling	Sqm	73.85	
106160	Providing and fixing thermal insulation of ceiling (under deck insulation) with Resin Bonded Fibre glass wool conforming to IS: 8183 density 24kg/m ³ , 50mm thick, wrapped in 200G Virgin polythene bags fixed to ceiling with metallic cleats (50x50x3mm) @ 60cm and wire mesh of 12.5mm x 24g wire and mesh, for top most ceiling of building	Sqm	352.21	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
106170	Providing and fixing thermal insulation with Resin Bonded Fibre glass wool conforming to IS: 8183 density 16kg/m ³ , 50mm thick, wrapped in 200G Virgin Polythene bags placed over existing false ceiling and held in position by criss-crossing GI wire	Sqm	199.74	
106180	Thermal Insulation of roofing with Expanded polystyrene fixed with suitable adhesive to the false ceiling as per the directions of the Engineer-in-Charge			
106181	With Type N- Normal 50mm thick	Sqm	222.03	
106182	With Type SE- Self Extinguishing type, 50mm thick	Sqm	243.75	
106190	Providing and fixing circular / hexagonal M. S. sheet ceiling fan box with clamp of internal dia 140 mm., 73 mm height, 3 mm thick rim, top and bottom lid of 1.5 mm M. S. Sheet. Lid shall be screwed into M.S. box by means of 3 mm. round headed screws, clamps shall be made of 12 mm. dia M. S. bar bent to shape or all dimensions as specified by Engineer in charge as per requirement including finishing the slab surface	Kg	82.34	
106200	Providing and fixing wooden beading of specified size with square cut or bevelled edges and mitred joints in ceiling with : (Note : This item is not to be paid, if beading is specifically included in the ceiling item)			
106201	50X12 mm Teak or similar wood beading	metre	71.42	
106202	30X10 mm Teak or similar wood beading	metre	37.40	
106203	50X12 mm Kail or similar local wood beading	metre	29.74	
106204	30X10 mm Kail or similar local wood beading	metre	16.56	
106210	Dismantling and removing old wooden ceiling and stacking upto 50 metres or part thereof	Sqm	37.72	
106220	Dismantling and removing Particle Board, Asbestos or similar sheets ceiling and stacking upto 50 metres or part thereof	Sqm	55.30	
	TILED ROOFS			
107010	Supplying and fixing R.P Tiled roofing or roofing with the similar pattern of tiles on roof over wooden or angle battens (wooden or angle battens and laying ridge and hip tiles to be paid separately) excluding lacing with Contractor's tiles	Sqm	328.14	
107011	Supplying and fixing Single layer Country tiled roofing including split bamboo battens	Sqm	188.43	
107012	Supplying and fixing Double layer Country tiled roofing including split bamboo battens	Sqm	376.86	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
107020	Supplying and fixing Thatch Roofing 15 Cm thick in two layers with bamboo lining in both directions 23 cm apart and tying complete	Sqm	59.71	
107030	Supplying and fixing Mangalore, R.P. or any other similar type ridge or hip on cement mortar 1:4	metre	65.22	0.002
107040	Extra for lacing RP or Mangalore tiles or any other similar tiles with contractor's wire. (1.6 mm)	metre	20.37	
107050	Cement sand mortar ridging or hip to R.P. tiled roof (1:2)	metre	70.97	0.002
107060	Taking down and stacking Raniganj Pattern tiles properly, single layer Labour rates only	Sqm	21.41	
107070	Taking down and stacking Raniganj pattern tiles properly, double layer. Labour rates only	Sqm	37.41	
107080	Supplying and fixing R.P. or Mangalore ventilating tiles single	Each	73.64	
107090	Supplying and fixing glass tiles (Mangalore or R.P.Tiles)	Each	104.42	
107100	Removing and resetting Mangalore ridge tiles in cement mortar 1 : 6	metre	30.94	0.002
107110	Removing and resetting Mangalore flat tiles on existing reapers	Sqm	64.90	
107120	Providing & fixing pressed clay tile (Mangalore tile) 20mm nominal thickness and of approved size and as per approved pattern ceiling on steel frame work complete (steel frame work to be paid separately)	Sqm	312.33	
107130	Providing & laying pressed clay tile ridge (Mangalore tile) of 20mm thickness of approved pattern ceiling over steel frame work complete (steel frame work to be paid separately)	Sqm	135.62	
	RAIN WATER SPOUT AND PIPES :			
108010	Providing and fixing 100mm diameter rain water spout in cement mortar 1:4 (1 cement : 4 fine sand)			
108011	Stone ware spout 60cm long	Each	47.52	0.002
108012	Unreinforced concrete pipe 60cm long	Each	113.26	0.002
108020	Providing and fixing M.S. holder bat clamps of approved design to C.I. or S.C.I. rain water pipes embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1cement: 2coarse sand: 4graded stone aggregate 20mm nominal size) and cost of cutting holes and making good the walls etc.			
108021	75 mm dia.	Each	85.33	0.003
108022	100mm dia.	Each	89.02	0.003
108023	150mm dia.	Each	96.00	0.005

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
108030	Providing, erecting and fixing on wall face S.C.I rain water pipes including filling of joints with spun yarn soaked in neat cement slurry and cement mortar 1:2 (1cement: 2fine sand)			
108031	75 mm dia.	metre	563.91	0.003
108032	100mm dia.	metre	568.19	0.003
108033	150mm dia.	metre	1082.61	0.005
108040	Providing, fixing and embedding cast iron (S&S) Class LA rain water pipes in masonry/RCC surrounded with 12mm thick cement mortar of the same mix that of masonry (lead caulking will be paid for separately)			
108041	75 mm dia.	metre	905.97	0.066
108042	100mm dia.	metre	1149.49	0.088
108043	150mm dia.	metre	1862.76	0.132
108050	Providing lead caulked joints to sand cast iron rain water pipes and fittings			
108051	75 mm dia.	Each	154.24	
108052	100mm dia.	Each	200.95	
108053	150mm dia.	Each	284.77	
108060	Providing erecting and fixing in position on wall face C.I accessories for rain water pipes including filling the joints with spun yarn soaked in neat cement slurry and cement mortar 1:2 (1cement: 2fine sand)			
108061	75 mm dia. CI Plain Bend	Each	144.78	0.003
108062	100mm dia. CI Plain Bend	Each	176.39	0.003
108063	150mm dia. CI Plain Bend	Each	271.81	0.005
108070	CI Head Flat or Corner Type Bend			
108071	75 mm dia.	Each	174.11	0.002
108072	100mm dia.	Each	209.53	0.002
108073	150mm dia.	Each	238.17	0.003
108080	CI Plain Shoes			
108081	75 mm dia.	Each	150.65	0.002
108082	100mm dia.	Each	188.98	0.002
108083	150mm dia.	Each	238.90	0.003
108090	CI Branches (Plain)			
108091	75 mm dia. single branch	Each	173.88	0.003
108092	75 mm dia. double branch	Each	202.91	0.005
108093	100mm dia. single branch	Each	223.24	0.005
108094	100mm dia. double branch	Each	255.76	0.006
108095	150mm dia. single branch	Each	274.81	0.008
108096	150mm dia. double branch	Each	314.40	0.009
108100	CI Offset (Plain)			
108101	75 mm dia, 55mm projection	Each	133.22	0.003
108102	100mm dia, 55mm projection	Each	197.69	0.003

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
108103	150mm dia, 55mm projection	Each	276.28	0.003
108104	75 mm dia, 150mm projection	Each	232.24	0.003
108105	100mm dia, 150mm projection	Each	265.93	0.003
108106	150mm dia, 150mm projection	Each	298.93	0.003
108110	C.I Slotted Vent cowl			
108111	75 mm dia.	Each	127.65	
108112	100mm dia.	Each	172.72	
108113	150mm dia.	Each	282.94	
108120	Providing, fixing & embedding sand cast iron plain bend in masonry/RCC surrounded with 12mm thick cement mortar of same mix that of masonry (lead caulking will be paid separately)			
108121	75 mm dia.	Each	140.43	0.003
108122	100mm dia.	Each	308.38	0.003
108123	150mm dia.	Each	308.38	0.005
108130	Providing, fixing and embedding sand cast iron corner type bend in masonry/ RCC surrounded with 12mm thick cement mortar of the same mix that of masonry (lead caulking will be paid for separately)			
108131	75 mm dia.	Each	149.66	0.003
108132	100mm dia.	Each	149.66	0.003
108133	150mm dia.	Each	303.09	0.005
108140	Providing, fixing and embedding sand cast iron branches plain in masonry/ RCC surrounded with 12mm thick cement mortar of the same mix that of masonry (lead caulking will be paid for separately)			
108141	75 mm dia single branch	Each	189.21	0.003
108142	75 mm dia double branch	Each	232.76	0.003
108143	100mm dia single branch	Each	254.83	0.003
108144	100mm dia double branch	Each	314.07	0.004
108145	150mm dia single branch	Each	480.86	0.004
108146	150mm dia double branch	Each	636.79	0.005
108150	Providing, fixing & embedding sand cast iron offset plain in masonry/RCC surrounded with 12mm thick cement mortar of same mix that of masonry (lead caulking will be paid separately)			
108151	75 mm dia, 55mm projection	Each	151.46	0.003
108152	100mm dia, 55mm projection	Each	189.50	0.003
108153	150mm dia, 55mm projection	Each	401.47	0.005
108154	75 mm dia, 150mm projection	Each	193.27	0.003
108155	100mm dia, 150mm projection	Each	507.46	0.003
108156	150mm dia, 150mm projection	Each	507.46	0.005

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
108160	Providing and fixing on wall face unplasticised Rigid PVC single socketed rain water pipes conforming to IS: 13592 Type A including jointing with seal ring conforming to IS: 5382 leaving 10mm gap for thermal expansion.			
108161	75mm dia.	metre	126.39	0.007
108162	110mm dia.	metre	201.61	0.001
108170	Providing and fixing on wall face unplasticised PVC moulded fittings/ accessories for unplasticised- Rigid PVC rain water pipes conforming to IS: 13592 Type A including jointing with seal ring conforming to IS: 5382 leaving 10mm gap for thermal expansion.			
108171	Coupler, 75mm.	Each	105.94	
108172	Coupler, 110mm	Each	177.18	
108173	Single Pushfit Coupler, 75mm	Each	157.35	
108174	Single Pushfit Coupler, 110mm	Each	270.36	
108175	Single tee with door, 75x75x75mm	Each	209.43	
108176	Single tee with door, 110x110x110mm	Each	338.83	
108177	Single tee without door, 75x75x75mm	Each	209.43	
108178	Single tee without door, 110x110x110mm	Each	338.83	
108180	Providing and fixing on wall face unplasticised PVC moulded bend and shoe for unplasticised-Rigid PVC rain water pipes conforming to IS: 13592 Type A including jointing with seal ring conforming to IS: 5382 leaving 10mm gap for thermal expansion			
108181	Bend 87.5 degree, 75mm dia bend	Each	111.34	
108182	Bend 87.5o, 110mm dia bend	Each	185.57	
108183	Shoe (Plain), 75mm dia shoe	Each	146.88	
108184	Shoe (Plain), 110mm dia shoe	Each	244.84	
108190	Providing and fixing unplasticised- PVC pipe clips of approved design to unplasticised- PVC rain water pipes by means of 50x50x50mm hard wood plugs, screwed with M.S. screws of required length including cutting brick work and fixing in cement mortar 1:4 (1cement: 4coarse sand) and making good the wall etc. complete			
108191	75mm	Each	98.00	0.001
108192	110mm	Each	106.98	0.001
108200	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15cm dia and weighing not less than 440 grams	Each	83.23	
108210	Providing & Fixing Bamboo Mat Board conforming to IS 13958-1994 to frames by budding or studding with brass screw complete (Frames, backing, studding to be paid separately)			

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
108211	3 mm thickness	Sqm	693.32	
108212	4 mm thickness	Sqm	813.57	
108213	6 mm thickness	Sqm	1010.82	
108214	9 mm thickness	Sqm	1316.74	
108215	12 mm thickness	Sqm	1553.50	
	ADDITIONAL WATER-PROOFING ITEMS			
109010	Surface protection of jack arch roofs with cementitious waterproofing compound incl reinstating missing or loose tie rods at end bays of arches (at extra cost); removing existing tar felt and other damaged waterproofing systems; replacing soft or damaged lime terrace, if at isolated locations, with cement concrete (1:2:4); sealing cracks on the roof surface with sealing compound of acrylic-styrene copolymer having density of 0.9, pH 7.0 to 8.0 and having excellent bond & waterproofing properties and a minimum expandability of at least 200%; providing a 10 mm thick cement-sand (1:4) plaster on the entire surface; curing for 7 days; waterproofing the surface with a two-layer plaster; the first layer shall be 5 mm thick with cement (OPC or slag), admixed with an octadecanoic acid based cementitious waterproofing compound in the weight ratio of 50:3 for cement and waterproofing compound; and second layer of 12 mm thick cement-sand (1:4) plaster, enriched with polyester fibre and curing the plastered surface. (polyester fibre to be paid under separate item)	Sqm	372.67	as at site
109020	Surface protection of jack arch roofs with polymer incl. reinstating missing or loose tie rods at end bays of arches (at extra cost); removing existing tar felt and other damaged waterproofing systems; replacing soft or damaged lime terrace, if at isolated locations, with cement concrete (1:2:4); sealing cracks on the roof surface with a sealing compound of acrylic-styrene copolymer; waterproofing the surface with three coats of the acrylic-styrene copolymer, admixed with an octadecanoic acid based cementitious waterproofing compound in the weight ratio of 3:1 to build up a thickness of about 1.0 mm; spreading dry coarse sand on the third coat when wet; finally providing a 6 mm thick cement-sand (1:4) plaster enriched with polyester fibre and curing (polyester fibre to	Sqm	328.86	as at site

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
109030	Arresting water leakages at isolated locations (points of leakage), at cracks and at construction joints with a putty of cement (OPC or slag), modified with a cementitious quick setting compound in a weight ratio of 1:10 (1 part compound : 10 parts cement) and modified with a silica waterproofing compound - Contd. ...			
	Contd. .. having the properties of making cement quick setting and non-shrinking in quantities to suit the water pressure conditions at the site and finally topping the plugged material with a surface waterproofing treatment (to be paid separately)			
109031	For Leakage points	Each	407.70	
109032	For Construction joints	metre	554.34	
109040	Water proofing Surface treatment inside walls and floors of water reservoirs, swimming pools, sunken slabs/toilet floors and inside of basements, etc by cleaning the surface; preparing the surface by acid etching; treating the surface with a two layer plaster; the first layer shall be 7/6 mm thick with octadecanoic acid based cementitious waterproofing compound and cement in the weight ratio of 3:50 for waterproofing compound and cement; cement-sand (1:2 on floors of basements and tunnels, 1:3 elsewhere) plaster (12 mm thick on floor, 8 mm thick on vertical surfaces and at ceiling) and curing the plastered surface			
109041	Inside Tunnel Surface	Sqm	354.06	as at site
109042	Inside Water Reservoir	Sqm	356.41	as at site
109050	Water proofing of roofs and exposed concrete surfaces by cleaning and preparing the surfaces by acid etching; treating it with a two layer plaster; the first layer 5 mm thick with cement (OPC or slag), admixed with an octadecanoic acid based cementitious waterproofing compound in the weight ratio of 50:3 for cement and waterproofing compound; finally providing a 12 mm thick cement-sand (1:4) plaster, enriched with polyester fibre, and curing the plastered surface; the treatment shall be impermeable under a waterhead of 20.0 metres. (polyester triangular fibre and removal of existing damaged waterproofing system, PCC, Lime Terracing etc., if any, to be paid extra under separate item)	Sqm	286.15	as at site

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
109060	Water proofing of roofs and exposed concrete surfaces using polymeric waterproofing compound by cleaning and drying the surface; applying two coats (DFT of 200-300 micron) of translucent brown coloured phenolic resin based single component high performance polymeric waterproofing compound @ 0.6 litre per square metre, with demonstrable properties of resistance to water and acid; .. Contd. -	Sqm	238.40	as at site
	.. Contd. .. spraying a layer of dry coarse sand on the second coat when still wet; removing excess sand on the following day; permitting the coatings to cure and dry naturally for 3-7 days; providing a 12 mm thick cement-sand (1:4) cover plaster; curing the plaster; the treatment shall be impermeable under a waterhead of 20m (removal of existing damaged waterproofing system, PCC, Lime Terracing etc., if any, to be paid extra under separate item)			
109070	Making Drain mouth on roof waterproof by cleaning the surface of the structure at the location of drain mouth; lowering the drain mouth to the level of the concrete roof; chipping; thorough cleaning; mixing thoroughly an octadecanoic acid based cementitious waterproofing compound in the weight ratio of 50 cement (OPC or slag) and 3 waterproofing compound; placing the drain mouth in its final position, followed by filling of the annular space around the drain pipe with a paste of waterproofing compound-cement; sealing the edges of the drain mouth with acrylic-styrene based copolymer waterproofing compound	Each	404.91	
109080	Sealing of cracks in concrete roofs by making a V-shaped groove 8-10 mm wide and 3-5 mm deep; filling the groove with acrylic-styrene based copolymer waterproofing compound in water by repeated application of the waterproofing compound; spreading dry coarse sand when the last application of the sealing compound still wet; removing the excess sand on the following day and letting the treatment dry up for at least a day before any surface treatment on the roof	metre	159.30	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
109090	Treatment of expansion joints by cleaning the joint and surfaces abutting the expansion joint, applying two coats of primer on the cleaned surfaces at the opening of the joint, filling the joint (to a depth equaling half the width) with the paste of a two-component polysulphide based sealant (with base-curing agent weight ratio of 12.33:1 and a sp. gr. of 1.60) 0.10 gms/cc, permitting the sealant to cure in natural air for at least a day, providing the edges of the treatment with two coats of a paste of octadecanoic acid based cementitious waterproofing compound and acrylic-styrene based copolymer waterproofing material in the weight ration of 1:3	metre	868.54	
109100	Supply and Installation, including lifting to all heights as required, galvanized steel corrugated sheets having cover width of 1000 mm, 35 mm crest at a pitch of 250 mm stiffened with 8 mm deep intermittent corrugations or profiling approved by engineer-in-charge. G.I. sheet should be made from base metal having 0.52 mm (\pm 0.02 mm) thickness in steel of grade S250GD as per EN 10326, duly hot dip galvanized to grade 275 as per IS:277 (minimum zinc mass 275 gsm total both sides), with colour coating having complete dip tank pre-treatment process with zinc phosphate as main pre treatment followed by PU primer (Permaprime grade) of min 5 micron DFT on each surface; finished with special polyester paint to grade EPG-20 of minimum 20 micron DFT on exposed surface and 5 micron DFT polyester paint in grey shade on unexposed surface. Fixing shall be done with self-tapping screws meeting requirement of Class-3 of AS 3566 with EPDM washers at suitable intervals as per site requirement and as directed by Engineer Incharge complete work.	Sqm	579.02	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
109110	Providing and fixing at all heights false ceiling of 9mm thick VENEERED BAMBOO PARTICLE BOARD – Both Side Commercial Veneer SOGP GRADE II (595mm X 595mm) conforming to IS : 3097 – 1980 including providing and fixing of framework made of GI angle 25mmX25mmx0.4mm thick all around, suitably fixed to wall with the help of dash fastener and hanger frame (600mm x 600mm c/c) made of GI Slotted Tee having powder coating on bottom side (30mm X 25mm X 0.3mm thick for main member & 25mm X 25mm X 0.3mm for cross member) connected to ceiling with 2.64mm GI wire and anchor fastener at every junction and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed all complete as specification and direction of the Engineer-in-charge as a complete job	Sqm	637.08	
109120	Providing and fixing at all heights false ceiling of 4mm thick phenol bonded Bamboo Mat board (595mm X 595mm) conforming to IS : 13958-1994 including providing and fixing of frame work made of GI angle 25mm x 25mm x 0.4 mm thick all around suitably fixed to wall with the help of dash fastener and hanger frame (600mm x 600mm c/c) made GI Slotted Tee having powder coating on bottom side (30mm x 25mm x 0.3mm thick for main member & 25mm x 25mm x 0.3mm for cross member) connected to ceiling with 2.64mm GI wire and anchor fastener at every junction and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed all complete as per specifications and direction of Engineer-in-charge as a complete	Sqm	1164.69	
109130	Providing, erecting, laying and fixing in position in 3.5 – 4mm thick bamboo mat corrugated sheet (BMCS) as per IS : 15476 – 2004 in roofing with galvanized iron J or L hooks 8mm dia G.I. plain and bitumen washer etc. complete. Rates include cost of all L&M with all charges such as octroi, sales tax, loading, unloading, stacking as a complete job	Sqm	1681.41	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
109131	Providing and fixing in position ridges of 3.5 - 4mm thick bamboo mat ridge cap (BMRC) with galvanized iron J or L hooks 8 mm dia G.I. plain and bitumen washer etc. complete. The rates include the cost of all L&M with all charges such as octroi, sales tax, loading, unloading, stacking as a complete job. Nothing will be paid extra whatsoever the case may be	metre	1114.08	0.000
109140	Supplying, fabricating and erecting in position 0.91 mm thick industrial corrugated aluminium sheets (Profile tolerance conforming to IS 254-1975, made of 988 alloy conforming to IS 737-1974) in full hard (H4) temper, in roof/sides including cuttings of sheet for proper lapping and length and supplying, fabricating and fixing wind ties of MS flat 25mmX6mm on every joint of roof sheeting and on ends of sheeting, supplying of necessary GI "J" or L-Hook bolts (8 mm dia & in suitable length) with nuts and GI washer alongwith standard fibre washers etc. complete in all respect to make the entire roofing/side wall ends watertight and leak proof. The rate will be inclusive of supply of material, labour tools plants and equipments, scaffolding, staging etc. complete.	Sqm	1086.96	as at site
109150	Supplying, fabricating and erecting valley gutter having 1.00 meter width, made out of 0.91mm thick aluminum sheets, the joints shall be made by aluminum welding to make water tight including supplying manufacturing and fixing brackets made out of MS flats 50mm x 6mm at the spacing of 75 cm center to center. The rate will be including supply of all materials, labours, tools, plants, equipments, scaffolding and staging etc. Complete work shall be carried out as directed by engineer in charge	metre	922.22	
109160	Providing, erecting, laying and fixing in position for roofing 2.5mm thick Bamboo - Jute (Natural Fibre) thermoset composite ISO 9001-2000 certified factory-made semi-corrugated sheets having Eco-friendly, Bio-degradable, Maintenance free, Fire Retardant, Weather (+100 °C to -30 °C), Water (absorption 3% max) & Termite Proof and U.V., Alkali & diluted Acid (5%) resistance character of Size 2440 ± 10mm in length and 1220 ± 10mm in width fixed to purlins with GI 'J' or 'L' hooks 8 mm dia, GI plain and bitumen washers etc. complete	Sqm	1140.26	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
109161	Supply and fixing of ISO 9001-2000 certified factory made Bamboo - Jute Composite Ridges for semi-corrugated roofing sheets having Eco friendly, Bio-degradable, Maintenance free, Fire Retardant, Weather (+100 °C to -30 °C), Water (absorption 3% max) & Termite Proof and U.V., Alkali & diluted Acid (5%) resistance character of size 1220 ± 10mm in length, 300mm to 350mm in width and 2.5mm thick, complete with all fittings	metre	894.45	
109170	Providing and fixing Aluminium standing insulated seam roofing system consisting of bottom layer of 0.47mm thick 35/200 profile galvanised steel liner sheet having 35mm deep ribs with Galvanising of 2M275 coating. A 20mm wide galvanised steel top hat with brackets laid at 1m interval across bottom layer	Sqm	5038.05	
	A single layer of double sided aluminium foil/polyethylene film heavy duty provided over bottom layer for vapour absorption. A single layer of glass wool thermal insulation of 80 mm thickness compressed to 70mm having minimum density of 24 kg/cum, to be placed over Aluminium foil			
	ST clips made of stainless steel duly insulated to be placed at suitable interval all over top hat fixed with nut and bolts or rivetted. Top layer made of Aluminium profile sheet in 65/400mm profile sheeting made of Aluminium alloy having 0.9mm minimum thickness duly covered with PVDF coating on both faces having tongue and groove fixing arrangement. Work to be carried out as per specifications laid in IR Unified Standard Specifications			
109180	Providing and fixing of single skin self supported secret fix aluminium standing seam roofing system consisting of aluminium profile sheet in 65/400 mm manufactured from aluminium alloy AA3004 and having 0.9 mm minimum thickness with PVDF coating on exposed surface (colour as approved by Engineer Incharge) having male and female fixing arrangements, to be zipped together and non-penetrative including fixing of L-25 ST clips with thermal insulation pad at suitable interval all over the top-hat/purlin fixed with SD screws and stainless steel fasteners	Sqm	3760.91	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
109190	Providing and fixing PVC false ceiling tiles of required size in true horizontal levels suspended on interlocking MS tube grid of section 25mmx25mmx1.2mm. PVC ceiling tiles should have a section size of 6mmx250mm with wall thickness of 0.8mm. Perimeter edge of tiles shall be covered by extruded PVC corner beeding of size 9mm x 8mm x1 mm. MS tube section grid should be properly secured with walls and anchored to roof with the help of suitable clamps with	Sqm	1061.57	
109200	Providing and fixing permanently colour coated trapezoidal profiled sheet of depth 28-30mm at 195-205mm pitch distance with precisely engineered "Rib & Flute" design. Profiled sheets shall be min. 0.5mm TCT/0.45mm BMT high tensile zinc aluminium alloy coated zinalume / galvalume steel sheet (550 mpa yield strength) having a coating of mass of 150 gsm zinc-aluminium coating AZ-150 total on both sides as per, AS 1397:1993 finished with 20 microns approved colour coating of Silicon Modified Polyester (SMP) / Super Polyester paint coat on exposed surface	Sqm	660.47	
	Contd. ..over a primer coat of 5 microns and a back coat of 5 microns on reverse side over a 5 microns primer coat. There shall be 2 small ribs/square flutes between profiles for providing additional strength. The sheet to be fixed over the purlins with hexagonal head self drilling suitable fasteners with neoprene / EPDM washer on crests of the sheet			
109210	Providing and fixing 0.55mm TCT Standing Seam/clip-lock Profile for roofing comprising Zinalume / Galvalume base steel of metal thickness 0.5mm and coated with Zinc-Aluminium coating of AZ-150 (150 gsm) as per AS : 1397-1993 (total of both sides) and permanently colour coated with 20 microns Super Polyester / SMP Colour Coating over a 5 micron primer and back coat of 5 micron over a 5 micron primer. Standing Seam sheets to be profiled to desired length & width of 400mm to 770mm, having profile depth of 31mm to 61 mm with a unique concealed clip made from GI, one portion of the clip (lower) fastened to purlin and upper part gets attached to roofing sheet. Thereby providing an absolutely puncture-less roof wih concealed clip crimped / locked together by a mechanical sewing machine	Sqm	774.42	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
109220	Providing and applying water proofing treatment to RCC roof slab etc. by application of two coats of cement slurry mixed with water proofing compound (Acrylic based polymer, solid content 30% ±3, pH >7) in the ratio of 1:2 (1 part of water proofing compound : 2 parts of cement by weight), followed by two coats of single component moisture cured polyurethane based elastomeric water proofing coating conforming to ASTM C-836-89 having tensile strength 3.1 N/mm ² . Topping layer of 25 mm thick cement concrete 1:2:4 (to be paid separately) to be laid	Sqm	705.65	0.020
109230	Supply and Installation, including lifting to all heights as required, trapezoidal/corrugated sheeting system in galvalume colour coated steel having cover width of 1000 mm, 35 mm crest at a pitch of 250 mm stiffened with 8 mm deep intermittent corrugations or profiling approved by engineer-in-charge. Sheet should be made from base metal having 0.52 mm (± 0.02 mm) thickness in steel of grade 345 as per ASTM A792M, .. Contd. -	Sqm	607.63	
	.. Contd. - coated with alloy of Aluminum & Zinc to grade AZ150 (min. alloy mass 150 gsm total both sides) with colour coating having complete dip tank pre-treatment process with Chromate Conversion (Cr +3) as main pre-treatment followed by PU primer (Permaprime grade) of min. 5 micron DFT on each surface; finished with special polyester paint to grade EPG-20 of minimum 20 micron DFT on exposed surface and 5 micron in grey shade on unexposed surface. Fixing shall be done with self-tapping screws meeting requirement of Class-3 of AS 3566 with EPDM washers at suitable intervals as per site requirement and as directed by Engineer Incharge complete work			

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
109240	Supplying and installation including lifting to all heights as required, of standing seam system 0.7 mm thick aluminum sheets having cover width of 550 mm, 46 mm crest height with horizontal stiffening ribs, made of Aluminum Manganese alloy 5754 grade in mill finish. The sheets shall have side locking with special anti-friction, anti-static, polyamide / acetylate brackets which allow thermal movement to the sheets. Clips shall be fixed to purlins/structure with zinc coated self-tapping drilling screws. Sheets shall be site roll formed for giving required profile and length. Complete job to be done as per	Sqm	3588.72	
109250	Providing and fixing of plain formed flashing at ridges / cover / corner / barge pieces / apex junctions of roofing and cladding made of polyester colour GI sheets 0.52 mm thick in required shape colour, duly fixed with stitching screws (with EPDM washers etc. as per site requirement			
109251	Upto 600 mm width (girth)	R metre	390.85	
109252	601mm to 1200 mm width (girth)	R metre	525.00	
109260	Providing & fixing of coloured galvalume plain sheet flashings at ridges / apex junctions of roofing cladding, cover / corner / barge pieces etc. in required shape, colour duly fixed with stitching screws (with EPDM washers etc. as per site requirement)			
109261	Upto 600 mm width (girth)	R metre	427.44	
109262	601mm to 1200 mm width (girth)	R metre	573.79	
109270	Providing and fixing of plain formed 0.7 mm thick aluminum sheet flashing at ridges apex junctions of roofing and cladding, cover / corner / barge pieces etc. of required shape colour and profile as per site requirement			
109271	Upto 600 mm width (girth)	R metre	2098.25	
109272	601mm to 1200 mm width (girth)	R metre	3073.91	
109280	Supplying and installation including lifting to all heights as required, of 0.5 mm thick trapezoidal aluminum sheets having cover width of 975 mm, 32 mm crest height, pitch of 195mm made of Aluminum Manganese alloy 5754 grade in mill finish. Fixing shall be done with self tapping, self drilling screws of required TPI (24 or 14 or as thickness of purlin) and length, with neutral EPDM washer etc. complete	Sqm	523.30	

Item. No.	Description	Unit	Rate (Rs.)	Cement Qty.(qtl.)
109290	Providing and fixing of plain formed 0.5 mm thick aluminum sheet flashing at ridges apex junctions of roofing and cladding, cover / corner / barge pieces etc. of required shape colour and profile as per site requirement			
109291	Upto 600 mm width (girth)	R metre	1391.63	
109292	601mm to 1200 mm width (girth)	R metre	2086.06	
109300	Extra over item no. 109280, if Stucco embossed finished aluminium sheets are used instead of mill-finish sheets	Sqm	58.08	
109310	Extra over item nos. 109240 & 109280, for Aluminium sheets with 5 micron DFT primer on both faces alongwith 20 micron & 5 micron DFT Polyester colour coating on exposed & unexposed surfaces respectively, instead of mill finish	Sqm	464.60	
	New Items To Be Added By Zonal Railway			
109410				
109420				
109430				
109440				
109450				