सत्यमेव जयते

आत्मनिर्भर भारत

CPWD

केंद्रीय लोक निर्माण विभाग
Central Public Works Department
दिल्ली दर अनुसूची
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SUB HEAD : 26.0
NEW TECHNOLOGIES AND MATERIALS

26.0 NEW TECHNOLOGIES AND MATERIALS

Code No	Description	Unit	Rate
26.1	Providing & fixing in position Phenol bonded Bamboo wood flooring with planks of sizes 14 mm thick, minimum 1800 mm length and minimum 100 mm wide, in approved colour, texture and finish, having Performance Appraisal Certificate (PAC) issued by Building Materials & Technology Promotion Council (BMTPC). The flooring shall be fixed with tongue and groove interlocking system, with underlayment of 4 mm thick expanded polyethylene foam sheets having density 40 kg/cum, over prepared surface with necessary quarter round planks of size 1900 mm x 18 mm and door reducer of size 1900 mm x 44 mm, wherever required. The bamboowood planks shall have minimum density of 1000 Kg/cum & minimum Hardness 1000 Kgf. with Eco friendly UV coating, all complete as per direction of the Engineer in-charge.	sqm	6145.85
26.2	Providing & fixing in position Phenol bonded Bamboo wood in wall skirting with planks of sizes 14 mm thick, 1900 mm length (minimum) and 85 mm wide(minimum), in approved colour, texture and finish, having Performance Appraisal Certificate (PAC) issued by Building Materials & Technology Promotion Council (BMTPC). The skirting shall be fixed with SS screws & rawl plugs, over underlayment of 4 mm thick, expanded polyethylene foam sheets having 40 kg/cum density over prepared surface. The bamboo wood planks shall have minimum density of 1000 Kg/cum & minimum Hardness 1000 Kgf. with Eco friendly UV coating, all complete as per direction of the Engineer in-charge.	sqm	6033.55
26.3	Providing & fixing in position Phenol bonded Bamboo wood wall cladding at all height with planks of sizes 10 mm thick, minimum 1800 mm length and minimum 100 mm wide, in approved colour, texture and finish, having Performance Appraisal Certificate (PAC) issued by Building Materials & Technology Promotion Council (BMTPC), with necesasary profiled edges fixed with 40 mm SS screws 5 nos in each tile to frame work made of second class teak wood of size 20x15 mm in centre of each tile and bottom and top of work height, 40x15 mm placed at ends of each tile. The cladding shall be laid over backlayment of 1.00 mm thick expanded polyethylene foam of density 40 kg/cum in two layers, first layer on wall surface before fixing wooden frame and second layer on frame under cladding. The bamboo wood planks shall have minimum density of 1000 Kg/cum & minimum Hardness 1000 Kgf. with Eco friendly UV coating, all complete as per direction of the Engineer in-charge.	sqm	6283.85
26.4	Providing & fixing in position Phenol bonded Bamboo wood panelled or panelled and glazed shutters for doors windows, clerestorey windows with pre-molded minimum 30 mm thick planks, in approved colours, texture & finish. It shall have 10 mm wide, 25 mm deep grove to fit in panels.The bamboo wood shall have minimum density of 1000 Kg/cum, minimum Hardness 1000 Kgf. All styles and rails shall have profiled interlocking system locked in place by bamboo pins, all complete as per direction of Engineer in charge. (The panelling will be paid for separately).	sqm	6935.75
26.5	Providing & fixing in position Phenol bonded Bamboo wood panelling of 10 mm thick, in 25 to 40 mm thick panelled or panelled & glazed shutters for doors, windows, clerestorey windows, in approved colour, texture & finish. The bamboo wood planks shall have minimum density of 1000 Kg/cum & minimum Hardness 1000 Kgf. The panels shall have profiled interlocking system locked in place with bamboo pins all complete as per direction of the Engineer in-charge. (area of opening for panel inserts excluding portion inside grooves or rebates to be measured)	sqm	4555.75

Code No	Description	Unit	Rate
26.6	Providing & fixing in position 65 mm thick factory made door frame of Phenol bonded Bamboo wood (superior class, interior use), in approved colour, texture and finish.The bamboo wood shall have minimum density of 1000 Kg/cum, minimum hardness 1000 Kgf. The door frame shall have tenon & mortise interlocking system, to be fixed to the wall with 100 mm size G.I screws all a complete as per direction of Engineer-in charge.	cudm	325.95
26.6A	Providing, erecting, laying and fixing in position in 3.5 to 4 mm thick bamboo mat corrugated sheet (BMCS) as per IS: 15476-2004 in roofing with self drilling screws along with EPDM washers complete or with galvanized iron J or L hooks 8 mm dia G.I. plain and bitumen washers etc, all complete as per direction of Engineer-in-Charge.	sqm	6012.10
26.6B	Providing and fixing in position ridges of 3.5 to 4 mm thick bamboo mat ridge cap (BMRC) as per IS: 15476-2004 in roofing with self drilling screws along with EPDM washers complete or with galvanized iron J or L hooks 8 mm dia G.I. plain and bitumen washers etc, all complete as per direction of Engineer-in-Charge.	metre	4830.10
26.6C	Providing and fixing at all height false ceiling of 4 mm thick phenol bonded Bamboo Mat board (595x595 mm) conforming to IS:13958-1994 including providing and fixing of frame work made of GI angle 25x25x0.4 mm thick all around suitably fixed to wall with the help of dash fastener and hanger frame (600x600 mm c/c) made GI slotted Tee having powder coating on bottom side (30x25x0.3 mm thick for main member & 25x25x0.3 mm for cross member) connected to ceiling with 2.64 mm GI wire and anchor fastener at every junction and also including cost of making openings for light fittings, grills, diffusers, cut outs made with frame of perimeter channels suitably fixed all complete as per direction of Engineer-in-charge.	sqm	4039.10
26.6D	Providing and fixing at Bamboo Mat board conforming to IS:13958-1994 for partition to frame by bucking or studding with screws etc. complete (Frames, backing or studding to be paid separately)		
	26.6D.1 3 mm thickness	sqm	2942.00
	26.6D.2 4 mm thickness	sqm	3332.00
	26.6D.3 6 mm thickness	sqm	3923.65
	26.6D.4 9 mm thickness	sqm	4906.80
	26.6D.5 12 mm thickness	sqm	5601.55
26.6E	Providing and fixing at all height wall panelling with phenol bonded Bamboo Mat board conforming to IS:13958-1994 including providing and fixing to frame work made of 50 mm x 50 mm hard wood plugs including cutting brick work and fixing in cement mortar and making good the wall etc. and also providing and fixing wooden moulded corner beading of triangular shape to the junction of panelling etc. with iron screws all complete as per direction of Engineer-in-Charge.		
	26.6E.1 9 mm thickness	sqm	5127.60
	26.6E.2 12 mm thickness	sqm	5824.10
26.7	Providing and fixing 50 mm thick extruded polystyrene rigid insulation board of required size between cavity wall, complying with ISO 4898:2008 & ASTM C 578-08b - type VI, having thermal conductivity of 0.0289 W/m K as per ASTM C 578 (measured as per IS 3346), compressive strength of > 350 kPa listed as per ASTM D 1621, density of 34-36 kg/m³ as per ASTM D 1622, water absorptions ≤ 1% by volume as per ASTM D 2842, oxygen index of 24.1 to 28.1 listed as per ASTM D 2863, cell size 0.4 mm of dia (max) as per ASTM D 3576.		

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	Fire retardent property as per DIN 4102, Part 1 of class B2 and as per ASTM E84 class A, fixed with suitable water based adhesive and fastener, complete in all respect as per the direction of Engineer-in-Charge.	sqm	1004.55
26.8	Providing and fixing 50 mm thick extruded polystyrene rigid insulation board of required size underdeck on ceiling surface, complying with ISO 4898:2008 & ASTM C 578-08b - type VI, having thermal conductivity of 0.0289 W/m K as per ASTM C 578 (measured as per IS 3346), compressive strength of > 350 kPa listed as per ASTM D 1621, density of 34-36 kg/cum as per ASTM D 1622, water absorptions ≤ 1% by volume as per ASTM D 2842, oxygen index of 24.1 to 28.1 listed as per ASTM D 2863, cell size 0.4 mm of dia (max) as per ASTM D 3576. Fire retardent property as per DIN 4102, Part 1 of class B2 and as per ASTM E84 class A, fixed with suitable water based adhesive and fastener, complete in all respect as per the direction of Engineer-in-Charge.	sqm	1091.65
26.9	Providing and fixing factory made solid Foam uPVC profile for kitchen cabinet frame (45 x 20 mm) of approved shade, quality and make. The profile shall be laminated on both sides, made from rigid foam sheets (Single extruded) having density 600 Kg/cum and the exposed edges sealed with PVC edge beading of same shade and colour. The frame shall be fire retardent with necessary screw holding capacity. Frame shall be fixed to wall using Expendable Fastner with necesary stainless steel screws, all complete as per direction of Engineer-in-charge.	metre	450.95
26.10	Providing and fixing factory made Kitchen Cabinet Shutter/Partition 20 mm nominal thickness of approved shade, quality and make, made from rigid foam sheets (Single extruded) having density 600 Kg/cum and laminated on both side by laminate Sheet/PVC foil lamination. The exposed edges shall be sealed with PVC edge beading of same shade and colour. The shutter shall be fire retardent having necessary screw holding capacity. Shutter shall be fixed to frame using approved hinges with necessary stainless steel screws, all complete as per direction of Engineer-in-charge.	sqm	5350.55
26.11	Providing and fixing concealed hinge of approved quality for 19-20 mm thick door with stainless steel screws complete :	each	144.05
26.12	Supplying & laying of bi-axial extruded high modulus polypropylene geogrid coforming to MORTH SPECIFICATION for base/sub-base reinforcement having minimum tensile strength 15 kN/m in the longitudinal and transverse direction, with 5 kN/m and 7 kN/m tensile strength at 2% and 5% strain respectively in the longitudinal and transverse direction, junction efficiency not less than 95% and with 38 mm X 38 mm mesh opening.	sqm	249.90
26.13	Supplying & laying of bi-axial extruded high modulus polypropylene geogrid coforming to MORTH SPECIFICATION for base/sub-base reinforcement having minimum tensile strength 20 kN/m in the longitudinal and transverse direction, with 7 kN/m and 14 kN/m tensile strength at 2% and 5% strain respectively in the longitudinal and transverse direction, junction efficiency not less than 95% and with 38 mm X 38 mm mesh opening.	sqm	276.50
26.14	Supplying & laying of bi-axial extruded high modulus polypropylene geogrid coforming to MORTH SPECIFICATION for base/sub-base reinforcement having minimum tensile strength 30 kN/m in the longitudinal and transverse direction, with 10.5 kN/m and 21 kN/m tensile strength at 2% and 5% strain respectively in the longitudinal and transverse direction, junction efficiency not less than 95% and with 38 mm X 38 mm mesh opening.	sqm	401.70

Code No	Description	Unit	Rate
26.15	Supplying & laying of bi-axial extruded high modulus polypropylene geogrid coforming to MORTH SPECIFICATION for base/sub-base reinforcement having minimum tensile strength 40 kN/m in the longitudinal and transverse direction, with 14 kN/m and 28 kN/m tensile strength at 2% and 5% strain respectively in the longitudinal and transverse direction, junction efficiency not less than 95% and with 38 mm X 38 mm mesh opening.	sqm	555.05
26.16	Supplying & laying of drainage composite for use behind walls, between two different fills, alongside drains of road, below concrete lining of canals etc. Geocomposite for planar drainage, realized by thermobonding a draining core in extruded monofilaments with two filtering nonwoven geotextiles that may also be working as separation or protecting layers. The draining three dimensional core will have a "W" configuration as longitudinal parallel channels. Minimum thickness to be 7.2 mm, with two filtering UV stabilized polypropylene nonwoven geotextile of minimum thickness of 0.75 mm charecteristic opening size (O90) of 110 micron and tensile strength of 8.0 kN/m that will be working as separation or protecting layer, geocomposite having in plane flow capacity of 2.1 L / (m.s) at hydraulic gradient of 1.0 & 20 kPa pressure and tensile strength of 18 kN/m , with mass per unit area of 740 gsm, supplied in the form of roll for easy transportation to site of work as per detailed specification all complete as per directions of Engineer in charge.	sqm	986.95
26.17	Supplying & laying of drainage composite for use behind walls, between two different fills, alongside drains of road, below concrete lining of canals etc. having thermobonding a draining core - HDPE geonet comprises of two sets of parallel overlayed ribs integrally connected to have a rhomboidal shape with a polyethylene film and a nonwoven geotextile having mass per unit area 130 gsm and tensile strength of 8.0 kN/m that will be working as separation or protecting layer, geocomposite having in plane flow capacity of 0.7 L / (m.s) at hydraulic gradient of 1.0 & 20 kPa pressure and tensile strength of 13.5 kN/m , with mass per unit area of 830 gsm, at easily accessible location including top and bottom, with all leads and lifts, manpower and machinery, materials, labour etc. complete and as directed by Engineer - In - Charge.	sqm	1166.95
26.18	Supplying and laying high strength flexible geogrids (HSFG) as soil reinforcement / basal reinforcement as per MORTH 3100 and IRC 113, made of high tenacity polyester core with polyethylene coating with Minimum Long Term Design Strength (LTDS) of more than 50% of ultimate tensile strength at 30 degree Celcius corresponding to 12 % strain .		
26.18.1	Ultimate tensile strength- 100 kN/m	sqm	393.85
26.18.2	Ultimate tensile strength- 150 kN/m	sqm	411.10
26.18.3	Ultimate tensile strength- 200 kN/m	sqm	645.80
26.18.4	Ultimate tensile strength- 250 kN/m	sqm	663.05
26.18.5	Ultimate tensile strength- 300 kN/m	sqm	681.80
26.18.6	Ultimate tensile strength- 350 kN/m	sqm	699.05
26.18.7	Ultimate tensile strength- 400 kN/m	sqm	843.00
26.18.8	Ultimate tensile strength- 500 kN/m	sqm	933.75
26.18.9	Ultimate tensile strength- 600 kN/m	sqm	1022.95
26.18.10	Ultimate tensile strength- 700 kN/m	sqm	1202.90
26.18.11	Ultimate tensile strength- 800 kN/m	sqm	1337.50
26.18.12	Ultimate tensile strength- 900 kN/m	sqm	1562.85

Code No		Description	Unit	Rate
	26.18.13	Ultimate tensile strength- 1000 kN/m	sqm	1742.80
	26.18.14	Ultimate tensile strength- 1100 kN/m	sqm	1833.60
	26.18.15	Ultimate tensile strength- 1200 kN/m	sqm	1922.80
26.19		Providing at all heights, levels and locations Aluminium profile industrial troughed sheet of Alloy 31500/31000/40800, conforming to IS 1254, IS 737, IS 2676. The sheet shall be fixed using self drilling/self tapping SS screws of size 5.5x65 mm with EPDM seal complete upto required pitch in horizontal, vertical or curved surfaces including cutting to size and shape where required as per specifications, detail drawings and direction of Engineer-in-Charge. The rate shall be inclusive of all screws, seal, ridge, labour, scaffolding, machinery for fixing and approved sealent where required etc. but excluding the cost of purlins, rafters and trusses.		
	26.19.1	0.71 mm thick, the profile detail width 1044/920 mm, cover width 1000/875 mm.	sqm	1153.95
	26.19.2	0.91 mm thick, the profile detail width 1044/920 mm, cover width 1000/875 mm.	sqm	1462.90
26.22		Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595 mm of approved texture, design and patterns as per CPWD Specification 2019, to be laid in true horizontal level suspended on inter-locking metal T-Grid of hot dipped galvanised iron section of 0.33 mm thick (galvanized @ 120 grams per sqm including both sides)comprising of main-T runners of size 24x38 mm of length 3000 mm,cross - T of size 24x32 mm of length 1200 mm and secondaryintermediate cross-T of size 24x32 mm of length 600 mm to formgrid module of size 600 x 600 mm, suspended from ceiling using galvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 12x50 mm long dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 76x25x25x1.6 mm fixed with grid and Z cleat of size 25x37x25x1.6 mm thick with precut hole on both 25 mm flange to pierce into 12x50 mm or even bigger size dash fastener if require, fixed with Glavanised iron perimeter wall angle or size 24x24x0.40 mm of length 3000 mm to be fixed on periphey wall / partition with the help of plastic rawl plugs at 450 mm center to center and 40 mm long dry wall S.S screws. The work shall be carried out as per specifications, drawing and as per directionsof the Engineer-in-Charge.		
26.22.1		With 15 mm thick Tegular edged light weight calcium sliciate false ceiling tiles	sqm	2207.00
26.22.2		With 15 mm thick tegular/butt edged without perforation plain/designer light weight calcium silicate Anti-Microbial Bio-Safe coated false ceiling tiles Confirming to JIS-Z2801 and ASTM G-21	sqm	2301.10
26.23		Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595 mm of approved texture, design and patterns having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum). Non combustible as per BS:476 (part-4), fire performance as per BS:476 (part 6 &7), humidity resistance of 100%, thermal conductivity < 0.043 W/m K as per ASTM 518:1991, in true horizontal level suspended on inter-locking metal powder coated T-Grid of hot dipped galvanised iron section of 0.40 mm thick on Silhouette profile,rotary stiched double webbed white with 6 mm reveal profile (white/ black),comprising of main-T runners of size 15x42 mm of length 3000 mm, cross - T of size 15x42 mm of length 1200 mm and secondary		

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	intermediate cross-T of size 15x42 mm of length 600 mm to form grid module of size 600 x 600 mm, suspended from ceiling using galvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 50 mm long, 8 mm outer diameter M-6 dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 85x25x2 mm. Galvanised iron perimeter wall angle of size 22x19x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450 mm center to center and 40 mm long dry wall S.S screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge.		
	26.23.1 With 15 mm thick integral densified micro edge light weight calcium silicate false ceiling tiles	sqm	2630.40
26.24	Providing and fixing in position wall panelling at all heights with integral densified calcium silicate panels/tiles of size 595 x 595 mm, having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum). Non combustible as per BS:476 (part-4), fire performance as per BS:476 (part 6 &7), humidity resistance of 100%, thermal conductivity <0.043 W/m K as per ASTM 518:1991, comprising of a frame made from especially fabricated galvanised mild steel sheet 0.50 mm thick pressed section (galvanizing @120 grams per sqm including both sides) i.e.vertical studs of size 48 x 34 x 36 mm are placed at 600 mm centre to centre in a floor and ceiling channel section of size 50 x 32 mm fixed to the floor and soffit at 600 mm centre using 12 mm dia,50 mm long wedge type expanded zinc alloy dash fastner with 10 mm bolt. This same channel is then to be fixed in horiziontal direction at 600 mm centre to centre so as to form a grid of 600 mm x 600 mm. Glasswool of 50 mm thickness is then to be inserted in the slots and finally calcium silicate non combustible panels/tiles are to be screw fixed with self tapping pan head nickel coated mild steel screws of size 13 x 3.2 mm on to this grid leaving an even groove of 1 mm between the panels. The joints between the panels are to be duly jointed and finished using recommended jointing calcium silicate based compound and fiber joint tape roll 50 mm wide (90 metre)roll and two coats of primer suitable for panelling as per manufacturer's specification as per direction of Engineer-in-Charge all complete.		
	26.24.1 With 15 mm thick fully perforated square/butt edge light weight calcium silicate panels/ tiles	sqm	3117.60
26.25	Providing and fixing 15 mm thick false ceiling tiles at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595 mm of approved texture, design and patterns having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum). Non combustible as per BS:476 (part-4), fire performance as per BS:476 (part 6 &7), humidity resistance of 100%, thermal conductivity < 0.043 W/m K as per ASTM 518:1991,in true horizontal level on the existing frame work consisting of T-sections and Lsections suitably fixed according to tile size as per direction of Engineer-in-charge.	sqm	1781.20
26.26	Providing & fixing false ceiling at all heights with GRG (Glass Fibre Reinforced Gypsum) false ceiling tiles of Size 595x595 mm of approved texture, design and patterns having moisture content less than 2%, humidity resistance of 99%, NRC0.50 to 0.75 as per IS 8225:1987, Non combustible as per BS 476 (part 4)-1970 and light reflectance of 85% (minimum) to be laid in true horizontal level suspended on inter-locking metal T-Grid of hot dipped galvanised iron section of 0.33 mm thick		

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	(galvanized @ 120 gram per sqm including both sides) comprising of main-T runners of size 15x32 mm of length 3000 mm, cross - T of size 15x32 mm of length 1200 mm and secondary intermediate cross-T of size 15x32 mm of length 600 mm to form grid module of size 600 x 600 mm, suspended from ceiling using galvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 50 mm long, 8 mm outer diameter M-6 dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 85x25x2 mm. Galvanised iron perimeter wall angle of size 24x24x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450 mm center to center and 40 mm long dry wall wood screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge.		
	26.26.1 With semi perforated 12 mm thick micro tegular edged GRG false ceiling tiles.	sqm	1852.05
	26.26.2 With fully perforated 12 mm thick micro tegular edged or 10 mm thick square edged GRG false ceiling tiles.	sqm	1907.35
26.27	Providing and fixing mineral fibre false ceiling tiles at all heights of size 595X595 mm of approved texture, design and pattern. The tiles should have Humidity Resistance (RH) of 99%, Light Reflectance ≥ 85%, Thermal Conductivity k = 0.052 - 0.057 w/m K, Fire Performance as per (BS 476 pt - 6 &7)in true horizontal level suspended on interlocking T-Grid of hot dipped all round galvanized iron section of 0.33 mm thick (galvanized @120 gsm) comprising of main T runners of 15x32 mm of length 3000 mm, cross T of size 15x32 mm of length 1200 mm and secondary intermediate cross T of size 15x32 mm of length 600 mm to form grid module of size 600x600 mm suspended from ceiling using galvanized mild steel item (galvanised@80gsm) 50 mm long 8 mm outer diameter M-6 dash fasteners, 6 mm diameter fully threaded hanger rod up to 1000 mm length and L-shape level adjuster of size 85x25x2 mm, spaced at 1200 mm centre to centre along main 'T'. The system should rest on periphery walls /partitions with the help of GI perimeter wall angle of size24x24X3000 mm made of 0.40 mm thick sheet, to be fixed to the wall with help of plastic rawl plug at 450 mm centre to centre & 40 mm long dry wall S.S. screws. The exposed bottom portion of all T-sections used in false ceiling support system shall be pre-painted with polyester baked paint, for all heights. The work shall be carried out as per specifications, drawings and as per directions of the engineer-in-charge.		
	26.27.1 With 16 mm thick beveled tegular mineral fibre false ceiling tile (NRC 0.55 to 0.60)	sqm	2333.60
	26.27.2 With 20 mm thick beveled tegular mineral fibre false ceiling tile (NRC 0.7)	sqm	2671.20
	26.27.3 With 16 mm thick beveled tegular mineral fibre Anti-microbial false ceiling tile confirming to ISO 5 (class 100) specifications	sqm	2447.15
	REPAIR AND REHABILITATION ITEMS		
26.28	Chipping of unsound/weak concrete material from slabs, beams, columns etc. with manual Chisel and/ or by standard power driven percussion type or of approved make including tapering of all edges, making square shoulders of cavities including cleaning the exposed concrete surface and reinforcement with wire brushes etc. and disposal of debris for all lead and lifts all complete as per direction of Engineer-In-Charge		
	26.28.1 75 mm average thickness	sqm	378.00

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	26.28.2	50 mm average thickness	sqm	256.35
	26.28.3	25 mm average thickness	sqm	126.75
26.29	Cleaning of reinforcement from rust from the reinforcing bars to give it a total rust free steel surface by using alkaline chemical rust remover of approved make with paint brush and removing loose particles after 24 hours of its application with wire brush and thoroughly washing with water and allowing it to dry, all complete as per direction of Engineer-In-Charge.			
	26.29.1	Bars upto 12 mm diameter	metre	8.25
	26.29.2	Bars above 12 mm diameter	metre	16.45
26.30	Drilling suitable holes in reinforced or plain cement concrete with power driven drill machine to a minimum depth of 100 mm upto 200 mm in RCC beams, lintels, columns and slabs to introduce steel bars for sunshades/ balconies including fixing the steel bars in position using epoxy resin anchor grout of approved make but excluding the cost of reinforcement, all complete as per direction of Engineer-In-Charge.			
	26.30.1	Upto and including 12 mm dia.	each	141.20
26.31	Providing, mixing and applying bonding coat of approved adhesive on chipped portion of RCC as per specifications and direction of Engineer-In-charge complete in all respect.			
	26.31.1	SBR Polymer (@10% of cement weight) modified cementitious bond coat @ 2.2 kg cement per sqm of surface area mixed with specified proportion of approved polymer	sqm	141.20
	26.31.2	Epoxy bonding adhesive having coverage 2.20 sqm/kg of approved make	sqm	285.20
26.32	Providing, mixing and applying SBR polymer (of approved make) modified Cement mortar in proportion of 1:4 (1 cement: 4 graded coarse sand with polymer minimum 2% by wt. of cement used) as per specifications and directions of Engineer-in-charge. Note: Measurement and payment: The pre-measurement of thickness shall be done just after the surface preparation is completed and Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding / tapping with a blunt metal instrument and/or the 75 mm size cube crushing strength at the end of 28 days to be not less than 30 N/Sqmm2).			
	26.32.1	12 mm average thickness.	sqm	388.65
	26.32.2	25 mm average thickness in 2 layers.	sqm	587.35
	26.32.3	50 mm average thickness in 3 layers.	sqm	1174.70
26.33	Providing, mixing and applying SBR polymer (of approved make @ minimum 2% by wt. of cement used) modified plain/reinforced cement concrete for structural members having minimum characteristic compressive strength [with ordinary portland cement, coarse sand and graded stone aggregate of 10 mm maximum size in proportion as per design criteria] with specified average thickness. Note: Rates shall be for finished surface area of concrete and shall include the cost of labour, concrete and appropriate approved Super-Plasticiser for rendering concrete as flowable and SBR polymer but shall exclude cost of reinforcement, bond coat, Shear Keys, centering and shuttering, strutting, propping etc (Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding/tapping with a blunt metal instrument)			

Code No		Description	Unit	Rate
	26.33.1	50 mm thick in Grade M25 with cement content not less than 330 kg per cum	sqm	569.15
	26.33.2	75 mm thick in Grade M25 with cement content not less than 330 kg per cum	sqm	853.70
26.34		Providing and laying SBR Polymer modified (of approved make @ minimum 2% by wt. of cement used) plain/reinforced concrete jacket for the structural members e.g. columns, pillars, piers, beams etc with concrete having the specified minimum characteristic compressive strength [with ordinary portland cement, coarse sand and graded stone aggregate of 10 mm maximum size in proportion as per design criteria] with specified average thickness all-round existing core of RCC member.		
		Note: Rates shall be for finished surface area of concrete and shall include the cost of making holes in existing RCC slab, if required, for pouring concrete in shuttering mould of jacket and appropriate approved Super-Plasticiser for rendering concrete as flowable self compacting and SBR polymer but shall exclude cost of reinforcement, bond coat, Shear Keys, centering and shuttering, strutting, propping etc (Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding/tapping with a blunt metal instrument)		
	26.34.1	50 mm thick in Grade M25 with cement content not less than 330 kg per cum	sqm	569.15
	26.34.2	75 mm thick in Grade M25 with cement content not less than 330 kg per cum	sqm	853.70
	26.34.3	100 mm thick in Grade M25 with cement content not less than 330 kg per cum	sqm	1138.25
26.35		Providing and injecting approved grout in proportion recommended by the manufacturer into cracks/honey-comb area of concrete/masonry by suitable gun/pump at required pressure including cutting of nipples after curing etc. complete as per directions of Engineer-in-Charge.		
		(The payment shall be made on the basis of actual weight of approved grout injected.)		
	26.35.1	Stirrer mixed Acrylic Polymer of approved make @ 2% of weight of cement used) modified Cement slurry made with non shrink compound in concrete/RCC work	kg	119.30
	26.35.2	Stirrer mixed SBR Polymer (of approved make) modified Cement slurry made with Shrinkage Compensating Cement in concrete/RCC work.	kg	124.00
	26.35.3	Epoxy injection grout in concrete/RCC work of approved make	kg	553.40
26.36		Providing, erecting, maintaining and removing temporary protective screens made out of specified fabric with all necessary fixing arrangement to ensure that it remains in position for the work duration as required by the Engineer-in-charge.		
	26.36.1	Wooven PVC cloth	sqm	54.25
26.37		Cleaning of exposed concrete surface of sticking material including loose and foreign material by sand blasting with coarse sand followed by and including cleaning with oil free air blast as per direction of Engineer in charge.	sqm	382.40

Code No	Description	Unit	Rate
26.38	Shotcreting R.C.C. columns, beams and slabs etc. in layers with approved design mix concrete having the specified minimum characteristic compressive strength [with ordinary portland cement, coarse sand and graded stone aggregate of 10 mm maximum size in proportion as per design criteria] including the cost of centering and shuttering at edges and corners etc. as directed by Engineer- in-Charge Note: Rates shall include the providing necessary ground wires etc. The levelling gauges, if used, shall be paid for separately. Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding/tapping with a blunt metal instrument.		
26.38.1	25 mm thick in Grade M25 with cement content not less than 330 kg per cum	sqm	746.90
26.38.2	50 mm thick in Grade M25 with cement content not less than 330 kg per cum	sqm	1151.05
26.38.3	75 mm thick in Grade M25 with cement content not less than 330 kg per cum	sqm	1628.85
26.39	Providing and inserting 12 mm dia galvanised steel injection nipple in honey comb area and along crack line including drilling of holes of required diametre (20 mm to 30 mm) up to depth from 30 mm to 80 mm at required spacing and making the hole & crack dust free by blowing compressed air, sealing the distance between injection nipple with adhesive chemical of approved make and allow it to cure complete as per direction of Engineer-In-Charge.	each	236.90
26.40	Providing and fixing hard drawn steel wire fabric of size 75 x25 mm mesh or other suitable size wire mesh to be fixed & firmly anchored to the concrete surface by means of “L” shaped mild steel shear key welded with existing reinforcement including the cost of materials, labour, tool & plants as approved by Engineer-in-charge.	sqm	902.55
	NEW TECHNOLOGY ITEMS		
26.41	Designing, providing, installing and fixing factory finished custom designed cold form Light Gauge Steel Framed super structure comprising of steel wall panel, trusses, purlins etc manufactured out of minimum 0.75 mm thick steel sheet as per design requirements. The steel sheet shall be galvanized (AZ-150gms Aluminium Zinc Alloy coated steel having minimum yield strength 300-550 Mpa) conforming to AISI specifications and IBC 2009 for cold formed steel framing and construction and also as per IS: 875-1987, ISO 800-1984 and IS:801- 1975. The wind load shall be as per provisions of IS 875 (part -III). LGSFS frame shall be designed as per IS: 801 using commercially available software such as Frame CAD Pro-11.7/ STAAD PRO-V8i/ArchitekV2.5.16/ Revit architecture-2011 or equivalent. Proper usage of Connection Accessories like Heavy Duty Tension Ties, Light Duty Hold-ons, Twist Straps (to connect truss with wall frames), Strong Tie, Tie Rod, H-Brackets, Boxing Sections, L-Shaped Angles for better structural stability. The framing section shall be cold form C-type having minimum web depth 89 mm x 39 mm flange x 11 mm lip in required length as per structural design requirement duly punched with dimple/slot at required locations as per approved drawings. The slots will be along centre line of webs and shall be spaced minimum 250 mm away from both ends of the member. The frame can be supplied in panelized or knock down condition in specific dimensions and fastened with screws extending through the steel beyond by minimum of three exposed threads. All self drilling tapping screws for joining the members shall		

Code No	Description	Unit	Rate
	have a Type II coating in accordance with ASTM B633(13) or equivalent corrosion protection of gauge 10 & 12, TPI 16 & 8 of length 20 mm. The frames shall be fixed to RCC slab or Tie beam over Neoprene rubber using self expanding carbon steel anchor bolt of dia as per approved drawings. design subject to minimum 12 mm diameter and 121 mm length conforming to AISI 304 and 316 at 500 mm c/c with minimum embedment of 100 mm in RCC (RCC to be paid separately) and located not more than 300 mm from corners or termination of bottom tracks complete in all respects. The item also includes the submission of stability reports duly examined and issued by any NIT/IIT. The rate includes the concept design, detailed design, fabrication of sections, transportation, installation and all required fixing arrangement at site as described above.	kg	285.90
26.42	Providing and fixing of external wall system on Light gauge steel frame work with outer face cement boards as per standard sizes fixed with self-drilling / taping screws / fasteners @ 60 cm c/c of approved make. A groove of 2 mm to 3 mm shall be maintained and grooves shall be sealed with silicon based sealant. The board shall be fixed in a staggered pattern. Screws shall be of counter sunk rib head of 1.60 mm to 4 mm thick or 8 to 10 gauge of length varying from 25 to 45 mm and. Internal face 12.5 mm thick gypsum plaster board fixed on cement board as per standard sizes fixed with self- drilling / taping screws / fasteners @ 60cm c/c of approved make, proper taping and jointing to be done using fiber mesh tape and epoxy and acrylic based jointing compound for seamless finish.(cost of frame work to be paid for separately)		
	26.42.1 Outer face- Outer face having 6 mm thick fiber cement board Type A, Category-IV as per IS:14862:2000 fixed on 9 mm thick fiber cement board, Type A, Category-IV as per IS:14862:2000 (high pressure steam cured) Inner Face- 12.5 mm thick gypsum plaster board conforming to IS 2095:2011 fixed on 8 mm thick fibre cement board of Type B, Category-III as per IS:14862:2000 (High pressure steam cured)	sqm	3903.35
	26.42.1 A Outer face- Outer face having 6 mm thick fiber cement board Type A, Category-III as per IS:14862:2000 fixed on 9 mm thick fiber cement board Type A, Category-III, as per IS:14862:2000 (high pressure steam cured) Inner Face- 12.5 mm thick gypsum plaster board conforming to IS 2095:2011 fixed on 8 mm thick fibre cement board of Type B, Category-III, as per IS:14862:2000 (High pressure steam cured)	sqm	2901.80
	26.42.2 Outer face: Outer face having 8 mm thick cement bonded particle Board fixed on 10 mm thick cement bonded particle board. (Termite, Fire and Moisture Resistance) as per IS 14276:1995. Inner face:-12.5 mm thick gypsum plaster board conforming to IS 2095:2011 fixed on 8 mm thick cement bonded particle board (Termite, fire and moisture resistance) confirming to IS:14276:1995)	sqm	3167.85
26.43	Providing and fixing internal wall panels on Light gauge steel frame work with 12.5 mm thick gypsum plaster board conforming IS 2095:2011 fixed on cement board as per standard sizes fixed with self-drilling / taping screws / fasteners @ 60 cm c/c of approved make, Screws shall be of counter sunk rib head of 1.60 mm to 4 mm thick or 8 to 10 gauge of length varying from 25 to 45 mm. Proper taping and jointing to be done using fiber mesh tape and epoxy and acrylic based jointing compound for seamless finish.(cost of frame work to be paid for separately		

Code No		Description	Unit	Rate
	26.43.1	Cement Fiber Board 8 mm thick of Type B, Category III as per IS 14862:2000 (High pressure Steam Cured)	sqm	2221.05
	26.43.2	Cement Bonded particle board 8 mm (Termite, Fire & Moisture Resistance), as per IS:14276 : 1995	sqm	2189.75
26.44		Providing and fixing in all exterior face panels breathable vapour barrier underneath the cement fiber board as per National Building Code 2009 complete as per direction of Engineer-in-charge.	sqm	298.75
26.45		Supplying and installation of moisture resistant/fire resistant cement board as per standard sizes fixed with self-drilling / taping screws. Screws shall be of counter sunk rib head of 1.60 mm to 4 mm thick or 8 to 10 gauge of length varying from 25 to 45 mm.		
	26.45.1	Cement Fiber Board 6 mm thick as per IS 14862:2000 of type B (High pressure Steam Cured)	sqm	1430.15
	26.45.2	Cement Bonded particle board 8 mm thick (Termite, Fire & Moisture Resistance), as per IS:14276 : 1995	sqm	991.95
26.46		Providing and fixing in position, 200 mm thick factory made Expanded Polystyrene Core (EPS Core) wall panels consisting of EPS core sandwiched between two Engineered sheets of welded wire fabric mesh duly finished with shortcrete materials on outer faces. The fabric mesh shall be made of 3 mm dia G.I. wire mesh with 50 mm pitch in both the directions and on both faces of the wall, kept at 120-135 mm gap and connected by the zig zag G.I. wire of 3 mm dia at alternate row by welding (at an angle ranging from 50-70 degree) . The EPS core shall consist of 100 mm thick EPS of density not less than 20 kg/ per cum. Both the outer faces of the panel shall be finished by applying the layer of 50 mm thick cement mortar 1:3 {1 cement: 3 coarse sand (not having more than 40% stone chips of size upto 6 mm)} À with the help of shotcreting/guniting equipment etc at a pressure not less than 1 bar (100Kn/m2) and both surfaces finished with trowel. Fixing operations of wall panels shall be completed in all respect as per drawings and specifications and under the overall direction of the Engineer-in-charge.	sqm	4347.15
26.47		Providing and fixing in position, 230 mm thick factory made Expanded Polystyrene Core (EPS Core) roof/floor panels made of 3 mm dia G.I. wire mesh with 50 mm pitch in both the directions and on both faces of panel, kept at 120-135 mm gap and connected by the zig zag G.I. wire of 3 mm dia at alternate row by welding (at an angle ranging from 50-70 degree). The EPS core shall consist of 100 mm thick EPS of density not less than 20kg/ per cum. The bottom side of the panel shall be finished by applying a layer of 60-65 mm thick cement mortar 1: 3 {1 cement: 3 coarse sand (not having more than 40% stone chips of size upto 6 mm)} A with the help of shotcreting equipment etc at a pressure of not less than 1 bar (100KN/m2) and surface finished with trowel. The top face of the panel shall be provided and finished by applying 70-75 mm thick layer of cement concrete 1:1.5: 3 (1 cement :1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size). Fixing operations of roof/floor panels shall be completed in all respect as per drawings and specifications and under the overall direction of the Engineer-in-charge.	sqm	4701.60

Code No	Description	Unit	Rate
26.48	Providing and fixing of customized Aluminium form work for monolithic construction on RCC members with repetitive usage made up of aluminium sheets/plates of minimum 4 mm thickness and grade 6061 (Type-6). The formwork comprises of (a) wall panel, roccker, kicker and internal soffit corner, external soffit corner, external corner, internal corner etc., (b) beam components i.e, beam side panel, prop head for soffit beam, beams soffit panel, beam soffit bulk head and (c) deck components i.e. deck panel, deck prop, prop length, deck mid, soffit length, deck beam bar. The panels are held in position by a simple pin and wedge system that passes thorugh holes in the out side rib of each panel. The tolerance of finished panel shall not be less than (-1 mm) and shall conform to IS : 14987-1999. Pins and wedges to be made of high grade hot dipped galvansied mild steel. This form work also comprises of M.S. angle iron, "Z" shaped brackets braced diagonally at 0.90 to 1.00 metre centre to centre on extrenal wall face just the level below on which to lay M.S. square tube panels (Challis) and guard railing supports to form working platform and 40 mm dia G.I./M.S. telescopic adjustable props to support deck formwork and beam soffit panels including de-shuttering the formwork from odd/even level to be shifted/lifted to next alterante odd/even level before which the points and shuttering surface to be thoroughly cleaned, pins greasing and shuttering surface oiling propoerly before fixing all complete including sealing of gap between kicker plates of wall panel and floors (if any) as per design of formwork as provided by shuttering supplier and as per direction of the Engineer-in-charge including filling and finishing the holes of varied sizes and shapes (left by keys/pins of aluminium form work shuttering while de-shuttering) with GP-2 cementitious polymer compound mixed with water in ratio prescribed by manufacturer to form consistent workable enough for pushing it in the holes upto full depth of wall using appropriate tools and finishing smooth all complete as per directions of the Engineer-in-charge.	sqm	451.35
26.49	Providing and fixing in position factory made EPS cement sandwich wall/ roof/floor light weight solid core panels made of core material of EPS granule balls/beads (conforming to IS 4671:1984 and shall have density not less than 15kg per cum) adhesive, cement, sand, flyash and other bonding material in mortar state processed to form in a preset mould. The outer face on both sides of the panels will be non asbestos fiber cement board confirming to IS 14862:2000 or Calcium silicate board confirming to EN 14306:2009 of 5 mm thick each. Panel shall be laid on 6 mm thick cement mortar (1 cement: 2 fine sand) mixed with chemical adhesive of 0.5 kg per 50 kg of cement or shall be preferably fixed into 'C' channel made of 1.2 mm thick MS plate screwed/fastenened to the slab/column/ beam etc. The panel shall fixed vertically with tongue and groove joint and horizontally locked with steel bar between each other and floors and filled with cement mortar and adhesive. Panels should be used as floor & roofing with additional structural support, steel or RCC depending upon the design. All the operation shall be completed in all respect as per drawings, Manufacturers specifications and under the overall direction of Engineer-in-Charge (Cost of all the material is included except "C channel" which will be paid seperately).		
26.49.1	Non load bearing panels 50 mm thick of required size	sqm	1315.70
26.49.2	Non load bearing panels 60 mm thick of required size	sqm	1487.50
26.49.3	Non load bearing panels 75 mm thick of required size	sqm	1840.05
26.49.4	Non load bearing panels 90 mm thick of required size	sqm	2141.80
26.49.5	Non load bearing panels 100 mm thick of required size	sqm	2518.20

Code No	Description	Unit	Rate
26.50	Providing and fixing in position factory made non asbestos fibre reinforced aerated cement sandwich wall/roof/floor light weight solid core panels made of light weight cement concrete core composed of OPC cement, pulverized flyash, quick lime, cotton pulp & Gypsum in mortar state mixed with aeration agent in a preset mould. The outer face on both sides of the panels will be non asbestos fibre cement board confirming to IS :14862:2000. These solid wall panels are installed using Galvanized iron steel tracks/C channel of 1 mm thick of required sizes as recommended by manufacturer's and fixed to floor and RCC soffit in plumb to each other with steel screw/fasteners. The panel shall be fixed vertically with tongue & groove joint with cement based polymer modified jointing compound. The exposed surface finished with fibre mesh/glass fibre tape with polymer based jointing compound having superior flexibility. Panels should be used as floor & roofing with additional structural support, steel or RCC depending upon the design. All the operation shall be completed in all respect as per drawings, Manufacturers specifications and under the overall direction of Engineer-in-Charge (Cost of all the material is included except "tracks/C channel" which will be paid separately).		
26.50.1	Non load bearing panels 50 mm thick of required size (minimum 4 mm thick fibre cement board Type B, Category III as per IS: 14862:2000 on both faces)	sqm	1527.50
26.50.1 A	Non load bearing panels 50 mm thick of required size (minimum 4 mm thick fibre cement board Type A, Category III as per IS: 14862:2000 on both faces)	sqm	1635.05
26.50.1 B	Non load bearing panels 50 mm thick of required size (minimum 4 mm thick fibre cement board Type A, Category IV as per IS: 14862:2000 on both faces)	sqm	2068.25
26.50.2	Non load bearing panels 75 mm thick of required size (minimum 5 mm thick fibre cement board Type B, Category III as per IS: 14862:2000 on both faces)	sqm	1841.20
26.50.2 A	Non load bearing panels 75 mm thick of required size (minimum 5 mm thick fibre cement board Type A, Category III as per IS: 14862:2000 on both faces)	sqm	1784.40
26.50.2 B	Non load bearing panels 75 mm thick of required size (minimum 5 mm thick fibre cement board Type A, Category IV as per IS: 14862:2000 on both faces)	sqm	2326.65
26.51	Supplying of standard quality GFRG panel of 124 mm thickness with modular cavities purchased from GFRG panel manufacturing plant in the country, cut to required wall sizes and floor/ roof slab sizes in correct length and height, including cutting of door, window and ventilator opening as per the cutting drawing prepared by architects /design engineers for the construction of GFRG building and loaded in stillages for transportation to the construction site. Cost of panel includes security deposits, hire charges of stillages & jaws, cost of transportation in trucks/ lorries without any damages upto 300 km including all leads and lifts from GFRG manufacturing plant to construction site and unloading at site using suitable fork lift/ crane. (Payment shall be made on the basis of area of one side of panel without reduction of opening of door/ window / ventilator). For transportation above 300 km, additional charges to be paid.	sqm	1477.30

Code No	Description	Unit	Rate
26.52	Erection of GFRG Panels in walls in all floors using suitable crane as per instructions of Engineer-in-Charge, as per cutting drawings and structural drawings, in perfect line and plumb, above RCC plinth beam/ GFRG panel below and provide necessary lateral/ slanting support to keep the wall panel in safe position, providing & tieing of Reinforcement as per structural drawings and applying a coat of water repellant coating Zycosil/equivalent or equivalent product (1 Zycosil/equivalent compound :10 water) to saturation level over RCC plinth beam to provide water proofing treatment to joint between wall panel & plinth beam as per the guide lines / instruction by the engineer in charge. (Cost of reinforcement, water proofing of walls and plinth beam/GFRG panel below joints and installation of door/ window frames before filling of concrete shall be paid separately). The rate quoted shall include making provision for laying of lintels, beams, sunshades, staircase beams, lofts, plumbing work, electrical conduits and any structural insertion etc., as per the drawing and direction of the engineer in charge. The payment shall be made based on the actual exposed area (one side only) of the panel. The work shall be carried out as per the Special Conditions for Glass Fibre Reinforced Gypsum (GFRG) Structures mentioned in NIT. Note: i) When cutting panel, “A” side is to be for outside or external surface of respective external wall and B side is to be for internal surface of wall ii) Erection of panel is to be with reference to both building plan & cutting drawing by following notational mark indicated in the cutting drawing as well as notional mark written on each panel cut as per cutting drawing	sqm	283.25
26.53	Filling of empty cavities (as shown in the structural design drawing) with quarry dust mixed with 5% cement (by volume). After initial infill of 50 mm thick with M25 concrete at base/bottom of cavities to seal off, infill wall panel cavities in 3 stages as detailed below, (i) 1st pour / infill to be limited to 0.3 to 0.50 m height from bottom of the panel. (ii) 2nd Pour/ infill: infilling shall be done only after 90 minutes interval between successive pours. The maximum height of infill shall be restricted to 1.5 m height or up to the top level of door / window. (iii) 3rd pour/infill: After an interval of 90 minutes of second pour, infill or pour the balance height up to the bottom of embedded RCC tie beam. Pour enough water just required to dampen the dry mix enough to form cake form after each stage. (cost of laying M25 concrete shall be paid separately) (If any rain falls in between any stages of concrete pour, make sure to cover the panel top to prevent ingress of water or water falling into the cavities. In case of water collection over the concrete inside the panel, drill 10 mm hole in GFRG panel immediately above concrete filled level to drain out water before pour/in-fill of balance concreting)	cum	2604.30
26.54	Laying of GFRG panel as roof / floor slab panel and staircase panel using suitable crane as per instructions of Engineer-in-Charge, including providing support system with 25 mm x 300mm-400 mm wide plywood, as runner with proper prop below proposed micro beams including (a) Cutting of top flange of panel to 180 mm wide (leaving 25 mm projection on either side) to provide RCC embedded micro beam as per cutting drawings and structural drawings. (b) Reinforcement for micro beams and tie beams to be provided in position with proper anchorage as per structural drawings. (c) Provision for Electrical cabling, fan hooks and laying of pipes for plumbing work.		

Code No	Description	Unit	Rate
	(d) Concreting of Tie beam, micro beam and top of GFRG panels (50 mm thick) with M-25 cement concrete mix using coarse aggregate of size less than 20 mm including laying of 10 gauge 100x100 mm size weld mesh with 25 mm effective cover from the panel top.	sqm	287.40
26.55	Supplying and fixing 10 Gauge weld mesh of size 100 mm x100 mm for floor/roof slab concrete screed over the micro beams as reinforcement. The weld mesh shall be fixed as per drawing.	sqm	254.75
26.56	Application of ZMB 60/equivalent solution (100 Kg ZMB 60/equivalent, 1 litre ZMB Nano Thinner, 20 litre water & 1 Litre Zycoprime/equivalent = 122 litre/kg) over already applied coat of Zycosil/equivalent & Zycoprime/ equivalent solution on the top of all the RCC plinth beams by brush/spray coat before erection of GFRG over RCC plinth beams in GF. In the case of upper floors 150 mm wide on floor slab for all the external walls, bath/ toilet/wet areas (3 hrs drying time) before erection of wall panel on upper floors including erection of parapet wall.	sqm	371.25
26.57	After erection of GFRG wall panels, seal all GFRG wall joints with paper tape temporarily. Water proofing treatment of vertical joints with Zycosil/ equivalent water proofing Solution (1 litre of Zycosil/equivalent & 20 litres of water stirred first & 2 litres of Zycoprime/equivalent added and stirred (total 23 litres)) with 50 ml syringe till the gap and in filled concrete is completely saturated. After removing the paper seal, seal off the vertical joints with water proofing material “Grout RW/equivalent” (Sealing cost excluded.)	metre	92.45
26.58	Filling of joints between RCC plinth beam / floor slab and wall panel of external walls, toilet / bath room / wet areas walls on all floor and parapet wall over roof slab, stair case head room at the time of erection of GFRG panels with Grout RW/equivalent sealant compound after the erection of panel before the infill of concrete in panel cavities and fine finish. This applies for all horizontal and vertical joints between GFRG wall and slab panels.	metre	49.30
26.59	Water proofing treatment of Vertical joints (of external side and internal side) between door frame, window & ventilator frames (on all four sides) of outer wall over the Zycosil/equivalent & Zycoprime/equivalent solution already applied (before the installation of door / window / ventilator frames in position) and fine finish with Grout RW/equivalent.	metre	49.95
26.60	Water proofing treatment of RCC sunshade with Zycosil/equivalent water proofing Solution (1 litre of Zycosil/equivalent & 20 litres of water stirred first & 2 litres of Zycoprime/equivalent added and stirred (total 23 litres)) till it meets the saturation level and testing as per RILEM or by water drops test in which water drops do not absorb but drops remain or rolls.	sqm	136.45
26.61	In-filling / sealing of joint between RCC lintel cum sunshade and wall (on external side) in all floors by pushing in Grout RW/equivalent in paste form and coving 20 mm x 20 mm after applying a coat of Zycosil/equivalent & zycoprime/equivalent solution before cement plastering of top, bottom and sides of RCC sunshade.	metre	49.95
26.62	Designing, Providing, installing and fixing factory finished customed design pregalvanized high tensile steel joists manufactured from G350 Z275 confirming to IS:277-1992, minimum coating of galvanizing 275 gm/ sqm, minimum yield stress 35 MPa & minimum tensile strength of 380 MPa placed 1.23 metre apart to support the load of slab etc as per the design & directions of Engineer-in-Charge.	kg	182.05

Code No	Description	Unit	Rate
26.63	Providing and fixing special adjustable lockbars of mild steel E-250 to support the temporary plywood for work between joists during construction as per design & directions of the Engineer-in-charge.	kg	27.10
26.64	Centering and shuttering with 12 mm thick shuttering plywood confirming to IS 4990:2011 and removal of form at all heights. Plywood will be supported on lock bars.		
	26.64.1 Suspended floors, roofs, landings, balconies and access platform.	sqm	106.80
26.65	Providing and fixing roofing consist of 0.8 mm thick galvanized steel deck sheet confirming to IS 277:1992 used as permanent shuttering over which MS wire mesh 3 mm laid at 100x100 mm grid including edge trim covered with concrete. This metal deck will be supported on structural steel beam with shear studs. (Structural steel like Beam, column, joists etc. & concrete of different grade as per design will be paid separately).	sqm	1525.60
26.66	Providing and fixing in position, 130 mm thick factory made Expanded Polystyrene Core (EPS Core) wall panels consisting of EPS core sandwiched between two Engineered sheets of welded wire fabric mesh duly finished with shortcrete materials on outer faces. The fabric mesh shall be made of 3 mm dia zinc coated G.I. wire mesh with 50 mm pitch in both the directions and on both faces of the wall and connected by GI wire of 3 mm dia at alternate row by welding. The EPS core shall consist of 60 mm thick EPS of density not less than 16 kg/ cum. Both the outer faces of the panel shall be finished by applying the layer of 35 mm thick cement mortar 1:3 {1 cement: 3 coarse sand (not having more than 40% stone chips of size upto 6 mm)} with the help of shotcreting/guniting equipment etc at a pressure not less than 1 bar (100KN/m2) and both surfaces finished with trowel. Fixing operations of wall panels shall be completed in all respect as per drawings and specifications and under the overall direction of the Engineer-in-charge.	sqm	2673.70
26.67	Providing and fixing of external thermal insulation and composite system with First layer of self-extinguishing type Expanded Polystyrene (EPS) insulation boards of 120 mm thick (max 1mX0.5m section), confirming to IS 4671:1984, having thermal conductivity of 0.034 W/mK, (measured as per IS 3346-1980), density of 20-24 kg/m³ measured as per IS 5688-1982, Fire retardant property self-extinguishing type as per EN 13501-1, bonded with special polymer modified cementitious adhesive confirming to EOTA ETAG 004 (European Technical Approval) formulated to bond polystyrene insulation boards to typical mineral substrate (according to ETAG 004) and Polypropylene mechanical fasteners with plastic pin confirming to EOTA ETAG 014 (European Technical Approval) having dia 10 mm & L=200 mm on finished level wall and the junction between two adjacent EPS boards to be sealed with low expansion moisture cure Polyurethane Foam. Second layer consists of Fiberglass mesh covered with alkali-resistant coating, mass per unit area ≥145 g/m², mesh size: 3.9x4.0 mm ±10% embedded in special polymer modified cementitious Base Coat with hydrophobes and the corners will be protected with Corner-beads with alkali-resistant mesh wings at least 10 cm wide, mesh mass per unit area min 145 g/m². The surface will be levelled, finished, made smooth complete in all respect as per manufactures specification and as per directions of Engineer-in-Charge.	sqm	3935.35
26.68	Providing and laying factory made Precast concrete solid blocks of 200 mm thickness of grade M10 made of C&D waste from approved manufacturer in foundation and plinth in:		
	26.68.1 Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	7387.25

Code No	Description		Unit	Rate
26.69	Providing and laying factory made Precast concrete solid blocks of 200 mm thickness of grade M10 made of C&D waste from approved manufacturer in superstructure above plinth level up to floor V level			
	26.69.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	9844.65
26.70	Providing and laying half block masonry with factory made Precast concrete solid blocks of 100 mm thickness of grade M10 made of C&D waste from approved manufacturer in foundation and plinth in:			
	26.70.1	Cement mortar 1:4(1 cement : 4 coarse sand)	sqm	897.15
26.71	Providing and laying half block masonry with factory made Precast concrete solid blocks of 100 mm thickness of grade M10 made of C&D waste from approved manufacturer in superstructure above plinth level up to floor V level:			
	26.71.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	sqm	1099.15
26.72	Providing and laying 60 mm thick factory made cement concrete paver block of approved shape and colour of M -30 grade made of C&D waste by block making machine with vibratory compaction laid in required pattern and including over 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.		sqm	829.75
	PREFAB/PRECAST TECHNOLOGY			
26.73	Fabrication & Manufacturing of Prestressed Hollow Core slab (Hollow area 25 to 30%) of different thickness & modular width 1200 mm in Controlled Factory Environment with approved methodology conforming to IS : 10297:1982 by using long line casting method having arrangement of proper steel bed. Concreting should be done by batch mixing plant capable of producing zero slump concrete, transported through automatic shuttels of standard make & layed on bed with the help of extruder/ Slipformer, finishing, curing and also provision of steam curing. Cutting, making necessary cutout/holes of required sizes for services in slab element after achieving required strength, yard handling & stacking all complete as per approved shop drawings & design mix as per the direction of the Engineer-in-charge. (Cost of strands should be paid separately).			
	Note: Excess/less cement over the specified cement content used as per design mix is payable/recoverable separately)			
	26.73.1	Concrete Grade-M-40 (cement content 400 kg)		
		26.73.1.1 100 mm thick hollow core slab	metre	1287.25
		26.73.1.2 120 mm thick hollow core slab	metre	1501.40
		26.73.1.3 150 mm thick hollow core slab	metre	1822.60
		26.73.1.4 200 mm thick hollow core slab	metre	2217.00
		26.73.1.5 250 mm thick hollow core slab	metre	2717.10
		26.73.1.6 300 mm thick hollow core slab	metre	3217.20
		26.73.1.7 350 mm thick hollow core slab	metre	3717.25
		26.73.1.8 400 mm thick hollow core slab	metre	4217.35
	26.73.2	Extra for using M-50 (Cement content 425 kg) instead of M-40		
		26.73.2.1 100 mm thick hollow core slab	metre	18.40
		26.73.2.2 120 mm thick hollow core slab	metre	22.10
		26.73.2.3 150 mm thick hollow core slab	metre	27.65

Code No			Description	Unit	Rate
		26.73.2.4	200 mm thick hollow core slab	metre	34.40
		26.73.2.5	250 mm thick hollow core slab	metre	43.00
		26.73.2.6	300 mm thick hollow core slab	metre	51.60
		26.73.2.7	350 mm thick hollow core slab	metre	60.20
		26.73.2.8	400 mm thick hollow core slab	metre	68.80
	26.73.3		Extra for using M-60 (Cement content 440 kg) instead of M-40		
		26.73.3.1	100 mm thick hollow core slab	metre	29.50
		26.73.3.2	120 mm thick hollow core slab	metre	35.35
		26.73.3.3	150 mm thick hollow core slab	metre	44.20
		26.73.3.4	200 mm thick hollow core slab	metre	55.00
		26.73.3.5	250 mm thick hollow core slab	metre	68.80
		26.73.3.6	300 mm thick hollow core slab	metre	82.55
		26.73.3.7	350 mm thick hollow core slab	metre	96.30
		26.73.3.8	400 mm thick hollow core slab	metre	110.05
26.74	Fabrication and manufacturing of solid precast concrete element with provisions of shear keys, connecting loops, dowel tubes and proper lifting accessories for walls, beams, slabs, stairs, column etc, of various thickness, shape and size of different concrete grades manufactured in controlled factory environment with approved methodology including moulds (Pallet system, Tilts form, table moulds, battery moulds, vertical moulds, beam moulds, column moulds, staircase moulds, Facade mould, etc.), mixing, transporting and placing of concrete, vibrating, curing, finishing, making necessary cutout/holes of required sizes for services, yard handling & stacking all complete as per IS : 11447:1985 and as per approved shop drawings and design mix as per the direction of Engineer-in-Charge (Cost of reinforcement, Mechanical, Electrical and Plumbing inserts will be paid separately).				
	26.74.1		Concrete grade M-35 (Cement content 370 kgs)	cum	20928.70
	26.74.2		Extra for using M-40 (Cement content 400 kg) instead of M-35	cum	245.65
	26.74.3		Extra for using M-50 (Cement content 425 kg) instead of M-35	cum	450.40
	26.74.4		Extra for using M-60 (Cement content 440 kg) instead of M-35	cum	573.20
26.75	Providing & laying in position Prestressing steel strands (low relaxation) on hollow core bed by using mechanical pulling arrangement like Rabbit/ Bed master including all accessories for Stressing & destressing operations as per approved make conforming to IS : 1343 & grade FY-1860 etc, complete as per drawings and direction of Engineer -in-charge.			kg	192.35
26.76	Transportation of Precast Elements by flat bed Trailor (Double / Triple axle 40ft Length with proper accessories like A frame etc) from factory, including the cost of loading , unloading & stacking at site with the help of required capacity cranes.				
	26.76.1		Lead within 15 km	MT	540.85
	26.76.2		Add/Deduct over item 26.76.1 for every additional lead of 5 km	MT	117.30

Code No	Description	Unit	Rate
26.77	Erection & Installation of Precast/Prestressed Concrete elements in correct & final position with proper line level and plumb at site making all arrangements (i.e cranes, push-pull jacks & all another T & P for lifting Placing & Alignment of elements, within erection tolerance as per IS : 15916 as per approved shop drawings and all complete as per the direction of Engineer-in-Charge but excluding the cost of sim pads, non shrink grout and steel works i.e hangers. All work up to fifth floor.		
	26.77.1 Prestressed hollow core Slab up to 200 mm thickness	sqm	203.50
	26.77.2 Prestressed hollow core slab above 200 mm up to 400 mm thickness	sqm	345.15
	26.77.3 Solid concrete wall elements	cum	2720.30
26.78	Providing & Applying weather proof sealant on outer joints of approved make confirming to IS & directed by Engineer-in-charge.		
	26.78.1 Sealant 25 mm x10 mm at joints	metre	178.95
26.79	Providing & Laying of levelling sim pads required sizes (5x5 cm to 10x10 cm) of PVC / Rubber to adjust level of bearing surface of supporting members as per the direction of Engineer in charge.		
	26.79.1 2 mm thick	each	28.90
	26.79.2 5 mm thick	each	36.00
	26.79.3 10 mm thick	each	51.65
26.80	Providing & Grouting of dowel tubes / Shear keys / Joints of precast members with M-60 grade cementitious grout (Non Shrink) of approved make by suitable means (Free flowing /pump),curing etc. Complete as per directions of Engineer-in-charge. (The payment shall be made on the basis of actual weight of approved grout injected.)		
	26.80.1 Stirrer mixed cementitious grout (non shrink) of approved make in dowel tubes / Shear keys / Joints of precast members.	kg	85.05
26.81	Providing and fixing Scaffolding net of required width made of high density Polyethylene UV stabilized knitted on warp knitting machines having density 100 gram / sqm and shading coefficient minimum 75% around the construction site/ for vertical extension as per requirement including fastening/tying with building/scaffolding pipes or with any other fixtures etc. complete as per direction of Engineer-in-Charge. (One time payment shall be made for providing Scaffolding net from start of work till completion of work including shifting if any. The Scaffolding net shall be the property of the contractor on completion of the work)	sqm	29.25
26.82	Providing and laying rigid EPS (cellular plastic material) blocks conforming to ASTM standards/specifications of minimum density 21.60 Kg/cum on floors, steps, stage etc. of required size and shape as per direction of the Engineer-in-Charge. This shall include the following operation. The EPS blocks shall be cut to required shape and sizes including cuttings for passing of services, joined together with synthetic resin adhesives as per relevant specifications and packed/placed in position for stepped floor or platform formation. The top and sides surfaces to be provided with GI woven wire mesh of aperture 5.45 mm (with wire dia 0.90 mm) secured to EPS blocks with wire pins/clips. Horizontal top surface to be provided with 20 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate upto 6 mm chippings) and vertical surface to be provided with 12 mm cement plaster 1:4 (1 cement : 4 coarse sand).		

Code No	Description	Unit	Rate
	The concrete/plastered surfaces so prepared shall be scratched with wire brushes to form burrs, so as to act as base for flooring or veneering/ panelling to be done later as per approved design (which shall be paid for separately) complete as per direction of the Engineer-in-Charge.	sqm	2293.30
26.83	Applying stamping finish to the top surface of freshly laid plain/reinforced cement concrete of specified grade in porticos, sidewalks, driveways, pool decks and open yards as per direction of the Engineer-in-Charge. The process shall include the following:- • The concrete shall be placed and screeded to the finished grade, and floated to a uniform surface by using standard finishing techniques. The approved color hardener @ 2.7 kg/sqm shall be applied evenly to the surface of the fresh concrete by the dry shake method by sprinkling in two or more shakes, floated after each shake and trowelled only after the final floating. The approved release agent @ 0.113 kg/sqm shall be applied evenly to the trowelled surface before stamping or the said release agent can be applied to the flexible polyurethane stamp moulds of approved design and in required sizes to achieve final stamped pattern. These stampings shall be placed on the surface of concrete in three to four pieces at a time and tapped gently with rammers of sufficient size & weight to leave proper stamp marks and the process repeated for the remaining concrete surface till the whole surface to be stamped is completed within the time while concrete is in plastic stage of setting. • After stamping, the curing shall be done as per manufactures specifications. After initial curing the imprinted joints shall be grouted using cement slurry mixed with color hardener as per the requirement. The surface shall be sealed by applying acrylic based sealer not less than 0.167 litre/sqm.on finished surface. • The construction joints shall be provided by groove cutting of size 4 mm x 20 mm in panel size 3m x 3 m or lesser as per the site conditions and filling the same with 10 mm baker rod and providing and laying (PU) Polyurethane based joint sealer of approved make as per manufacturer's specifications and finished by applying Polyurethane resin based top protective clear coat of minimum 80 micron applied with rollers on properly cured and dry clean surface. (Cost of concrete for flooring is not included in this item which shall be paid separately.)	sqm	762.75
26.84	Supplying and laying of Uni-Axial Woven Polyster Geogrid conforming to MORTH 3100 and IRC113, as soil reinforcement/basal reinforcement including accessories like tie-strips, nuts & bolts and loops/lugs for joining reinforcing elements with the facia pannels, overlaps and other protective elements for synthetic geo-grids and all other activities required for reinforced soil walls, slopes etc complete as per design requirements, manufacturer specifications and as per direction of engineer-in- charge.		
	26.84.1 Uni Axial Woven polyster geogrid of minimum tensile strength 40 KN/m in the Longitudinal direction and 20 KN/m in the Transverse direction.	sqm	271.45
	26.84.2 Uni Axial Woven polyster geogrid of minimum tensile strength 60 KN/m in the Longitudinal direction and 20 KN/m in the Transverse direction.	sqm	310.30
	26.84.3 Uni Axial Woven polyster geogrid of minimum tensile strength 80 KN/m in the Longitudinal direction and 30 KN/m in the Transverse direction.	sqm	385.00
	26.84.4 Uni Axial Woven polyster geogrid of minimum tensile strength 100 KN/m in the Longitudinal direction and 30 KN/m in the Transverse direction.	sqm	440.25

Code No		Description	Unit	Rate
	26.84.5	Uni Axial Woven polyster geogrid of minimum tensile strength 120 KN/m in the Longitudinal direction and 30 KN/m in the Transverse direction.	sqm	470.10
	26.84.6	Uni Axial Woven polyster geogrid of minimum tensile strength 150 KN/m in the Longitudinal direction and 30 KN/m in the Transverse direction.	sqm	580.65
	26.84.7	Uni Axial Woven polyster geogrid of minimum tensile strength 200 KN/m in the Longitudinal direction and 30 KN/m in the Transverse direction.	sqm	677.75
	26.84.8	Uni Axial Woven polyster geogrid of minimum tensile strength 250 KN/m in the Longitudinal direction and 30 KN/m in the Transverse direction.	sqm	819.65
	26.84.9	Uni Axial Woven polyster geogrid of minimum tensile strength 300 KN/m in the Longitudinal direction and 30 KN/m in the Transverse direction.	sqm	942.15
26.85		Supplying and laying of Bi-Axial Woven Polyster Geogrid conforming to MORTH 3100 and IRC113, as soil reinforcement/basal reinforcement of granular road base and sub base, area stalilization, track bed stabilization, load transfer platforms Including accessories like tie-strips, nuts & bolts and loops/lugs for joining reinforcing elements with the facia pannels, overlaps and other protective elements for synthetic geo-grids and all other activities required etc. complete as per design requirements, manufacturer specifications and as per direction of engineer-in- charge.		
	26.85.1	Bi Axial Woven polyster geogrid of minimum tensile strength 20 KN/m in both Longitudinal and Transverse direction.	sqm	229.65
	26.85.2	Bi Axial Woven polyster geogrid of minimum tensile strength 40 KN/m in both Longitudinal and Transverse direction.	sqm	329.70
	26.85.3	Bi Axial Woven polyster geogrid of minimum tensile strength 60 KN/m in both Longitudinal and Transverse direction.	sqm	416.35
26.86		Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid door/window/Clerestory windows & other Frames/ Chowkhat comprising of virgin PVC polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/ wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) fabricated with miter joints after applying PVC solvent cement and screwed with full body threaded star headed SS screws having minimum frame density of 750 kg/cum, screw withdrawal strength of 2200 N (Face) & 1100 N (Edge), minimum compressive strength of 58 N/mm2, modulus of elasticity 900 N/mm2 and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant and fixed in position with M.S hold fast/lugs/SS dash fasteners of required dia and length complete as per direction of Engineer-In- Charge. (M.S hold fast/lugs or SS dash fasteners shall be paid for separately). Note: For WPC solid door/window frames, minus 5 mm tolerance in dimensions i.e depth and width of profile shall be acceptable. Variation in profile dimensions on plus side shall be acceptable but no extra payment on this account shall be made.		
	26.86.1	Frame size 45 x 70 mm	metre	705.85
	26.86.2	Frame size 45 x 85 mm	metre	926.35
	26.86.3	Frame size 50 x 100 mm	metre	947.70
	26.86.4	Frame size 50 x 125 mm	metre	1075.70

Code No		Description	Unit	Rate
	26.86.5	Frame size 65 x 100 mm	metre	1111.30
	26.86.6	Frame size 65 x 125 mm	metre	1381.60
	26.86.7	Frame size 65 x 150 mm	metre	1637.65
26.87		Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid plain flush door shutter of required size comprising of virgin polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) having minimum density of 650 kg/cum and screw withdrawal strength of 1800 N (Face) & 900 N (Edge), minimum compressive strength 50 N/mm2, modulus of elasticity 850 N/mm2 and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant and fixing with stainless steel butt hinges of required size with necessary full body threaded star headed counter sunk S.S screws, all as per direction of Engineer-In- Charge. (Note: stainless steel butt hinges and necessary S.S screws shall be paid separately)		
	26.87.1	30 mm thick	sqm	4346.70
	26.87.2	35 mm thick	sqm	5015.35
26.88		Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid decorative type flush door shutter of required size comprising of virgin polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) having minimum density of 650 kg/cum and screw withdrawal strength of 1800 N (Face) & 900 N (Edge), minimum compressive strength 50 N/mm2, modulus of elasticity 850 N/mm2 and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant. WPC to be laminated with PVC foil of minimum 14 microns thick of approved design pasted with hot melt adhesive on both faces of shutter and fixing with stainless steel butt hinges of required size with necessary full body threaded star headed counter sunk S.S screws, all as per direction of Engineer-In- Charge. (Note: stainless steel butt hinges and necessary S.S screws shall be paid separately)		
	26.88.1	30 mm thick	sqm	4764.20
	26.88.2	35 mm thick	sqm	5432.85
26.89		Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid board one side white color and other side of board laminted with PVC foil of minimum 14 micron thickness of approved design pasted with hot melt adhesive for cup boards, work stations and bathroom/ kitchen cabinet etc. of required sizes comprising of virgin polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) having minimum density of 650 kg/cum and screw withdrawal strength of 1800 N (Face) & 900 N (Edge), minimum compressive strength 50 N/mm2, modulus of elasticity 850 N/mm2 and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant and fixing with stainless steel piano hinges/soft close clip on concealed hinges of required size with necessary full body threaded star headed counter sunk S.S screws, all as per direction of Engineer-In- Charge. (Note: stainless steel piano hinges/soft close clip on concealed hinges and necessary S.S screws shall be paid separately)		

Code No		Description	Unit	Rate
	26.89.1	18 mm thick	sqm	2992.90
	26.89.2	25 mm thick	sqm	3889.15
26.90	Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid plain white color board for backing of cup boards and bathroom/kitchen cabinets etc. of required size comprising of virgin polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) having minimum density of 650 kg/cum and screw withdrawal strength of 1800 N (Face) & 900 N (Edge), minimum compressive strength 50 N/mm2, modulus of elasticity 850 N/ mm2 and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant and fixing with stainless steel screws etc. all as per direction of Engineer-In-Charge. (Note: stainless steel screws shall be paid separately)		
	26.90.1	6 mm thick	sqm	1099.35
	26.90.2	12 mm thick	sqm	1711.10
26.91	Providing and fixing factory made 18 mm thick single extruded WPC (Wood Polymer Composite) solid plain white colour board Jali, CNC (Computer numeric control) routed of approved design by Engineer-in -charge which are machine cut for duct/shaft covering, partitions and facades comprising of virgin polymer of K value 58-60 (Suspension Grade), calcium corbonate and natural fibers (wood powder/ rice husk/ wheat husk) and non toxic additives(maximum toxicity index of 12 for 100 gms) having minimum density of 650 kg/cum and screw withdrawal strength of 1800 N (Face) minimum compressive strength 50 N/mm2, modulus of elasticity 850 N/mm2 and resistance to spread of flame of Class A category with properties of being termite/borer proof, water/ moisture proof and fire retardant and fixing on M.S (mild steel) frame made of 25 x 25 x 1.5 mm square hollow box section including applying a priming coat of approved steel primer, placed at grid made at 1.0 x 1.0 m or as per requirement at site with necessary stainless steel fasteners and SS screws etc., all complete as per direction of Engineer-In- Charge. (Note: M.S (mild steel) framework with priming coat and necessary SS fasteners and SS screws shall be paid separately.	sqm	3437.15
26.92	Providing and fixing of façade at all heights with extruded hollow Clay / Terracotta ventilated rainscreen tiles of height 250/ 300/ 400 mm and length of 595 mm of approved texture,design and pattern having Flexural Strength/ Modulus of Rupture of ≥ 14 N/m² and maximum water absorption of 10% tested as per ISO 10545-4:2004(E) and ISO 10545-3:1995 respectively in true level fixed to a supporting aluminium framework(Alloy 6063 T5/T6) consisting of vertical 'T' (for intermediates)/ 'L'(for ends/ termination)/ Tubular sections (at corners)of size 80x60x2 mm/ 40x60x2 mm / 40x40x2 mm respectively, spaced at maximum spacing of 600 mm c/c matching to the tile vertical grid, and horizontal aluminium 'C'-clamps of size 56x25x2 mm thickness of length 150 mm at junction of tiles and of length 75 mm at wall ends/ corners fixed on top of the vertical sections at spacing of 250/ 300/ 400 mm c/c matching to the tile horizontal grid with two numbers of self-drilling / self-tapping SS screws of size 5.5x25 mm with EPDM washers. The vertical 'T'/'L/ Tubular' sections shall be fixed to the wall using HDG (hot-dip-galvanized) steel L-brackets (galvanizing thickness of minimum 80 microns)of size 110x80x6 mm at intermediate vertical aluminium profiles and of size 220x110x12 mm at outer corners and stainless steel grade 304,M10 full threaded anchor fasteners with nylon sleeve 100 mm long (for brick work) and M8 expansion anchor fasteners 75 mm long for concrete surface,		

Code No	Description	Unit	Rate
	spacing of brackets to be based on a structural/ static calculation. The brackets shall be of length 175 mm at junction of two vertical aluminium profiles and of length 100 mm at intermediate points of vertical profiles and shall be fixed to the vertical aluminium T / L / Tubular profiles using two numbers self-drilling/ self-tapping SS screws of size 5.5x25 mm with EPDM washers. EPDM gaskets to be fixed in between brackets and vertical profiles. The tiles shall be mounted on the 'C' clamps such that the tiles are supported at top and bottom at both ends. The tiles shall be additionally secured to the horizontal 'C' clamps using special SS clips of required size which shall be inserted and pressed into position on the 'C' clamps holding the tiles and the cut-tiles shall be glued at points to the horizontal 'C' clamps by using MS Polymer sealant adhesive. The vertical joint open groove between two adjacent tiles shall be 5 mm. The tiles and system shall be designed to resist wind load as per IS 875 (Part 3) according to different zones. The tiles shall be installed using the ventilated rain screen principle with provision for natural ventilation of the space between the façade tiles and the structural wall. The work shall be carried out as per specification, drawing and as per direction of the Engineer-in-Charge. Note : Scaffolding wherever required to be paid separately		
	26.92.1 With 16 mm thickness (+/- 10%) terracotta tiles of grey colour	sqm	6320.00
	26.92.2 With 16 mm thickness (+/- 10%) terracotta tiles of other than grey colors	sqm	5991.40
26.93	Providing and fixing of façade at all heights with extruded hollow Clay / Terracotta ventilated rainscreen tiles of height 259/ 309/ 409 mm and lengthof 1190 mm of approved texture,design and pattern having Flexural Strength/ Modulus of Rupture of ≥ 14 N/m² and maximum water absorption of 10% tested as per ISO 10545-4:2004(E) and ISO 10545-3:1995 respectively in true level fixed to a supporting aluminium framework (Alloy 6063 T5/T6) consisting of vertical 'T' (for intermediates)/ 'L' (for ends/ termination)/ Tubular sections (at corners)of size 80x60x2 mm/ 40x60x2 mm/ 40x40x2 mm respectively, spaced at maximum spacing of 1200 mm c/c matching to the tile vertical grid, and horizontal aluminium 'C'-clamps of size 56x34x2 mm thickness of length 150 mm at junction of tiles and of length 75 mm at wall ends/ corners fixed on top of the vertical sections at spacing of 250/ 300/ 400 mm c/c matching to the tile horizontal grid with two numbers of self-drilling / self-tapping SS screws of size 5.5x25 mm with EPDM washers. The vertical 'T'/'L/ Tubular' sections shall be fixed to the wall using HDG (hot-dip-galvanized) steel L-brackets (galvanizing thickness of minimum 80 microns) of size 110x80x6 mm at intermediate vertical aluminium profiles and of size 220x110x12 mm at outer corners and stainless steel grade 304,M10 full threaded anchor fasteners with nylon sleeve 100 mm long (for brick work) and M8 expansion anchor fasteners 75 mm long for concrete surface, spacing of brackets to be based on a structural/ static calculation. The brackets shall be of length 175 mm at junction of two vertical aluminium profiles and of length 100 mm at intermediate points of vertical profiles and shall be fixed to the vertical aluminium T / L / Tubular profiles using two numbers self-drilling/ self-tapping SS screws of size 5.5x25 mm with EPDM washers. EPDM gaskets to be fixed in between brackets and vertical profiles. The tiles shall be mounted on the 'C' clamps such that the tiles are supported at top and bottom at both ends. The tiles shall be mounted on the C-clamps with EPDM profiles in between such that the tiles are supported at top and bottom at both ends.		

Code No	Description	Unit	Rate
	The vertical joint open groove between two adjacent tiles shall be 10 mm. The tiles and system shall be designed to resist wind load as per IS 875 (Part 3) according to different zones. The tiles shall be installed using the ventilated rain screen principle with provision for natural ventilation of the space between the façade tiles and the structural wall. The work shall be carried out as per specification, drawing and as per direction of the Engineer-in-Charge. Note : Scaffolding wherever required to be paid separately.		
	26.93.1 With 24 mm thickness (+/-10%) terracota tiles of grey colour	sqm	6230.90
	26.93.2 With 24 mm thickness (+/- 10%) terracotta tiles of other than grey colors	sqm	5842.50
26.94	Designing, shop fabricating, supplying , erecting, stripping and shifting of customized Modular Tunnel Formwork system for cast-in-situ monolithic RCC structures, using precision steel cubical formworks are molds with minimum 3 mm thick hot rolled plain painted/hot dip galvanized M.S. sheets for panel in contact area with necessary framing and allied accessories as per CPWD specifications including transporting, storage, assembly, hoisting and placing in position for supporting and holding the formwork in place till initial setting of the concrete then stripping the formwork, propping to support horizontal surface cleaning and oiling etc. for shifting to the next cycle, inclusive of all labour, machines and T&P requirements taking all safety measures etc. as per design and cycle programme all complete as per directions of the Engineer-in-Charge. Design of Tunnel Formwork system shall be provided by concerned service provider/vendor and the rate is inclusive of all the elements and all operations for all heights.	sqm	269.40
26.95	Providing and installation of factory made Structural Stay in place form work system with double faced panels for walls, single faced panels for roof/ floor slabs, L-shaped single faced panels for corners, with necessary scaffolding, struts, bracing etc. Complete as per CPWD specification and directions of the Engineer in Charge. Design of walls and other members to be provided by the supplier & shall be duly vetted by any engineering institute of National repute such as IITs, NITs etc. and nothing extra shall be payable on this account (Additional steel reinforcement/dowels, design mix concrete of specified grade, electrical and plumbing conduits insert for services and plastering on either side of walls shall be paid for separately). Note:- This item shall be adopted for building upto G+3 Storeys only excluding seismic zone V.		
26.95.1	Double panel of required thickness (110 mm & above) with minimum weight of panel as 11.05 kg per sqm for walls with corresponding corners and jambs strips.	sqm	3189.10
26.95.2	Single panel for slabs with minimum weight of panel as 4.05 kg/sqm for walls with corresponding corners and jambs strips.	sqm	1713.55
26.96	Providing and placing “Stay in Place PVC Wall formwork” made up of extruded Unplasticised Poly Vinyl Chloride (uPVC) consisting of Main panel, 3 way Connector, Starter Channel, Joint Panel, Connection Panels, Door/Window frame/trim panels etc. all complete as per manufacturer design and for all heights as per direction of Engineer-in-charge. (Note: Suitable for in fill walls with appropriate Structural system).		
26.96.1	125 mm wide Stay in Place PVC Wallform made of minimum 2.50 mm thick sections and minimum weight 21.97 kg /sqm of formwork.	sqm	2926.70
26.96.2	165 mm wide Stay in Place PVC Wallform made of minimum 2.50 mm thick sections and minimum weight 29.00 kg /sqm of formwork.	sqm	3805.05