

PROJECT: 1x800 MW Ultra Super Critical Unit No. 7 On Ash Dyke Area at Ukai TPS
BOQ CUM RATE SCHEDULE (PRICE BID)

SCOPE OF WORK:-

Civil, Structure and Architecture Works of BTG Island-II consists of Boiler, ESP, Duct Foundation, Mill & Bunker Building including Bunker & its supporting structure, Mill Foundation, Fan Foundations, ESP Control Building, Switchyard, Compressor House Building, Sub-store Building, Fire Protection & Detention System (Within Terminal Point), Fire Fighting Pipe Pedestal/Trenches (Within Terminal Point), Mill Reject Silo Foundation & Trenches, Pipe/ Cable Rack (Within Terminal Point), Area Paving (Within Terminal Point), Plant Roads & Drains (Within Terminal Point), ETP/STP (Within Terminal Point), etc.

ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
A1.1	Construction of Worker's Accommodation sheds (120-125 workers) having adequate no. of rest rooms along with toilets etc. including associated civil and structural works on built, own and operate basis (ownership of sheds shall be in line with TCC) as per attached drawing, Standard Guidelines for Worker's Accommodation / Establishments at Project Site and Clause 3.10 of TCC for development of labour colony. Payment shall be released on completion of each shed/set as per attached drawing. Cement & Steel shall be in bidder's scope.	Set	6.00	₹ 50,00,000.00	₹ 3,00,00,000.00	FIXED AMOUNT
A1.2	Payment for Lease of land provided for labour colony area including all statutory clearances, expenses for agreement and any other incidental charges, etc. Mode of measurement:- Say Duration is 3 years, land lease area is 5 acres and Cost per acre of land for 1 year is Rs A. Unit Rate(per acre per month) shall be = Rs A / 12 and Total Amount payable finally - Rs A / 12 x 36 months(3 years) x 5 Acres. Note:- In case, land is provided by BHEL/Customer, this BOQ item shall not be operated.	Acre-Month	65.00	₹ 24,000.00	₹ 15,60,000.00	FIXED AMOUNT
100	EARTH WORK: Earth work in excavation, backfilling and disposal including all labour, equipments etc complete as per specification, drawing and as directed by engineer- in-charge for the following.					
101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1Km, spreading/levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	67070.00			0.5050062817
b	Depth exceeding 2 m but not exceeding 4 m	CUM	12050.00			0.1134137039
c	Depth exceeding 4 m but not exceeding 6 m	CUM	4000.00			0.0470596282
A102	Extra over ST No. 101,103,104,105 & 106 for dewatering of ground water by sump pump method as per IS 9759.Ground water table shall be lowered up to 1 m below the founding level to make the site workable for foundation construction till backfilling up to ground level. Mode of measurement shall be the quantity of excavation of soil including ash below ground water table to founding level of the footing.	CUM	25000.00			0.4313799248

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103	Earth work in excavation in soft rock including weathered rock which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with excavator machine etc but does not require chiselling or blasting including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1 Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	37730.00		0.4646048066	
b	Depth exceeding 2 m but not exceeding 4 m	CUM	8259.00		0.1217818469	
c	Depth exceeding 4 m but not exceeding 6 m	CUM	298.00		0.0052822864	
104	Earth work in excavation upto any depth below ground level in hard rock requiring blasting (but excluding controlled blasting) including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, necessary licenses/statuatory clearances for blasting, supply, storage & handling of blasting materials, stacking/disposal of surplus excavated material within a lead upto 1 Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	3600.00		0.1087077410	
b	Depth exceeding 2 m but not exceeding 4 m	CUM	1200.00		0.0434830964	
105	Earth work in excavation in hard rock requiring controlled blasting including wedging, line drilling, pre shearing etc as required, setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, necessary licenses/statuatory clearances for blasting, supply, storage & handling of blasting materials, stacking/disposal of surplus excavated material within a lead upto 1Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	18418.00		0.6399461575	
b	Depth exceeding 2 m but not exceeding 4 m	CUM	33342.00		1.3912350815	
c	Depth exceeding 4 m but not exceeding 6 m	CUM	2981.00		0.1491694525	
106	Earth work in excavation in hard rock requiring chiselling (pneumatic rock breaker attachment with excavator machine, etc.) including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, stacking/disposal of surplus excavated material within a lead upto 1Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	968.00		0.0411501938	
b	Depth exceeding 2 m but not exceeding 4 m	CUM	1715.00		0.0874328675	
c	Depth exceeding 4 m but not exceeding 6 m	CUM	149.00		0.0091154500	
A107	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 300mm compacted thickness using/with selected materials from compulsorily excavated earth available within a lead upto 1 Km and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following.					
a	at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	86987.00		0.7573115368	
b	at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	24981.00		0.2409972971	

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108	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with selected earth directly from excavation within a lead upto 1Km and compacted as specified including watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following:					
a	at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	500.00			0.0022745487
b	at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	500.00			0.0024314141
109	Extra over ST No. 101 and 103 to 108 for carriage of material/earth for every 500m or part thereof beyond an initial lead of 1km including spreading / levelling of disposed materials.					
b	Carriage for disposal of serviceable/unserviceable material/ earth	CUM	1451275.00			1.7074115463
110	Earth work in backfilling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness so as to achieve required compaction with approved borrowed soil (borrowed soil to be arranged by the bidder) and compacted as specified including supplying borrowed soil, royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, testing, all lead and lifts etc all complete as per specification, drawing and as directed by the engineer for the following:	CUM	1100.00			0.0427066126
B111	Supplying and filling "Crushed stone sand (M-Sand) / River / natural sand upto any depth under floors, around foundations, plinths etc. in layers not exceeding 200 mm thickness and compacted so as to achieve at least 85% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	679.00			0.1077365087
112	Extra over item no. 101 for shoring and strutting in trenches including packing cavities (wherever required as instructed by engineer) all complete as per specification and as directed by engineer in charge.					
a	upto depth of 2m	SQM	5957.00			0.1439048919
b	Depth exceeding 2 m but not exceeding 4 m	SQM	513.00			0.0154908531
200	CONCRETE WORK: Providing and placing concrete work including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, batching, mixing, placing, vibrating and curing (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.					
A201	Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as mass filling course, lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224)	CUM	380.00			0.1140913625
A202	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224)	CUM	14023.00			4.2102715168

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A203	Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors, plinth protection etc. complete below finished ground floor level of ground floor upto depth of 10m from FGL FFL of ground floor. (For depth greater than 10m from FGL FFL of ground floor, extra over for additional depth to be paid in Item No A224) (Minimum cement content shall be 300kg/cum)	CUM	250.00			0.0750601069
A204	Concrete of grade M20 (1 part cement, 1.5 part sand, 3 parts of 10-20 mm graded aggregate by volume) under floors, paving, plinth protection, pipe encasing etc complete below finished ground floor level of ground floor upto depth of 10m from FGL FFL of ground floor. (For depth greater than 10m from FGL FFL of ground floor, extra over for additional depth to be paid in Item No A224). (Minimum cement content shall be 340kg/cum)	CUM	219.00			0.0634337905
A205	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, trenches, under floors, duct banks etc for any shape, position or thickness etc complete all including with addition of high performance PCE-based BIS approved water reducing admixture of Type-G as per ASTMC-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent having minimum water reduction capability of 30% to achieve required slump in concrete complete as per specification & drawing below finished ground floor level of ground floor upto a depth of 10m from FGL FFL of ground floor (For depths greater than 10m from FGL FFL of ground floor, extra over for additional depth to be paid in Item No A224), for the following.					
a	M 20 Grade (Minimum cement content shall be 340kg/cum)	CUM	300.00			0.0952486874
b	M 25 Grade (Minimum cement content shall be 375kg/cum)	CUM	39185.00			12.5086805406
c	M 30 Grade (Minimum cement content shall be 400kg/cum)	CUM	12688.00			4.0741615817
A206	Providing and laying Design Mix cement concrete of grade conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in superstructure for any shape, position or thickness etc complete including with addition of high performance PCE-based BIS approved water reducing admixture of Type-G as per ASTMC-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent having minimum water reduction capability of 30% to achieve required slump in concrete all complete as per specification & drawing upto 10m level above finished ground floor level of ground floor (For height greater than 10m from FGL FFL of ground floor, extra over for additional height to be paid in Item No A225), for the following.					
a	M 20 Grade (Minimum cement content shall be 340kg/cum)	CUM	1660.00			0.5709195655
b	M 25 Grade (Minimum cement content shall be 375kg/cum)	CUM	2831.00			0.9783215117
A207	Providing and laying Design Mix cement concrete confirming to IS:456 & IS 10262-2009 for reinforced concrete works of grade mentioned below in machine foundations for TG, ID/FD/PA fans, BFP, Mills, FGD,etc at all elevations below/above finished floor level of ground floor but including TG foundation Columns, BFP foundation Columns with addition of suitable plasticizer conforming to IS 9103(latest) or ASTM C494 to achieve a slump in the range of 100 mm -150 mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate in concrete all complete as per specification & drawing all complete.					
a	M 30 Grade (Minimum cement content shall be 400kg/cum)	CUM	5569.00			2.0227827425

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210	Extra over ST Nos. 205 to 207 for conducting UPV test for concrete at all levels including all equipments, making necessary arrangements, staging, submission of report etc. all complete as directed by engineer in charge and as per specification.	CUM	5569.00			0.2620750692
211	Providing and encasing of structural steel member with concrete using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades					
a	M 20 Grade	CUM	20.00			0.0060048086
b	M 25 Grade (Minimum cement content shall be 375kg/cum)	CUM	742.00			0.2227783973
212	Scree concrete conforming to IS 456 with sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof upto 10m level above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 225) or thickness, drains etc complete as per following.					
a	01:02:04	CUM	184.00			0.0552442387
213	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in precast works like roof slabs/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias etc. at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transposing, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc. complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.					
b	M25	CUM	278.00			0.1526954735
A214	Providing and laying Design Mix cement concrete as per IS:456, IS 3370 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in water retaining/conveying structures including addition of suitable plasticizer confirming to IS 9103 and crystalline waterproofing cement additives to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and crystalline waterproofing conforms to limits of permeability as per ACI212-3R10(chapter-15,PRAH), BS8102 Type-B and IS 2645 and specification with 20 mm nominal size graded aggregate upto depth of 10m from FGL FFL of ground floor, (For depth greater than 10m from FGL FFL of ground floor, extra over for additional depth to be paid in Item No A224). for following grades. Crystalline waterproofing additive reduces permeability by more than 90%, tested as per DIN 1048-V, ensuring waterproof concrete with self-healing capabilities for cracks up to 0.5 mm with valid test results. The recommended dosage rate should be 0.8% by weight of total cementitious content or such lower dosages, allowing the concrete to withstand 16 bars of hydrostatic pressure and reduces chloride diffusion coefficient more than 45%, tested as per ASTM C 1556, resistant to sulphate attack and resistance to Alkali-Silica Reaction (ASR). The product should be certified under NSF 61, and accredited from IRC & MoRTH. Watertightness is to be ensured including structural grouting if required.					
b	M 30 Grade (Minimum cement content shall be 400kg/cum)	CUM	167.00			0.0585230398
215	Dismantling concrete work for all types of structures at all levels including stacking of servicable material to a lead of 500 m and disposal of unservicable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, specification and instructions of engineer in charge.					
a	Plain cement concrete of all grades	CUM	108.00			0.0101733504

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b	Reinforced cement concrete of all grades	CUM	206.00			0.0298745500
216	Chipping of concrete in reinforced concrete work, cutting pockets, making openings at all levels and according to shapes, disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, safety precautions, making good the broken surface etc all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement.	CUDM	957.00			0.0059297484
217	Extra over and above St No 216 for cutting of reinforcement, all sizes and types including labour, equipment, return of cut reinforcement to store etc all complete as per specification, drawings and instructions of engineer in charge. Measurement shall be on the cross sectional area of reinforcement cut.	SQCM	163.00			0.0000894917
218	Cutting Reinforced concrete with mechanised tools like Core drilling machine etc. for cutting pockets, holes, cores in slab, beam, column or foundation as per direction of engineer in charge.	CUDM	106.00			0.0015463794
219	Providing and applying curing compound (water based) of approved make where ever required as per manufacturer's specification.	SQM	800.00			0.0082197484
222	Cutting of groove of 10mm X 40mm size with groove cutting machine in concrete paving all complete.	RM	150.00			0.0008588382
223	Cutting of existing concrete/ RCC work inside control room/ pump house or anywhere inside boundary using power tools (DD2E of HILTI/ BOSCH make) with low noise and dust including cutting reinforcements, removing the rubbish within a lead of 1 km, including making good the broken edges/ surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/ supporting at any level, all complete and as directed by Engineer (measurements shall be taken as per cutting surface area).	SQM	49.00			0.0105380625
A224	Extra over item no. 201 to 205, A201 to A205 and 214, A214 for depth below FGL FFL of ground floor (Finished ground floor level of ground floor) as per following:					
a	Depth exceeding 10m from FFL but not exceeding 20m	CUM	200.00			0.0058510804
A225	Extra over item no. 206,A206, and 212,A212 for height above FGL FFL of ground floor (Finished ground floor level of ground floor) as per following:					
a	Height exceeding 10m from FFL but not exceeding 20m	CUM	785.00			0.0286914710
b	Height exceeding 20m from FFL but not exceeding 30m	CUM	776.00			0.0510647162
c	Height exceeding 30m from FFL but not exceeding 40m	CUM	96.00			0.0084255558
300	FORMWORK: Providing, fixing and removing formwork at all elevations for all structures, as per specifications and including all labour, material, scaffoldings and centering etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.					
301	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams & slabs (for which scaffolding work not required for vertical support of bottom face of formwork), mass concrete, trenches, grade slab, paving etc.including chamfering of edges as per drawing, specification and instruction of engineer in charge.					
a	Upto Depth 10m From FGL	SQM	83592.00			4.1108298165
302	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface above finished ground floor level for columns, beams, suspended/intermediate floors, roofs, lintels, cantilevers, staircases, landings, balconies, etc. including chamfering of edges as per drawing.for all heights as per specification, drawing and instruction of engineer in charge.					
a	For Height Upto 20m from FGL	SQM	20021.00			1.2154132518
b	For Height More Than 20m from FGL	SQM	635.00			0.0429317144

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304	Providing, fixing and removing formwork in block-outs/pockets and openings (below 0.1 sqm plan area) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.					
a	Upto 150 mm depth	Each	73.00		0.0013569644	
b	Pockets of depths more than 150mm and upto 300 mm depth	Each	145.00		0.0044694882	
c	Pockets of depths more than 300mm and upto 600 mm depth	Each	45.00		0.0024565126	
d	Pockets of depths more than 600mm and upto 1000 mm depth	Each	45.00		0.0038294772	
e	Pockets of depths more than 1000mm and upto 1500 mm depth	Each	20.00		0.0024471007	
f	Pockets of depths more than 1500mm and upto 2000 mm depth	Each	20.00		0.0032267218	
305	Extra over item no.301 and 302 for curved form work for foundations, footings, beams, walls, trenches, domes, arches etc as per specification.					
a	Extra for Curve Shuttering for Item No. 301	SQM	100.00		0.0009804089	
b	Extra for Curve Shuttering for Item No. 302	SQM	156.00		0.0018965030	
307	Fairface formwork with filmface/laminated plywood for RCC Overhead Tanks (with a minimum 15.00m height of supporting RCC columns from FGL) including columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches, etc. for all heights above FGL all complete as per specification, drawing and instruction of engineer in charge.	SQM	550.00		0.1177667195	
400	REINFORCEMENT WORK : Reinforcement work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge.					
401	Providing, straightening, cutting, bending, placing in position at any level, binding of mild steel reinforcements conforming to grade 1 of IS:432 part 1 in concrete including cost of reinforcement and binding wire, labour, scaffolding, transportation to & from stores etc. all complete as per specifications & drawings. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	4.00		0.0262508018	
403	Transportation, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500D or 500EQR or HCRM or any other Grade confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.(BHEL to supply steel free of cost)	MT	6110.00		5.8383845308	
405	Providing & fixing of Rebar in existing concrete surface by inserting reinforcement bar with Epoxy based suitable bonding compound of Hilti or equivalent make (HIT-RE-500 of Hilti or equivalent make) for interconnection of new R.C. structure with existing R.C. structure. Depth of drilled hole should be suitable to develop maximum recommended strength as per approved manufacturer's recommendation. This item includes supply of all materials including bonding chemicals, T&P required to execute the work, cost of all labour, transportation of chemical, staging to reach work place etc. all complete as directed by Engineer - in - Charge. Random Pull out non destructive test as directed by engineer shall be conducted to ensure strength of bond and same is included in this item. Reinforcement bar shall be paid separately under item no. 402, 403, 405 as applicable.					
a	12mm Reinforcement bar	Nos.	43.00		0.0020572901	
b	16mm Reinforcement bar	Nos.	56.00		0.0043702708	

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c	20mm Reinforcement bar	Nos.	68.00			0.0077174653
406	Supply and fixing reinforcement bar couplers (of approved manufacturer's as per the relevant IS code) in position for steel reinforcements of TMT steel of grade Fe-500D or 500EQR or any other Grade confirming to IS:1786 including , labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.(Agency has to supply reinforcement bar couplers).					
a	12mm dia	Nos.	11.00			0.0000491773
b	16mm dia	Nos.	148.00			0.0006964825
c	20mm dia	Nos.	186.00			0.0011087248
d	25mm dia	Nos.	173.00			0.0015468500
e	28mm dia	Nos.	168.00			0.0018315607
f	32mm dia	Nos.	263.00			0.0036511213
g	36mm dia	Nos.	8.00			0.0001468260
h	40mm dia	Nos.	8.00			0.0001982779
B409	Supply and Fixing of Hard Drawn Steel Wire fabric including straightening, cutting, bending, placing in position at grade slabs / plinth levels / pavings etc. binding in position of grade Fe-500 (min.) confirming to IS:1566 including cost of steel, binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.	MT	3.00			0.0187036139
500	Roof Treatment works: Roof treatment works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, curing, sampling, testing etc at all level as per specification, drawings and as directed by engineer - in - charge.					
501	Providing and laying underbed/topping grading plaster with cement mortar 1:4 (1 cement : 4 sand) and average thickness of 25 mm including preparation of surface, batching, mixing, leveling etc. all complete.	SQM	3267.00			0.0661098362
A502	Scree concrete mix (1:2:4) grading having minimum 25mm thickness at the lowest point of the slope shall be laid over R.C.C. slab and shall be laid as per the slope specified elsewhere in the specification. Top surface of grading underbed shall be finished with 15mm thick cement plaster (1:4). Over the finished surface elastomeric membrane shall be laid and top of the elastomeric membrane shall be finished with 20 mm thick cement: sand (1:4) mortar with chicken wire mesh and pressed precast concrete tiles of 20 mm thickness where applicable shall be laid over mortar at green stage. Provision for thermal expansion of roofing tiles shall be kept by providing an expansion gap in both directions filled up with polysulphide joint sealant. The expansion gap shall be provided in the cement sand mortar underbed layer also.	SQM	2650.00			0.6459875157

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AA506	<p>Providing and applying PU based 100% solid content of approved make water proofing treatment with epoxy based or equivalent material based primer with an application rate of minimum 200gm persqm and two successive liquid coatings of high solids content urethane pre-polymers or equivalent material based finish coats as per relevant IS/ASTM standards to form an elastomeric membrane with overall dry film thickness 1.5 mm subject to minimum 500 gm/sqm/coat application rate. The coating shall be applied with a total consumption of 1.6kg/sqm to achieve total system DFT of min.1.5mm. The elastomeric membrane shall be of two component, instant setting, spray applied hybrid polyurea polyurethane liquid elastomeric seamless waterproofing membrane. Item includes surface preparation. The coating shall have high viscosity, more than 450% elongation and forming a perfectly smooth permanently flexible seamless membrane which should have good adhesion to roof substrates. The cured film should have a very low water absorption rate (0.5% maximum at ambient temperature after 7 days), reinforcing layer of polyscrim cloth (non woven polyscrim cloth of 100% polyester with min. weight of 40gsm/sqm) or geo-textile non woven polyester (150 gsm), polymerised mastic base preparation, primer, making of fillets, cleaning & preparation of surface, vacuum removal of loose sand, expansion joints & sealing at suitable intervals, application by using a pneumatic machine as per manufactures recommendations, grouting the porous area with cementitious grout, proper coving between slab and wall junctions and priming the surface with two component solvent free epoxy primer etc. all complete as per specifications, drawings and direction of engineer in charge. Water proofing treatment shall also be carried out into the drain pipe or out-lets by at least 100 mm. The application of waterproofing treatment shall be carried by authorised applicator of approved Manufacturer of Waterproofing materials.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	2932.00			0.2483618936
B506	<p>Providing and applying PU based water proofing treatment with one coat of polyurethane or any other equivalent material based primer with an application rate of minimum 6 sq.m per litre and two successive liquid coatings of high solids content urethane pre-polymers or equivalent material based finish coats as per relevant IS/ASTM standards to form an elastomeric membrane with overall dry film thickness 1.5 mm subject to nominal rate of total liquid coating application shall not be less than 1.6 kg. /Sq.M. excluding primer coat. Reinforcing layer of polyester scrim cloth shall be placed over the 1st coat when the coat is tacky and fine silica sand shall be spread over the final coat when coat is tacky to obtain a rough surface. The exposed surface of elastomeric membrane shall be protected by providing extruded high density dimpled polyurethane membrane. The top surface of elastomeric membrane shall be protected by providing 20 mm thick PCC of grade M20 (using 12.5 mm size aggregate) cast in panel of maximum size 1.5 m x 1.5m. The surface shall be dry and smooth before application. Item includes surface preparation, polyscrim cloth /fabric, polymerised mortar base preparation, etc all complete as per specifications and directions of engineer in charge. (There may be rubber or P.V.C. In case of water bars being used at the construction Joint, fixing of the same has to be done carefully so that the water bar is not disturbed during concreting).</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	443.00			0.0395058519

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507	Providing and laying wearing course consisting of 25mm thick plain cement concrete of grade M15 (1:2:4) with graded aggregate of 12.5mm size cast in panels of maximum size 1.2mx1.2m and reinforced with 0.56 mm dia galvanised chicken wire mesh and sealing of joints (in grooves of 6mm X 6mm) using silicon /elastomeric compound etc all complete.	SQM	3066.00			0.1243254198
510	Providing and laying cement concrete chequered flooring tiles of 22 mm thickness and size 300x300 mm conforming to IS 13801 with 8 mm thick 1:4 cement mortar over the top most layer of roofing treatment in pathway or entire area with fine joints including sealing of joints (silicon/elastomeric sealant) and providing expansion gap in both directions including underbed(as per drawings) filled up with (silicon/elastomeric) joint sealant etc all complete. (Water proofing paid elsewhere)(including cost of cement for tiles making) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	817.00			0.0458168618
B510	Providing and laying pressed clay tiles of size 230x230x18 mm laid in water proofing compound mixed cement mortar 1:3 and sealing of joints (silicon/elastomeric sealant) etc all complete. (Water proofing paid elsewhere) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	175.00			0.0204238786
511	Providing and applying two coats of bitumen grade 85/25 as per IS 702 (@ 1.7kg/sqm)with 1% antistripping compound conforming to IS 642 in foundation, wall, column etc on concrete surfaces exposed to soil / ash including surface preparation etc. all complete.	SQM	67650.00			1.2415976995
513	Providing and mixing water proofing compound conforming to IS:2645 in concrete or cement mortar all complete.	KG	11970.00			0.0553915353
A516	Providing and applying two coats of a cement-based, two-component, polymer-modified flexible protective and waterproofing slurry shall be applied on the walls and floor. Each coat shall be approximately 1 mm thick. Prior to application, surface shall be rendered absolutely dry, clean, dust free. The slurry shall be applied using a brush to ensure uniform coverage and proper adhesion etc. all complete as per specification and as guided by engineer-in-charge.	SQM	443.00			0.0171643719
A517	Providing and laying Cinder / foam concrete blocks in the toilets,pantry,sunken slab etc. after water proofing and laying of plumbing pipes complete as directed by engineer in charge.	CUM	7.00			0.0015241045
A518	Providing and laying water proofing treatment for wet areas like toilets,kitchen,pantry for sunken slab etc.material with min.two coats of Acrylic Polymer Modified Flexible Cementitious Waterproofing Coating material like penetron SF-50 or equivalent make applied @ 0.70 to 0.80 Kg./m ² per coat .The First layer shall be of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.The Second layer shall be of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm.The integral waterproofing coat applied (confirming to IS 2645) , while maintaining a gap of 4 to 8 hours between the coats all complete with water ponding test as per IS Code and as directed by engineer in charge	SQM	60.00			0.0029035791
B519	Providing and laying an angular fillet around parapet wall junction at roof level of min.75mm x 75mm, shall be trowel applied in cement-sand mortar in 1:3 proportion. A latex based bonding agent should be added (10% by weight of cement) and also a glass cloth must be inserted while the angle fillet is being constructed etc. all complete as per specificatio & as directed by engineer in charge.	RM	366.00			0.0263811569

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600	JOINTS AND FILLERS: Joints & fillers including all labour, material, equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge.					
601	Supplying & installation of bitumen impregnated fibre board conforming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	12 mm wide joints.	SQM	60.00			0.0029318148
b	20 mm wide joints.	SQM	105.00			0.0061683408
c	25 mm wide joints	SQM	1230.00			0.1055406281
d	50 mm wide joints	SQM	330.00			0.0592716017
603	Providing and applying polysulphide based sealant conforming to IS:12118 in expansion joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete for following size grooves (10 mm thick baker rod to be paid separately):					
a	25mmX25mm groove size	RM	255.00			0.0127002171
b	50mmX25mm groove size	RM	330.00			0.0310852374
604	Supplying and filling in position hot applied bitumin sealing compund (Grade A) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.					
a	10mm X 40mm	RM	30.00			0.0001576498
b	12mm X 25mm	RM	555.00			0.0025247491
c	20mmX25mm	RM	80.00			0.0004768709
A604	Supplying and filling in position Nito Bond sealing compund confirming to indian standard including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.					
a	10mm X 40mm	RM	80.00			0.0004643217
b	12mm X 25mm	RM	30.00			0.0001505908
c	20mmX25mm	RM	105.00			0.0006917765
605	Supplying and installation of commercial quality of expanded polystyrene products from reliable manufacturers as approved by the Engineer, as filler material in joints including nailing, installation as per manufacturer's recommendation etc. all complete.					
a	12 mm wide joints.	SQM	30.00			0.0001764736
b	20 mm wide joints.	SQM	30.00			0.0002235332
c	25 mm wide joints	SQM	30.00			0.0002564750
d	50 mm wide joints	SQM	130.00			0.0025184744
A605	Supplying and installation of commercial quality of expanded polystyrene products from reliable manufacturers as approved by the Engineer, as filler material in joints including nailing, installation as per manufacturer's recommendation etc. all complete.					
Ae	100 mm wide joints with polystyrene board of type-1 conforming to IS: 4671 with density 20 Kg/cum	SQM	5758.00			1.0373609525

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606	Providing and installing PVC joint sealing strips of minimum 3mm thickness and minimum width 100 mm at the construction, expansion and isolation joints from reputed manufacturers as a continuous diaphragm to contain the filler material and/ or to exclude passage of water or any other material into or out of the structure, without any longitudinal joint; and shall be procured and installed in largest practicable lengths having a minimum number of transverse joints with jointing procedure as per the manufacturer's recommendations including the material and tools required for jointing, testing, protection, etc all complete. The joints in rubber seals shall be vulcanised as needed.	RM	230.00			0.0025976915
A606	Providing and installing PVC joint sealing strips of minimum 1mm thickness and minimum width 100 mm at the construction, expansion and isolation joints from reputed manufacturers as a continuous diaphragm to contain the filler material and/ or to exclude passage of water or any other material into or out of the structure, without any longitudinal joint; and shall be procured and installed in largest practicable lengths having a minimum number of transverse joints with jointing procedure as per the manufacturer's recommendations including the material and tools required for jointing, testing, protection, etc all complete. The joints in rubber seals shall be vulcanised as needed.	RM	80.00			0.0006651094
B606	Providing and installing rubber joint sealing strips of minimum 3mm thickness and minimum width 100 mm at the construction, expansion and isolation joints from reputed manufacturers as a continuous diaphragm to contain the filler material and/ or to exclude passage of water or any other material into or out of the structure, without any longitudinal joint; and shall be procured and installed in largest practicable lengths having a minimum number of transverse joints with jointing procedure as per the manufacturer's recommendations including the material and tools required for jointing, testing, protection, etc all complete. The joints in rubber seals shall be vulcanised as needed.	RM	130.00			0.0016110079
609	Providing and sealing of joints with premium grade silicon sealant (Silpruf of GE silicones or approved equivalent) including cleaning of joints, raking out groove, joint filler tapes, application of primer, curing, scaffolding etc. all complete as per manufacturer's recommendation for following size groove: (10 mm thick baker rod to be paid separately)					
a	25mmX25mm	RM	150.00			0.0064942287
A610	Providing and fixing ribbed PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following: (Bulb or Kicker type)					
b	230 mm wide and 8 mm thick	RM	1195.00			0.0463011838
Ab	230 mm wide and 10 mm thick	RM	95.00			0.0038671249
d	230 mm wide and 6 mm thick	RM	145.00			0.0039690875
611	Providing and fixing copper water stops in joints of deep underground structure all complete for the following:					
Ac	250 mm wide and 2.0 mm thick	RM	668.00			0.2338825872
612	Providing and applying approved fire retardant sealant in joints/openings including cleaning of joints/openings, raking out groove, application of primer, scaffolding etc. all complete (10 mm thick baker rod is to be paid separately).					
a	25mmX25mm	RM	80.00			0.0060048086
b	50mmX25mm	RM	80.00			0.0115766685
613	Providing and fixing G.I strips minimum 1.5mm thk and 150mm wide including fixing accessories etc. all complete.	Kg	180.00			0.0037130047

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614	Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including brass / aluminium screws, rawl plugs etc. all complete.	Kg	180.00			0.0084707331
615	Providing and fixing 300 mm wide Stainless steel strips over expansion joints with minimum lap of 50mm length including stainless steel screws, rawl plugs etc. all complete.	Kg	80.00			0.0040973250
700	MS EMBEDMENTS: Embedments including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
701	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	25.00			0.1926150580
A701	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including surface preparation by manual cleaning and provided with primer coat of chlorinated rubber based zinc phosphate primer of minimum 50 micron dry film thickness (DFT), welding, bolting, cutting, drilling, scaffolding, setting etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	95.00			0.7431138823
A702	Supply, Fabrication, transportation, delivery at site and erection, installation and alignment of Galvanized foundation bolt (GI coating of 0.61 Kg/m ²) assembly conforming to IS:5624 but the material including anchor plate shall be MS conforming to IS:2062 (Grade A). Foundation bolt shall be of property class 4.6 conforming to IS:1367 in concrete along with hexagonal nut (as per IS:1367, 1363 and IS:6639, property class 5), check nut (Conforming to IS:1364, property class 5) washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete. (Weight of templates shall not be considered for payment purpose.) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	35.00			0.3655709564
B702	Supply, Fabrication, transportation, delivery at site and erection, installation and alignment of mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete. All threaded and other surfaces of foundation bolts shall be coated with temporary rust preventive fluid and during execution of civil works, the dried film of coating shall be removed using organic solvents. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	51.00			0.4842642800
703	Same as above items 701, A701, A702 & B702 with BHEL supplied material free of cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.					

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A	Mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc.	MT	9.00			0.0176706551
B	Mild steel/Galvanised foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffener plates, protective tape, pipe sleeves, templates etc.	MT	10.00			0.0194073907
704	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.					
a	MS pipes of all diameters	kg	500.00			0.0043137992
b	PVC pipes / conduits of all diameters	kg	200.00			0.0058353939
c	UPVC pipes / conduits of all diameters	kg	100.00			0.0036863375
d	Expansion anchor fasteners (galvanised) of HILTI make(HUD-1 Universal Fastners) or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide:					
i	8mm Dia	Nos	23.00			0.0000811779
ii	10mm Dia	Nos	23.00			0.0001082371
iii	12mm Dia	Nos	23.00			0.0001352964
iv	14mm Dia	Nos	11.00			0.0001018057
e	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with expansion sleeve of stainless steel:					
i	HST M8	Nos	23.00			0.0004798513
ii	HST M10	Nos	23.00			0.0006602466
iii	HST M12	Nos	23.00			0.0011851967
iv	HST M16	Nos	23.00			0.0020673295
v	HST M20	Nos	23.00			0.0036115127
vi	HST M24	Nos	23.00			0.0073889891
f	Chemical Expansion fasteners (galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with anchoring rod, nuts, washers, chemicals all complete, etc:					
i	HAS-E5.8 M8	Nos	23.00			0.0008767209
ii	HAS-E5.8 M10	Nos	23.00			0.0010787635
iii	HAS-E5.8 M12	Nos	23.00			0.0013926513
iv	HAS-E5.8 M16	Nos	23.00			0.0023758053
v	HAS-E5.8 M20	Nos	23.00			0.0037919080
vi	HAS-E5.8 M24	Nos	23.00			0.0052783648
707	Providing, laying and fixing rails(52kg/rm) and guide rails in concrete for transformer, rail track including cutting of rails, joining of rails, anchoring lugs etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	21.00			0.1563464379
800	GROUTING: Grouting including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, roughening surface, cleaning, ramming, curing etc. at all level, drawings and as directed by engineer - in - charge.					

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801	Providing & grouting with cement slurry mix of approved ratio using pressure pump for water retaining concrete structures as per approved procedure including cost of nipples/ nozzles, cement, admixture, curing, pressure pumps, slurry agitator etc. all complete. Cost shall include fixing of nipples at maximum 500 mm centre to centre spacing, cutting of nipples after completing of grouting, making good of the nipple hole with appropriate non-shrink cement paste, water tightness test etc. all complete wherever specified in the drawing.	SQM	9.00			0.0005844806
802	Providing & grouting of pocket holes, pipe sleeves under base plates, machinery, pipe supporting structures etc. with mix 1:1 (1 cement :1 sand) using non shrink admixture etc. all Complete.	CUM	4.00			0.0075342465
803	Providing & grouting of pocket holes, pipe sleeves and under base plate of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with mix 1:1:2 (1 cement : 1 coarse sand : 2 aggregate of 6 mm down graded stonechips) using non shrink admixture as per specification, drawing and direction of engineer-in-charge. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	4.00			0.0073478903
804	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with ConbextraGP-1 or equivalent as per specification, drawing and direction of engineer-in-charge. (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	23.00			0.0832578157
805	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing, etc. all complete with Conbextra GP-2 or equivalent as per specification, drawing and direction of engineer-in-charge.(Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	32.00			0.1210323439
806	Providing Chemical (epoxy) injection grouting with pressure pump for water retaining concrete structures conforming to IS:6494, including fixing nozzles, cost of approved chemical, admixture, curing etc. all complete . Payment shall be made as per the consumption of chemical grout.	Kg	45.00			0.0058695121
900	DOORS & WINDOWS: Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, preparation of working drawings etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
903	Providing, fitting and fixing solid core flush door shutter as per IS 2202 part II, 35mm thick homogenous particle board bonded with BWP type phenolformaldihyde synthetic resin, partical board core conforming to IS 3087 type I, 35x12 mm thick teakwood beading all around including preparation of working drawings. godrej or equivalent make mortice lock with handels on both sides,approved ISI mark anodised fittings like door stopper,300mm long tower bolts,16x300mm long aldrops ,125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fittings shall be anodised aluminium color dyed), finish synthetic paint over primer, screws etc. all complete as per drawing, specification and instruction of engineer in charge. with commercial faces and teak wood edges. (Finish painting paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	20.00			0.0113131346

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904	<p>Providing and fixing single or double steel door shutters with 45 mm thick flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, air tight, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	97.00			0.1066333526
905	<p>Providing and fixing single or double steel door shutters with 18 gauge M.S. sheets shutter presenting a flush surface on the outside and inside stiffened with semitubular edge and central stiffening rail which shall convey the lock including fixtures, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	10.00			0.0115664723
906	<p>Providing and fixing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 (minimum anodized coating of grade AC15). fixed with rawl plugs, expansion fasteners, SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom & sides with required PVC / neoprene felt for bimetallic protection etc. Glazing shall be clear float glass of 6mm thickness including snap fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately)</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	KG	2335.00			0.1441314840
AA906	<p>Providing and fixing electrically sensor operated, self operable/closing, approved anodized aluminium framed glass door with 12 mm thk. tinted glass, all complete. Automatic Sliding operating system comprising of Advanced DC brushless motor, Automatic Reversing Safety Device, Suitable for door weight 100 kg, Opening speed : 90-110cm /sec (adjustable), Closing Speed : 40-110cm/sec (adjustable), opening time : within 1-9 seconds after door stopped in opening, controller : 8 Bit micro computer, Motor (Dortexor equivalent) : DC12V, 35W brushless motor, Power Voltage : AC 110V - 240V. 50Hz - 60Hz, Power Consumption : 45W including Infra Red Sensors 2No both sides, rails & top & bottom as required, any other accessories as required etc. all complete of best make and quality as approved by Engineer in charge. The door shall be double panel sliding door of approx. area 5 sq.m. to 7.5 sq.m. each.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	96.00			0.1422781974

ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
D906	<p>Providing and fixing anodized extruded aluminium sliding window (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 (minimum anodized coating of grade AC15). fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear float glass of 6mm thickness including snap fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately)</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	KG	4684.00			0.2891271396
907	<p>Providing and fixing fire proof steel doors (single or double shutter) with vision panel, panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, NBC 2016 & TAC requirements and as per specification. Vision panel shall be provided with interlayered fire rated glass. Minimum ratings shall be 2 Hrs.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	20.00			0.0188928721
B907	<p>Providing and fixing automatically closing fire proof steel flush insulated doors along with frame of minimum 46mm thk flush shutter design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm center to center of approved make conforming to IS:3614 (part 1), & CBRI tested- ISI marked for both Single leaf & Double leaf, comply IS/ISO 3008,satisfying latest NBC code & LPA regulations and shall carry a unique label with certification/test report number,fire rating embossment, fixed at all elevations, with or without removable panels,with panic bar,panic trim,smoke seal with following fire rating using galvanised MS sheets for frames conforming to IS 277, made out of minimum 1.6mm (16 SWG) for both frame and shutter, G.I. sheet (min.zinc coating 120 gsm), and leaves, mineral wool / PUF/ any other fire retardant insulation material filled with required density, mastic caulking and grouting the frame, reinforcing and insulating the shutters with fire retardant material, with panic devices, including all fittings, fire rated vision glass, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (min.64 kg/cum density) complete and shall be fire proof as per IS:3614, NBC, LPA requirements and as per specification. Fire Rated Door Shop drawings shall be submitted by the approved fabricator/manufacturer like Navair,4C Fire, shakti hormann or equivalent for approval before execution. Minimum ratings shall be 2 Hrs. All hardware fittings shall be 2 Hours fire rated.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	30.00			0.0708576821

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908	Providing and fixing steel windows/ventilator with steel sections as per IS:1038, IS:1361 & IS:7452 latest revision including all fittings, metal beadings, hold fasts, shop and final painting ,glazing etc. all complete. (Glazing shall be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	Openable type	SQM	30.00			0.0067859984
b	fixed type	SQM	30.00			0.0043600745
909	Providing and fixing anodised aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metallic protection etc. including preparation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid separately).Weight of aluminium section only shall be measure. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	Kg	8033.00			0.4958493408
A909	Providing and fixing anodised aluminium Grills in windows/ventilator of approved design. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	Kg	1500.00			0.0925898184

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B909	<p>Providing and fixing anodised aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections (of minimum 3mm wall thickness) including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285. (Grade of Aluminium shall be Alloy 63400) anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metallic protection etc. including preparation of fabrication/working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc. of Dorma, doorset or equivalent.), CP brass/stainless steel screws of SS304 Grade, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid separately). Weight of aluminium section only shall be measured.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	Kg	533.00			0.0329002488
A910	<p>Providing, fabricating, designing, supplying and fixing of Aluminium composite panel cladding (ACP) in pan shape in solid or metallic colour, wooden colour, stone finish of approved shades made out of 4mm thick aluminium composite panel (weight of panel should be minimum 8.1 kg/sqmt) material consisting of 3mm thick FR grade Class A2 as per EN 13501, mineral core sandwiched between two Aluminium sheets (each 0.5mm thick BMT). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF conforming to AAMA 2605 or Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc. The top coated surface of ACP shall comply with the "specification for coated coil for the exterior building application" issued by ECCA (European Coil Coating Association). The aluminium composite panel top and bottom skin should conform to Aluminium Alloy 5005 (AlMg 1) marine grade series and H 22/24 temper with mechanical properties confirming to EN 485-2 standard. The ACP product must conform to Class A2, s1,d0 as per EN-13501-1. The manufacturer must furnish the FPC and Certificate of conformity of EN13501-1 for Class A2,s1,d0 from the certifiers and Product must be supplied from the Certified Unit which has been mentioned on the FPC and COC. The panel shall be designed for 12mm groove in horizontal & in verticals with close joint system. Vertical & Horizontal groove shall be filled by non-staining high performance weather sealant. ACP panel shall have sub frame all around panel and aluminium stiffener profile as per structural requirements. The finished surface of ACP shall be protected with a self-adhesive (Rubber based) peel off foil with 70 microns thickness white or black, tested to withstand up to 6 months' exposure to local weather condition without losing the original peel off characteristic or causing stain or other damages on the coated surface of the aluminium composite panel. Installation of ACP Coping/facia at terrace level sealing the top gap of the parapet wall and ACP Panel shall have GI stiffeners below with required aluminium grid work with necessary MS HDG / aluminium alloy brackets & SS fasteners. 2nd barrier of 1mm thk GI sheet laid continuously below the coping to seal the parapet wall. Overlay of GI sheet shall be properly sealed with weather sealant. All shade shall be as per Architect's Approval as per approved sample from Alucobond Plus, Aludecor, Alubond, Virgo or equivalent. The system shall be designed to withstand a wind pressure of 200kg/Sqm or as per design requirement and shall</p>	SQM	279.00			0.1117113218

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911	Providing and fixing of door closers as per IS 3564 ,of approved make & quality all complete of following type : Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	Over head hydraulic door closures	Each	43.00			0.0068733724
b	Floor mounted Hydraulic door closers	Each	53.00			0.0184193738
912	Providing and fixing pressed steel frames fabricated from 16 gauge M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	Kg	795.00			0.0126578635
A912	Providing and fixing pressed steel door frames for fire proof doors. Door frame shall be double rebate profile of size 143 x 57 mm made out of 1.60 mm (16 gauge) minimum thick galvanized steel sheet reinforced, drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars, paintings etc all complete as per specifications. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	Kg	750.00			0.0119413806
A913	Providing and fixing in position rolling shutter of tested, bright, cold rolled, annealed MS strip slats of not less than 0.9 mm thick for shutters upto 4.5 m wide and not less than 2.25 mm thick for shutters 5.5 m wide and above machine rolled at 75mm rolling centres interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs, top cover, red lead or zinc chromate primer & shop coats of approved enamel paint etc, all complete as per IS 6248 and technical specification of approved make of following types: The bottom slat shall be coupled to a lock plate fabricated from 3mm thick annealed steel plate and securely riveted with stiffening angles.(partly coiled and slat/full slat). Hoods shall be formed of not less than 20 G steek, suitable reinforced to prevent sag.Guides shall be of such depth as to retain the shutter under a wind pressure of min. 100 Kg/Sq.M or as specified in Schedule. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	Mechanically Operated	SQM	78.00			0.0293223837
c	Electrically & Mechanically operated	SQM	78.00			0.0376914680

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B913	<p>Providing and fixing in position rolling grills constructed out of 6 mm dia. rods at 35 mm on centres running horizontally flexible connected with vertical links spaced not more than 200 mm centres. End locks shall be heavy type M.C.I./C.I. and shall be provided at each end of alternate slats mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs, top cover, red lead or zinc chromate primer & shop coats of approved enamel paint etc, all complete as per IS 6248 and specification of approved make of following types: Bottom bars shall be finished with two angles not less than 6 mm thick for external shutters. Hoods shall be formed of not less than 20 gauge steel, suitable reinforced to prevent sag. Locks shall be slide bolt and hasp, or cylinder lock operable from one or both sides with provision for securing hand chain with pad-lock, provision for removable handle for hand cranks etc.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>					
b	Mechanically Operated	SQM	18.00			0.0070900036
c	Electrically & Mechanically operated	SQM	18.00			0.0091130970
A914	<p>Providing and fixing Solid core PVC doors (25 thk double skin) with PVC frame of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	39.00			0.0098189914
915	<p>Providing, fixing and fitting of glazing of first grade class in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>					
c	5.5 mm thick clear float glass	SQM	261.00			0.0365815666
Ac	6 mm thick clear float glass	SQM	74.00			0.0107490465
Bc	8 mm thick clear float glass	SQM	20.00			0.0033129978
d	6 mm thick wired glass	SQM	394.00			0.0580657771
e	Providing and fixing of 3.0mm (min.) thick fire retardant and UV resistant polycarbonate clean toughed profile sheet of approved make conforming to IS 14434 in cladding and roof as per specification all complete.	SQM	468.00			0.0896372973
f	4 mm thick ground glass	SQM	35.00			0.0044636057
h	6 mm thick clear toughened safety glass	SQM	164.00			0.0291989306
i	Two nos. 6 mm thick clear toughened float glass hermetically sealed and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured)	SQM	200.00			0.0626677382
k	One outer 6mm thick tinted heat-reflecting type float glass and one inner 6mm thick plain float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).	SQM	24.00			0.0078438988
Ak	One outer 6mm thick safety glass and one inner 6mm thick clear glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).	SQM	98.00			0.0316833653

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916	Supplying and fixing weather stripping of approved make and quality to doors as per instructions of engineer in charge and specification complete.	RM	30.00			0.0007129534
917	Providing and fixing 12 mm thick BWP particle board, decorative veneer (prelaminated) on both sides, as panels in aluminium framed door shutter, fixed with necessary snap-on-beading etc. all complete (excluding aluminium works).	SQM	50.00			0.0059922593
918	Providing and fixing steel louvered window with ISMC 100 frame all round including verticals with 18G pressed steel louvers, painting etc. all complete.	SQM	75.00			0.0217944903
919	Providing and fixing 1 mm thk MS sheet sliding shutters with frame and diagonal braces of 50X50X6 angle iron, 3 mm MS gusset plates at junction and corners, 25 mm dia pulley, 50X50X6 angle and T-iron guide at the top and bottom respectively including painting etc. all complete.	SQM	100.00			0.0411850179
A920	<p>Providing and erecting Roof skylight structure with 6mm thick embossed clear translucent polycarbonate IR sheet, both side UV coated, minimum 55% light transmission, solar control, approved make, texture and shade, fixed to powder coated Aluminium section with 60mm width top & bottom with EPDM rubber gasket in approved shape like dome, pyramidal etc, sealing of joints with sealant, screws with pvc cap, self tapping screws, EPDM rubber gasket.etc as per drawing, standards, specification, instruction of engineer in charge etc all complete.(Structural Steel will be paid separately)</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	1050.00			0.2631221459

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A921	Providing & fixing Fully Glazed non load bearing fixed partition with 120 minutes Fire Rating, with valid fire test certificate from national or international lab with Partition Frame manufactured from cold rolled profiles of minimum 1.5 mm steel sheet pressed to form a profile of nominal size 50mm x 50 mm on all sides & fixed to the supporting construction by means of M 10 X 120 or bigger steel bolts at 150mm from the edges & every 500mm c/c. The frame shall be finished with etch primer for scratch resistance and shall be powder coated of approved shade and color. The glass panels shall be Toughened interlayered minimum 14mm thick, Contraflam Lite, Non Wired, with 120 minute fire rating for integrity and radiation control (EW 120) and insulation (I 20), with 30 minute full insulation, with a light transmission of 86% and a sound reduction of 38 dB and manufactured in Intertek & TUV audited facility and compliant to class 1(B)1 category of Impact Resistance as per EN 12600. The glass shall be tested for 5000 hours of UV resistance as per EN ISO 12543-4. The glass shall provide bi-directional (symmetrical) fire protection. The glass should be held in its place with the help of 1.25 mm cold rolled steel beading and Kerafix 2000 ceramic tape or as per the test evidence with cross section of 4 x 15 mm as per the test evidence. The beading shall be clipped on using stainless steel self-tapping screws fixed at a distance of 70 mm from the edges and 150 mm c/c henceforth. The glass panes are to be supported on non-combustible 5 mm thick calcium silicate setting blocks. The installation shall be through trained and certified by Vetrotech certified Installer. The maximum glazing size shall be as per details design and drawings. The profile has to be fixed to the supporting construction by means of M10 or bigger steel bolts at every 150 mm from the edges and every 500 mm (approx.) c/c. The partitions shall offer C4 level of wind resistance when tested as per EN12211 and shall provide class 4 level of air permeability as per EN 1026. The partitions shall also be tested for class 5 of impact resistance when tested as per EN 13049. The partitions shall have water tightness level of 8A when tested as per EN 1027. The item shall include intumescent putty and fire resistant acrylic sealants and the total assembly shall satisfy the fire resistance criteria of stability, integrity & radiation control and partial insulation (EW120). Fire Rated partition shall be of Makes- Saintgobain, Nauvair, Matrix or equivalent, all complete as per specification. (item includes the cost of glazing) Design, Shop drawings along with hardwares for the item with all construction and anchoring details, etc. along with fire rating test reports shall be got approved before execution. Design, Shop drawings	SQM	50.00			0.1121901535

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A922	<p>Providing and fixing Electrically operated sliding doors, self operable/closing, G.I. framed with fire resistant glass, with Fire resistant glazed door system shall be of uniform profile 50X50 mm with 14mm EI 20 glass for Interior application. Fire Resistant Glazed Door System shall have 120 minutes of integrity and radiation control (EW 120) with symmetrical (Bi-Directional) fire protection. The frames shall be cold rolled profiles as per EN standard EN 10327/ Indian Standard IS 513. The door frames are cold rolled from 1.6 mm steel sheet to form a profile of 50 mm x 50 mm on all sides. The door shutter shall have the top rail, side rail and bottom rail dimensions of 50 mm x 50 mm. The glass must be minimum 14mm clear,120 min fire rated for Integrity, Radiation control (EW 120) and partially insulation (EI 20) Non Wired Toughened Interlayered glass with a light transmission of 86% and a sound reduction of 38 dB and manufactured in UL & TUV audited Facility and including UL-EU Certification and compliant to class 1(B)1 category of Impact Resistance as per EN 12600. The glass shall be tested and certified for no formation of bubbles or yellowing after 5000 hours of exposure to UV radiation by TUV Rheinland as per EN 12543-4. The shutters shall be fixed to the frame using Weld-on hinges of dimensions 179mm X 20mm. The profiles shall have grooves to incorporate Fire Resistant gaskets. The glass shall be held in its place with the help of 1.5 mm cold rolled steel beading and Kerafix 2000 ceramic tape with cross section of 4 x 15 mm as per the test evidence. Beading shall be clipped on using Stainless Steel selftapping screws fixed at a distance of 70 mm from the edges and 150 mm c/c henceforth. The glass panes are to be supported on non-combustible 6 mm Calcium Silicate setting blocks. The door shall be fitted with offset pull handle and door closer of Dorma (TS 73V, TS 83V, TS93V), Geze (TS 2000NV) or equivalent. The inactive leaf (in case of double leaf only)shall be fixed to the frame using a tower bolt at meeting edge at top or as per the tested evidence. The doors shall be manufactured in a TUV audited facility. The maximum glazing size shall be as per the test certification. The profile has to be fixed to the supporting construction by means of M10 or bigger steel bolts at every 150 mm from the edges and every 500 mm (approx.) c/c. The doors shall offer C4 level of wind resistance when tested as per EN12211 and shall provide class 4 level of air permeability as per EN 1026. The door shall also be subjected to durability tests as per EN 12400 for C5 classification (200,000 cycles) all complete as per specification. The door shall have water tightness level of 8A when tested as per EN 1027. Fire Rated Door shall be of Makes- Saintgobain,Nauvair, Matrix or equivalent.</p>	SQM	50.00			0.3498412757

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A923	<p>Providing & fixing minimum 30mm thick Hermetically sealed double glass (DGU) consisting of Fire resistant glass of minimum 14mm thick, clear, toughened,interlayered borosilicate glass,120 minutes fire rated for both integrity & radiation control ,remain transparent under both fire and non fire condition and 6mm thick toughened tinted glass with min.10mm air gap filled with inert gas. The partitions shall be 120 minutes Fire Rated,Fully Glazed non load bearing fixed partition with valid fire test certificate from national or international lab with Partition Frame manufactured from cold rolled profiles Min.1.5 mm galvanized steel sheet (zinc coating not less than 120 gm/sqm) pressed to form a profile of nominal size 50mm x 50 mm on all sides or suitable profile to accomodate the glass & fixed to the supporting construction by means of M 10 X 120 or bigger steel bolts at 150 mm from the edges & every 500mm c/c .The frame shall be finished with etch primer for scratch resistance and shall be powder coated of min. 30 micron of approved shade and color.The glass panels shall be interlayered minimum 14mm thick, 120 minute fire rating and partially insulated (EW120), with 30minute full insulation, Non Wired Toughened Interlayered glass having a sound reduction of greater than 37dB, light transmission of 87% and compliant to class 1(B1) category of impact resistance as per EN 12600. The glass should be manufactured in UL & TUV audited Facility and including UL-EU Certification.The glass shall be tested for 5000 hours of UV resistance as per EN ISO 12543-4.The glass shall provide bi-directional (symmetrical) fire protection. The glass should be held in its place with the help of 1.25 mm cold rolled steel beading and Kerafix 2000 ceramic tape or as per the test evidence with cross section of 4 x 15 mm as per the test evidence. The beading shall be clipped on using stainless steel self-tapping screws fixed at a distance of 70 mm from the edges and 150 mm c/c henceforth. The glass panes are to be supported on non- combustible 5 mm thick calcium silicate setting blocks. The installation shall be through trained and certified by Vetrotech certified Installer.The maximum glazing size shall be as per details design and drawings. The profile has to be fixed to the supporting construction by means of M10 or bigger steel bolts at every 150 mm from the edges and every 500 mm (approx.) c/c.The partitions shall offer C4 level of wind resistance when tested as per EN12211 and shall provide class 4 level of air permeability as per EN 1026.The partitions shall also be tested for class 5 of impact resistance when tested as per EN 13049.The partitions shall have water tightness level of 8A when tested as per EN 1027.The item shall include intumescence putty</p>	SQM	50.00			0.1127274176

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A924	<p>Providing and fixing of fully glazed steel fire door (single/ double leaf) with 120 minutes fire rating, of integrity and radiation control (EW 120) fabricated with min.1.5 mm thick galvanized steel sheet. The door frames are manufactured from cold rolled min.1.5 mm thk. galvanized steel sheet (zinc coating not less than 120 gm/sqm) pressed to form a profile of 50 mm x 50 mm on all sides. The door shutter would have the top rail, side rail and bottom rail dimensions of 50 mm x 50 mm. The overall door opening shall be as per tested evidence and tested as per EN 1634-1 in an accredited international laboratory. The frame shall be finished with approved fire resistant primer or Powder coating of min. 30 micron as per approved shade. The sections have a special insulating infill. The test is conducted in IFTS as per EN 1634-1: 1999. The glass panels shall be interlayered minimum 14mm thick, 120 minute fire rating and partially insulated (EW120), with 30 minute full insulation, Non Wired Toughened Interlayered glass, with a light transmission of 86% and a sound reduction of 37 dB and manufactured in UL & TUV audited Facility and including UL-EU Certification. The glass should be compliant to class 1(B)1 category of Impact Resistance as per EN 12600. The glass should be held in its place with the help of 1.6 mm GI beading and a special ceramic tape with cross section of 5 x 20 mm as per the test evidence. The shutters should be fixed to the frame using weld-on hinges of dimensions 179mm X 20mm. The profiles shall have grooves to incorporate fire-resistant gaskets. The doors shall incorporate drop down seal at the bottom. The glass should be held in its place with the help of 1.25 mm cold rolled steel beading and Kerafix 2000 ceramic tape with cross section of 4 x 15 mm or as per the test evidence. The beading shall be clipped on using stainless steel self-tapping screws fixed at a distance of 70 mm from the edges and 150 mm c/c henceforth. The glass panes are to be supported on non-combustible 5 mm thick calcium silicate setting blocks. The door should be fitted with offset pull handle and door closer of Dorma (TS 73V, TS 83V, TS93V), Geze (TS 2000NV), Concealed door closer or equivalent. The inactive leaf should be fixed to the frame using a tower bolt at meeting edge at top or as per the tested evidence. The doors shall be manufactured in a Intertek & TUV audited facility. The door shall also be subjected to durability tests as per EN 12400 for C5 classification (200,000 cycles). The shutters should be fixed to the frame using Dorma SS Ball Bearing Hinges of size 100 mm x 89 mm and 3 mm thickness or equivalent. Beading should be attached using 4 mm x 35 mm SS screws at a distance of 75 mm from the edges and 150 mm c/c henceforth.</p>	SQM	50.00			0.1394376782

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A925	<p>Providing and fixing dry wall partition up to ceiling height with 12.5 mm thick double skin fire rated Glass Reinforced Gyproc plaster board conforming to IS: 2095: Part 1:2023 (Board with BIS certification marks) Type F / EN520:2004-TYPE-F / ASTM C473/C1396-TYPE X, having thermal conductivity 0.24w/m°k, with 100 mm overall thickness of partition, consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/sqm(both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia. meter 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia. bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and two coats of primer suitable for board as per manufacturer's specification and direction of engineer in charge all complete.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	50.00			0.0046706681
A926	<p>Providing and fixing MIN.12.5 mm thick water resistant, fire resistant Cementitious board consists of higher density core with an aerated gypsum core with glass fibre and other additives encased encased in, and firmly bonded to strong paper liners and conforming to IS 2095 Part 1:2023 Type F / EN520:2004-Type-F / ASTM C473/C1396-Type X, having thermal conductivity 0.24w/m°k. Partition wall with GI Framework and 12 mm thick bison board cladding on either side of GI section (50x38mm) in horizontal & vertical framework 600 mm c/c spacing as required for suitable rigidity & fixed above false ceiling partition walls as required all complete, including Additional support and height adjustment clips shall be provided for light fixtures, A.C. ducts etc. jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners joint finisher and two coats of primer suitable for board as per manufacturer's specification and direction of engineer in charge all complete.The work to be complete as per specifications, drawings and direction of engineer.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	50.00			0.0227964682

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A927	<p>Providing and fixing electrically operated, self operable/closing, approved anodized aluminium framed glass door with 12 mm thk. tinted glass, all complete. Automatic Sliding operating system comprising of Advanced DC brushless motor, Automatic Reversing Safety Device, Suitable for door weight 100 kg, Opening speed : 90-110cm /sec (adjustable), Closing Speed : 40-110cm/sec (adjustable), opening time : within 1-9 seconds after door stopped in opening, controller : 8 Bit micro computer, Motor (Dortexor equivalent) : DC12V, 35W brushless motor, Power Voltage : AC 110V - 240V. 50Hz - 60Hz, Power Consumption : 45W including Infra Red Sensors 2No both sides, rails & top & bottom as required, any other accessories as required etc. all complete of best make and quality as approved by Engineer in charge. The door shall be double panel sliding door of approx. area 5 sq.m. to 7.5 sq.m. each.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	25.00			0.1166137586
A928	<p>Providing and fixing of frameless toughened Glass fixed partition on patch fittings, made of 12 mm thick, including fittings, hardware etc all complete as per specification. The glass shall be firmly fixed through extruded aluminum extrusions on top, bottom and extreme sides. The glass panels shall be easily removed and refitted (during breakage) without using any special tools. The junction of glass to glass shall be properly secured using extruded PVC or sealant. Sealant shall be properly filled using molded rubber pattern /tool. Finish: anodized or powder coated as per architects drawings / specs. Safety film shall be applied on the glass to avoid shattering. The glass to be used should be from the approved manufacturers of glass Saint Gobain or equivalent make. The glass shall be distortion free and free from thermal stresses, including all fittings and fixtures of approved make Dorma or equivalent complete as per specification, drawing and instructions of engineer in charge. Fabrication drawings should be prepared and approved by engineer in charge before commencement of work as per site condition.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	25.00			0.0267847717
A929	<p>Providing and fixing Frameless single/ double leaf fully glazed doors (with etching film having Project / Purchaser's Logo and other design) on stainless steel patch fitting with 12mm thick toughened glass, ss handles (both side), Floor spring, door closure, locking arrangement, including all fittings and fixtures of approved make Dorma or equivalent complete as per specification, drawing and instructions of engineer in charge.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>					
b	1800X2500mm	each	1.00			0.0048212589
c	2000x2500mm	each	1.00			0.0053569543
1000	BRICKWORK: Brickwork masonry including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding etc. at all levels as per specification, drawings and as directed by engineer - in - charge.					
1001	Providing brick work in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.					

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a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm ² (including cost of cement for brick making)	CUM	868.00			0.4271313815
1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm upto 10m level above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1014), places and position above plinth including raking out joints, curing, scaffolding etc complete but excluding plastering and painting.					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm ² (including cost of cement for brick making)	CUM	1936.00			1.2080846559
b	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 50 kg/cm ² (including cost of cement for brick making)	CUM	50.00			0.0290044175
1003	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls, chambers etc. in thickness 115mm upto 10m above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1015), places and position above or below plinth/graded level including providing two nos. 6 mm diameter MS bars at every fourth layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification. (Reinforcement payment shall be made separately as per applicable BOQ in 400 Series)					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm ² (including cost of cement for brick making).	SQM	1876.00			0.1436084162
1004	Providing brick soling including spreading of earth, ramming, watering including 25mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item). Using brick on edge.					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm ² (including cost of cement for brick making)	SQM	155.00			0.0090327035
1005	Breaking of existing brick work at all levels including plastering, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.	CUM	106.00			0.0164531441
1006	Providing and encasing of structural steel member with masonry work around flanges, webs etc. and filling the gap between steel and masonry by minimum 12mm thick mortar of 1:6 upto 10m level above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1014). Encased member shall be wrapped with chicken wire mesh with 50mm lap etc. complete as per specification. (Chicken wire mesh to be paid separately)					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm ² (including cost of cement for brick making)	CUM	9.00			0.0046207849
1007	Providing and laying 75 mm thick bed of dry brick aggregate including of excavation, disposal of surplus earth spreading of earth, ramming, watering etc. complete in all respects as directed by the engineer.	SQM	90.00			0.0015600267
1008	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar 1:6 etc. complete.	CUM	82.00			0.0141492615
1009	Supply and placing in position mild steel wire fabric(Chicken Wire Mesh) of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.	SQM	325.00			0.0052255795

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1010	Filling existing brick wall/ partition wall opening at all level including making good the broken edges/surface with cement mortar 1:6, painting, finishing to match with existing finishing, scaffolding/supporting at any level, removal of debris upto a lead of 1 km including loading, unloading, transportation etc. all complete.	SQM	52.00			0.0045108222
1011	Providing and filling brick bats in soak pits all complete.	CUM	32.00			0.0037145733
1014	Extra over item no. A1002, 1006, 1012 & 1013 for height above FFL (Finished Floor Level) as per following:					
a	Height exceeding 10m from FFL but not exceeding 20m	CUM	50.00			0.0032353494
b	Height exceeding 20m from FFL but not exceeding 30m	CUM	50.00			0.0058236290
c	Height exceeding 30m from FFL but not exceeding 40m	CUM	50.00			0.0077648386
d	Height exceeding 40m from FFL and above	CUM	50.00			0.0090589784
1015	Extra over item no. 1003 for height above FFL (Finished Floor Level) as per following:					
a	Height exceeding 10m from FFL but not exceeding 20m	SQM	400.00			0.0017255197
b	Height exceeding 20m from FFL but not exceeding 30m	SQM	400.00			0.0031059355
c	Height exceeding 30m from FFL but not exceeding 40m	SQM	400.00			0.0041412473
d	Height exceeding 40m from FFL and above	SQM	600.00			0.0072471827
1100	DAMP PROOF COURSE: Damp proof course including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, shuttering, centering, curing etc at all level as per specification, drawings and as directed by engineer - in - charge.					
1101	Providing Damp Proof Course of following thickness with 1:1.5:3 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound all complete. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg./sqm shall be applied one before & one after the DPC.					
b	50mm thick	SQM	254.00			0.0078492322
1200	PLASTERING: Cement mortar plaster including making grooves wherever required including all labour, material (unless otherwise specified in BOQ/contract specification), scaffolding, curing etc at all level as per specification, drawings and as directed by engineer - in - charge.					
1201	Providing 18mm thick plaster in two layers outside the building/boundary wall in cement mortar as applicable upto 10m above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1206) on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete					
a	Cement Mortar 1:6	SQM	4235.00			0.1145960770
A1201	Providing 20mm thick plaster in two layers outside the building/rough surface of internal wall in cement mortar 1:4 on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.The two layer include 1:4 cement sand mortar 12mm thick first layer and 1:3 cement sand mortar with 8mm.	SQM	3980.00			0.1123783920
1202	Providing 12mm thick plaster internal/external surfaces of building/boundary wall in cement mortar as applicable above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1206) on walls finished to a smooth finish as per specification all complete.					
a	Cement Mortar 1:6	SQM	3185.00			0.0706957186
b	Cement Mortar 1:4	SQM	7796.00			0.1730435862
1204	Providing 6mm thick plaster on ceiling in cement mortar 1:4 finished to a smooth all complete.	SQM	9644.00			0.1875884623

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1205	Providing 12mm thick plaster in walls, drains/culverts with a paste of neat cement @ 1kg/sqm and rubbed smooth with trowel etc. all complete.	SQM	200.00			0.0026667123
1206	Extra over Item 1201 to 1202 for plastering on exterior walls over & above 10m height from FGL.					
a	Height exceeding 10m from FGL but not exceeding 20m	SQM	2000.00			0.0070589442
b	Height exceeding 20m from FGL but not exceeding 30m	SQM	2000.00			0.0127060996
c	Height exceeding 30m from FGL but not exceeding 40m	SQM	2000.00			0.0169414661
d	Height exceeding 40m and above	SQM	1000.00			0.0098825219
A1207	Forming groove of uniform size from 12X12 mm upto 20X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battons, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	410.00			0.0011898243
1208	Providing and laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over chicken wire mesh including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of engineer in charge (chicken wire mesh to be paid separately)	SQM	260.00			0.0121131483
1209	Ruled pointing in masonry in Cement Mortar 1:3 (1 cement and 3 fine sand) including raking out joints, curing etc. complete.	SQM	50.00			0.0007411891
1210	Providing drip course in cement mortar(1:4) in parapet, chajjas, windor/door heads, architectural facias, fins,etc all complete with all labour, T&Ps as per specification, drawing and instruction of engineer.	RM	250.00			0.0005882454
1300	FINISHES TO CONCRETE / PLASTERED SURFACES: Finishes, painting to concrete, plastered surfaces including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, surface preparation, scaffolding etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
1301	Two or more coats of white wash/ colour wash as per IS 627 of approved brand and manufacture to give an even shade including a priming coat as per specifications.	SQM	1050.00			0.0030471109
1302	Two or more coats of Exterior masonry paint (water or solvent base) of special resins, adhesives and additives mixed with fine, hard stone aggregate and suitable pigment. The paint shall be applied on a coat of primer over dried, prepared plaster surface as manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent, alkali resistant and extremely durable with color fastness as per specification.	SQM	3000.00			0.1256492072
1303	Providing and applying two or more coats of oil bound distemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	1850.00			0.0143649515
1304	Two or more coats of acrylic distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete.	SQM	630.00			0.0054847997
A1304	Two or more coats of Low VOC (volatile organic compound) acrylic distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete. All necessary documentation (certificates, manufacturer declarations) should be provided by the contractor to engineer in charge	SQM	150.00			0.0013764941

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1305	Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	3560.00			0.0418830691
A1305	Providing and applying two or more coats of acrylic emulsion plastic paint with low VOC (volatile organic compound) as per IS 15489,relevant latest code of approved brand, shade and manufacturer guidelines Nerolac / JK /Sakarni / Asian or equivalent to give smooth, hard, durable & glossy finish over a coat of primer over prepared plastered surface as per manufacturers guidelines.Note: The paint should have VOC content limit less than 50 grams per litre. All necessary documentation (certificates, manufacturer declarations) should be provided by the contractor to engineer in charge	SQM	9410.00			0.1166121899
1306	Providing and applying 2 or more coats of acid/alkali resistant paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	728.00			0.0205556456
1307	Providing and applying two coats of Epoxy coating with suitable pigments of approved shade as per specification and direction of Engineer. The epoxy paint shall be a two pack material and shall be resistant to water, oil, splash, spillage & acidic environment. The epoxy paint coating shall be of minimum 150 micron thickness over epoxy primer.	SQM	1330.00			0.0266004548
1308	Providing and applying 2 or more coats of Chlorinated Rubber paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying chlorinated rubber zinc phosphate primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, inclusive of intermediate coat of Titanium dioxide / micaceous iron oxide complete as per specifications.	SQM	220.00			0.0038824193
1309	Two or more coats of fire resistant transparent paint (@3.5 sqm per litre per coat) as per IS 162 on all woodwork over french polish as per IS 348 or flat oil paint as per IS 137 of approved grade and manufacture to give an even shade as per specifications. French polish payment will be made separately.	SQM	50.00			0.0020078775
1310	Two or more coats of black anti-corrosive bitumastic painting of approved brand and manufacture to give an even shade complete.	SQM	100.00			0.0007058944
1311	Two or more coats of synthetic enamel paint of approved make made from synthetic resins and drying oil with rutile titanium dioxide and other selected pigments to give smooth, hard, durable & glossy finish to all interior and exterior surfaces complete.	SQM	100.00			0.0006274617
1312	Providing and applying 3 coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc including primer coat complete as per specification.	SQM	10900.00			0.1017350728
A1314	Providing and applying resin bonded granular textured finish, shall consist of crushed stone/special quality Silica quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, acrylic modified exterior adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film nominal thickness of 2.5 mm from approved manufacturer Asian ,Luxture,sakarni, JK max or equivalent.The final finished coating shall be fungus resistant, UV resistant, water resistant & repellent and extremely durable with color fastness as per the specifications/manufacturer's specifications, instructions and satisfaction of Engineer-in-charge	SQM	2492.00			0.3262132639

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1316	Providing and applying 2 mm thick plaster of paris punning on walls including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	7980.00			0.0801143110
A1316	Providing and applying average 2 mm thicknessplaster of paris punning on walls punning over pastered walls of approved brand and manufacturer JK wall max,Sakarni or equivalent, including preparation of surface,removing dust, dilapidated plaster wherever necessary. staging at al heights etc. to achieve a smooth even surface all complete as per specification and as directed by engineer.	SQM	6023.00			0.0604672299
1317	Providing and applying 2 mm thick white cement punning on walls including preparation of surface, staging, etc to achieve a smooth even surface all complete as per specification and as directed by engineer.	SQM	250.00			0.0026078877
A1317	Providing and applying average 2 mm thickness white cement based putty punning over pastered walls of approved brand and manufacturer JK wall max,Sakarni or equivalent, including preparation of surface,removing dust, dilapidated plaster wherever necessary. staging at al heights etc. to achieve a smooth even surface all complete as per specification and as directed by engineer.	SQM	6023.00			0.0628292311
A1319	Providing and applying two or more coats of Exterior quality acrylic based emulsion/weather coat paint with low VOC (volatile organic compound) as per IS 15489,relevant latest code of approved brand, shade over one coat of primer after necessary cleaning/ washing, preparing the surface using coir brush/ wire brush, sand paper, including filling of cracks with putty wherever required etc. and Approved manufacturer guidelines Nerolac /Asian/ Sakarni /Jk maxx or equivalent to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. Note: The paint should have VOC content limit less than 50 grams per litre. All necessary documentation (certificates, manufacturer declarations) should be provided by the contractor to engineer in charge	SQM	6652.00			0.0646950669
1320	Providing and applying acid alkali and oil resistant high build, solvent free, self smoothing, seamless epoxy based amine cured floor finish 150 microns over primer on C.C. flooring	SQM	320.00			0.0086338731
1400	FLOORING AND SKIRTING: Flooring and skirting at all level including base layer, labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, curing, polishing etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5 mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	29114.00			1.3221407237
A1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with non metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5 mm 20 well graded) and top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	1254.00			0.0540950426

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1402	Providing and laying 25 mm thick heavy duty cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates) flooring with metallic hardener pigmented topping of 10 mm thick uniform graded treated iron particles in skirting and dado. Under layer of 15mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5 mm 20 well graded) and top layer of 10mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete as per specification.	SQM	135.00			0.0052095008
1403	Providing and laying precast polished heavy duty cement concrete tiles (Carborundum topping pigment content is 3.5 kg per 50 Kg of Cement) of size 300X300X25 thick of approved shade as per IS 1237, including minimum 20mm cement mortar bedding of 1:3 (1 cement : 3 sand) jointed with neat cement slurry@4.4 kg/sqm,labour,materials, etc. all complete with pigment to match the shade of the tiles including rubbing, curing, grinding and polishing complete with laying as per IS 1443 etc.(inclusive of cost of cement for tiles manufacturing) all complete for following: Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	Laid in floors	SQM	170.00			0.0181336434
b	Laid in skirting	SQM	40.00			0.0056220569
1404	Providing and laying interlocking M30 Grade concrete blocks in paving with approved colour and pattern and should be laid on the subbase and bedding of sand minimum 50mm thick as per specifications and recommendations of manufacturer.(inclusive of cost of cement for paver manufacturing) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	60mm	SQM	127.00			0.0094429850
b	75mm	SQM	220.00			0.0178763841
A1404	Providing and laying interlocking concrete blocks of minimum M35 grade underlain by 20mm thick layer of sand followed by 200mm thick 63 mm and down aggregate with interstices filled with selected moorum/ non-expansive soil etc all complete as per specifications and recommendations of manufacturer.(inclusive of cost of cement for paver manufacturing) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
Ac	80mm	SQM	1081.00			0.0966557703
A1406	Providing and laying mirror polished Kota stone of mimimum 25mm thk in flooring/sirting/dao. Under bed shall average 25mm thk of 1 cement : 2 sand : 4 stone aggregates by volume and brought to proper level. The kota stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @4.4kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00			0.0143061270

ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
A1412	<p>Providing and laying 18-20mm thick polished Granite stone of approved color and texture in flooring/skirting/dado with brass/ stainless steel strips. Under bed shall average 30 mm thick of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level. The granite stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @3.3kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete.(Brass /stainless steel strips to be paid separately)</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	1306.00			0.4286826237
1415	<p>Providing and laying polished Granite stone 14-16mm thk in skirting and dado with 6mm thick projection from adjacent plaster including mortar,cement slurry ,pigments, curing, grinding,moulding, granite polishing etc. all complete.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	20.00			0.0042777202
1416	<p>Providing and laying vitrified ceramic tiles of polished variety of size 600x600 from reputed / approved manufacturer, complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>					
b	10mm thick tiles In flooring	SQM	1500.00			0.1572968071
d	10mm thick tiles In skirting and dado upto specific height	SQM	540.00			0.0593798388
A1416	<p>Providing and laying vitrified ceramic tiles of mirror polished variety of size 600x600/400x400 from reputed / approved manufacturer, complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>					
b	12mm thick tiles In flooring	SQM	306.00			0.0346565926
c	7mm thick tiles In skirting and dado upto specific height	SQM	50.00			0.0046706681
B1416	<p>Providing and laying digitally glazed vitrified ceramic tiles of polished and matt variety of size 600x600 / 800x800 of approved shade, colour, pattern and make from reputed / approved manufacturer as Simpolo,Varmora or equivalent , complete including 40mm average thick underbed of cement mortar 1:4 for flooring with neat cement slurry and 12mm thick underbed for dado/skirting with cement mortar 1:3 with neat cement slurry @3.3Kg/sqm etc.,3mm groove joints as per approved pattern pointed neatly with 3X4mm stainless epoxy grout SP- 100 of Laticrete, Luxture or approved equivalent in approved colour to match colour of tile etc. all complete for following.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>					

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a	9 to10 mm thick tiles In flooring	SQM	1402.00			0.1691225779
b	9 to10 mm thick tiles In skirting and dado upto specific height	SQM	100.00			0.0126433534
A1417	Providing and laying vitrified ceramic tiles of matt finish of size 600x600mm from reputed / approved manufacturer Simpolo, varmora or equivalent complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	12mm thick tiles In flooring	SQM	280.00			0.0360602244
B1417	Providing and laying Digitally vitrified ceramic tiles of matt finish of size 600x600mm from reputed / approved manufacturer Simpolo, varmora or equivalent complete including minimum 40 mm thick underbed of cement mortar 1:4 for flooring and 12mm thick underbed of cement mortar 1:3 for dado / skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	9 to10mm thick tiles In flooring	SQM	216.00			0.0270385800
d	9 to10mm thick tiles In skirting and dado upto specific height	SQM	403.00			0.0525647419
1418	Providing and laying 10 mm thk non-skid fully vitrified tiles of make 'MARBONITE' or 'FERRASTONE of BOSS Profile limited' or equivalent in flooring and skirting over 30 mm thick underbed of 1 part cement and 3 parts coarse sand by weight mixed with sufficient water, cement slurry 3.3kg/sqm complete as per specification laid in pattern of following sizes Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	400X400 mm	SQM	50.00			0.0049098879
b	600X600 mm	SQM	50.00			0.0058589237
A1418	Providing and laying 12 mm thk heavy duty anti-skid fully vitrified tiles of make 'MARBONITE' or 'FERRASTONE of BOSS Profile limited' or equivalent in flooring and skirting over 40 mm thick underbed of 1 part cement and 3 parts coarse sand by weight mixed with sufficient water, cement slurry 3.3kg/sqm complete as per specification laid in pattern of following sizes Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	400X400 mm	SQM	49.00			0.0051960104
b	600X600 mm	SQM				
A1419	Providing and laying granite stone slab of 20mm thickness large single piece for platform/wash basin / sink slab / facia of black or approved colour including 20mm underbed of cement mortar 1:3 with cutting,making corners,moulding and opening etc. all complete Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	35.00			0.0146288776

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1420	Providing and laying Heavy Duty dust pressed Ceramic Tiles of 7mm thick of reputed manufacturer of approved finish shade and colour including 20mm underbed of cement mortar 1:3 with neat cement slurry @3.3kg/sqm etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	300X300 mm	SQM	150.00			0.0129178679
A1422	Providing & fixing Acid / Alkali resistant (Chemical resistant) tiles comply to IS:4457 and shall be laid over bituminous lining of min 12mm thick (to be laid in layers of 6mm each). The tiles shall be applied in flooring/Dado of reputed / approved manufacturer Simpolo, varmora, Naya Rangoli or equivalent of approved finish, shade and colour with 6mm thick Potassium Silicate bedding mortar as per IS:4441, 4443 & 4832 and including preparation of surface, application of bitumen primer, curing, pointing joint of bedding 20mm deepx6mm wide with epoxy/Furane mortar etc. all complete for following thicknesses. The tiles should be abrasion resistant & durable. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	20mm thick	SQM	142.00			0.0356843748
c	38mm thick	SQM	450.00			0.1217314931
1423	Providing & fixing Acid / Alkali resistant (Chemical resistant) tiles conforming to IS:4457 in flooring/Dado bedded and jointed with epoxy mortar all complete for following thicknesses. The tiles should be abrasion resistant & durable. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	38mm thick	SQM	110.00			0.0582535450
A1424	Providing & fixing chemical resistant (AR)(Acid / Alkali) bricks (115mm thick) conforming to IS:4860 in the floor of neutralization pit. Surface on which lining to be applied shall be prepared in accordance with IS:2395. Bitumen primer as per IS:158 followed by 18mm thick bituminous followed by 6mm thick potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type of mortar conforming to IS:4832, part II, seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End sealing shall be done with bituminous AR bricks shall be laid with 6mm wide & 50mm deep pointing (epoxy / furnace / CNSL) & acid curing shall be done all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	48.00			0.0211278907

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B1424	<p>Providing & fixing chemical resistant (AR)(Acid / Alkali) tiles (75mm thick) conforming to IS:4457 in the floor of neutralization pit. Surface on which lining to be applied shall be prepared in accordance with IS:2395. Bitumen primer as per IS:158 followed by min.12mm thick bituminastic followed by 6mm thick potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR tiles shall be filled with resin type mortar of reputed / approved manufacturer Berger,Naya Rangoli, or equivalent conforming to IS:4832, part II, seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End sealing shall be done with bituminastic AR bricks shall be laid with 6mm wide & 50mm deep pointing (epoxy / furnace / CNSL) & acid curing shall be done all complete as per specification.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	48.00			0.0174120624
1427	<p>Providing and fixing glazed ceramic tiles of approved color and design of size 200x300mm / 300x300mm in dado of approved size, projecting 6mm uniformly from adjacent plaster or wall finish. The mix for 20mm thick underbed plaster shall consist of 1part cement and 3 parts sand by weight. fairly moist but firm, tiles shall be pressed over under bed by applying cement slurry @ 3.3kg/sqm including pigments, curing etc all complete for following thicknesses:</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>					
a	5mm thick	SQM	104.00			0.0086464223
b	7mm thick	SQM	135.00			0.0123884471
1428	<p>Providing and laying 3mm thick antistatic PVC flooring / skirting of approved shade,as per IS:3462 and laying as per IS:5318 all complete.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	470.00			0.0364210149

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A1429	<p>Providing and fixing Removable type flooring system (raised access floor) consisting of of fire resistant Cementitious panels of 600 x 600x 35 mm and Laminated with 1.2 mm thick fire retardant food grade antistatic laminate top finish to ensure max bonding to the steel surface. Cementitious panels shall be steel welded construction, with an enclosed bottom pan of 64 hemispherical and top plain sheet which are fuse welded at multiple location to form a panel. The panel is coated with 40-60-micron epoxy coat after cleaning, de-greasing, phosphate by several tank processes & is heated to achieve max adhesion to the panel surface & corrosion resistance. The inner empty core of the panel is injected with a light weight fire retardant, non-combustible cementitious compound at high pressure to fill in all the crevices of the panel and ensures support of not less than 90% of the top surface area of the panel. Pedestal (300mm - 800 mm) must be 25mm dia. pipe with min.2.0 mm thickness with bottom plate of 100x100x min.2.0mm thick & top plate must be 75x75x3.0 mm. All pedestal shall be tightening to Stringer of 20x30x575x1.0 mm Rectangular tube. The system shall be design and taken approval for Uniformly distributed load (UDL) of 13 KN (1300 kg/ sqm), for the same all complete as per specification. Cavity area below the false flooring shall be made dust proof by using Polyurethane paint etc complete as per specification.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	100.00			0.0543146542
1430	Providing and fixing dividing strips in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in charge.					
a	Glass strips 40 mm wide and minimum 6 mm thick.	RM	20.00			0.0001427475
Aa	Glass strips 40 mm wide and minimum 4 mm thick.	RM	920.00			0.0057004896
b	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	20.00			0.0002400041
c	Brass strips 20 mm wide and minimum 4 mm thick.	RM	20.00			0.0006902079
A1431	<p>Providing and fixing, laying min.11mm wooden panel flooring and skirting of pergo, robina or equivalent multi-layered engineered wooden planks treated with VOC free lacquers and stains to provide extra strengthening, longevity and durability to planks. In all planks each layers are arranged at cross grain to each other for provide the balancing and stability to all three layers. Top layer of flooring is made up of about 3.0 mm thick thermosetting re-polish able natural veneer setting on a core of about 10 mm thick pine wood that produce natural characteristic of wood with 2.0mm thick bottom ply based veneer balancing layer. The planks are joint to each other through plankloc system with glue less technology system and laid on 2mm thick dual barrier underlay protecting sheet having anti-bacterial, Anti-termite, fire-resistant, noise reduction, high wear and abrasion resistance, water resistant properties. The system includes all accessories like beading, Quadrant, Veneered/solid wood skirting, end profile etc.as per as per manufacturer specification and approved by Engineer Incharge.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	100.00			0.0250670953

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A1432	<p>Providing and applying ready made self levelling Epoxy flooring with min.4mm thick on the prepared concrete substrate including the following all complete as per specification and direction of Engineer:-a) Primer @ 300gm/sqm, b) First layer of epoxy flooring @ 6.3kg/ sq m for approx. 3mm thickness. c) Primer @ 100gm/sq m for the second coat and top final decorative (as per approved colour) epoxy topping @ 1.7Kg/ sq m for approx. 1 mm thickness. The Application includes the surface preparation of concrete substrate with Captive Shot Blasting Machine or Light Grinding to form the required anchor profile on the floor substrate followed by application of epoxy resin based moisture barrier underlay including filling of saw cut joints with epoxy cementitious resin based moisture barrier underlay, as per reputed/approved manufacturer Fosroc,Naya rangoli or equivalent, in approved finish, shade and colour. Application of self smoothing epoxy floor topping of epoxy based resin over epoxy based moisture barrier underlay including application of solvent free epoxy resin as per specification and instruction by engineer incharge.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	2920.00			0.1932958540
A1437	<p>Providing Dielectric epoxy based coating as per IS: 15652 shall be provided with suitable primer. The minimum dielectric strength for insulating floor (for all switchgear rooms up to and including 11 KV switchgear) shall be 45 KV ac rms (Class B as per Table-4 of IS-15652: 2006). The minimum thickness of insulation coating shall be 2000 microns for switchgear rooms up to 11 KV or as per the lab certificate fulfilling the dielectric strength requirement, whichever is higher. Dielectric test reports as per IS-2584 from a NABL accredited laboratory shall be submitted. Further, test reports for adhesion, tensile strength, scratch hardness, shore hardness, abrasion resistance shall be submitted in line with requirement of relevant national/international standard. The coating shall be high gloss finish and top color of coating shall be decided during the detailed engineering. Arc flash boundary and golden yellow safe boundary shall be provided. The item includes preparation and submission of procedure of coating and conducting dielectric testing in a NABL accredited laboratory on a sample prepared during application at site, all complete as per specification.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	769.00			0.1254546940
1500	ROOFING / SIDE CLADDING: Roofing / side cladding work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding, laps, hooks, washers, corner pieces etc. at all level as per specification, drawings and as directed by engineer - in - charge.					

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1502	<p>Erection and fixing permanently color coated galvanised MS troughed metal sheet decking plate of approved colour and conforming to class3 of IS 14246 over roof purlins for cast-in-situ roof slab as per relevant IS code and specification. Bare metal thickness of deck plate shall be minimum 0.8mm with minimum trough depth of 44 mm having minimum yield strength of 250 MPa and shall serve as permanent shuttering to the roof slab 100mm thick measured over crest of metal decking & shall have adequate strength to support weight of green concrete and imposed loads of min 150 kg/sqm during construction between purlins as per manufacturer's recommendations/ calculations/ test certificates for approval including fixing of plates to purlins, side lapping, end lapping etc. all complete for below mentioned spans. The sheet shall be permanently coated with silicon modified polyester paint of minimum 20 micron DFT on exposed surface (facing operating floor) and minimum 7 micron on other face over epoxy primer applied over hot dipped galvanising @ 275 gm/sqm including fixing of sheet to purlin with self drilling white zinc plated heat treated carbon steel screws of minimum 5.6 mm dia @ 260mm c/c in the trough and stich screws between two adjacent sheets and sealing with epoxy sealant. Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>					
b	Span Exceeding 1800mm and upto 2500 mm	SQM	1450.00			0.1972033718
A1502	<p>Designing, providing and fixing permanently color coated galvanised M.S. sheet (hot dipped galvanising @ 275 gm/sqm) approved colour and conforming to class3 of IS 14246 over roof purlins for cast-in-situ roof slab as per relevant IS code and specification. Bare metal thickness of deck plate shall be minimum 0.8mm with minimum trough depth of 44 mm having minimum yield strength of 350 MPa and shall serve as permanent shuttering to the roof slab 100mm thick measured over crest of metal decking & shall have adequate strength to support weight of green concrete and imposed loads of min 150 kg/sqm during construction between purlins as per manufacturer's recommendations/ calculations/ test certificates for approval including fixing of plates to purlins, side lapping, end lapping etc. all complete for below mentioned spans. The sheet shall be permanently coated with Polyfuro Vinyl Coating (PVF2) of minimum dry film thickness (DFT) 20 microns over suitable primer on outer face and Inner face of the sheet shall be provided with silicon modified super polyester paint of minimum DFT 7 microns over suitable primer including fixing of sheet to purlin with self drilling white zinc plated heat treated carbon steel screws of minimum 5.6 mm dia @ 260mm c/c in the trough and stich screws between two adjacent sheets and sealing with epoxy sealant. Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking etc. all complete as per specification.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>					
a	Span Upto 1800mm	SQM	5402.00			0.7346845617
b	Span Exceeding 1800mm and upto 2500 mm	SQM				

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1503	Providing and fixing shear connectors of mild steel studs having 16mm dia and minimum 75 mm projected length above purlin passing through metal decking as per relevant IS codes and specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	QUINTAL	16.00			0.0313730854
1506	Designing, providing and fixing External sheet of Permanent colour coated metal cladding with troughed M.S. sheets of 0.6mm bare metal thickness having minimum yield strength 250 MPa and zinc-aluminium alloy coating not less than 150 gm/sqm total on both sides including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The exposed face of the sheet shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) of minimum dry film thickness (DFT) 20 microns over suitable primer. Inner face of the sheet shall be provided with silicon modified super polyester paint of minimum DFT 7 microns over suitable primer etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	3514.00			0.3238447528
A1508	Designing, providing and fixing inner sheet of permanently color coated galvanised M.S. sheet of minimum 0.6mm bare metal thickness having minimum yield strength 250 MPa and hot dipped galvanising @ 275 gm/sqm including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The exposed face of the sheet shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) of minimum dry film thickness (DFT) 20 microns over suitable primer. Inner face of the sheet shall be provided with silicon modified super polyester paint of minimum DFT 7 microns over suitable primer etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	700.00			0.0800484275
1512	Providing and fixing insulation of resin bonded mineral wool of 50 mm nominal thickness conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for cladding/under deck insulation including wrapping in black polythene black supported over weld mesh 75X75X1.6 MM dia to hold in position and application of glue & tying with lacing wire, for glass/rock wool as per manufacturer's recommendation. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	For insulation in Sandwitch Cladding	SQM				
1514	Providing and installing under deck insulation with resin bonded rock wool 50 mm nominal thickness conforming to IS 8183 having a density of 48kg/cum using minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.56 mm dia and 25 mm mesh GI wire netting, fixed at various elevations with rawl plugs including clips, etc complete as per specifications. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	2000.00			0.1527869261

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1600	FALSE CEILING: False ceiling including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, suspension system etc at all level as per specification, drawings and as directed by engineer - in - charge.					
1601	Providing and fixing glass fibre reinforced gypsum plaster board (GRG) ceiling (having gypsum core mixed with glass fibre) system consisting of metal supporting grid system forming panels of specified size, suspended from RCC slab/structural steel or catwalkway grid above with 4 mm (minimum) galvanised wires (rods) with special height adjustment clips, including preparation of working drawing, providing openings for AC ducts, return air grills, light fixtures etc (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	12 mm thick GRG board with galvanised light gauge steel load bearing supporting GI frame and finished flat (seamless).	SQM	120.00			0.0104848852
b	12 mm thick GRG board in profile (dome ,curved profiled etc.) with galvanised light gauge steel load bearing supporting GI frame and finished smooth (seamless).	SQM	120.00			0.0157273277
1602	Providing, fixing and laying light weight mineral fiber tile false ceiling of minimum thickness 15 mm and exposed surface semi-perforated with depth of perforation as 4 mm and humid resistance of 95% RH and fire performance of class 0/1 as per BS 476 with metal suspension grid system with galvanized Tees of section 24 X 38 mm for main runners of approved colour and make as per specification including 50mm thick mineral wool insulation (density48kg/cum) as per IS:8183 bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc.The size of tiles shall be 600 X 600 mm or 600 X 1200 mm. Required MS channel shall be measured & paid extra under respective item unit rate. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	370.00		0.0623932237	
A1603	Providing and fixing permanently colour coated aluminium false ceiling of approved colour of Luxalon 150C,300C, of Hunter douglas,Newage or approved equivalent with corrosion resistant aluminium alloy (Al grade 3105,Al-Mg AA 5050) panels of of minimum thickness 0.6mm with perforation patterns in combination with built-in non-woven tissue, acoustic fleece for providing good acoustic properties with NRC 0.55. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, A.C. ducts etc all complete. Suitable M.S. channel grid with minimum MC 75 shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc.(Materials for structural platform grid made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	2744.00			1.1423843953

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A1604	<p>Providing, fixing and laying permanently colour coated aluminium false ceiling of approved colour with stove enamel finish in LINEAR and SQUARE type with corrosion resistance aluminium alloys luxalon panels of approved make of Hunter Douglas, Newage or equivalent. Panel ceiling system shall consist of rolled formed, coil coated aluminium precoated magnesium alloy (Al-Mg AA 5050) carrier and panels of minimum 0.9 mm and 0.6 mm thickness respectively. The ceiling system shall be of approved pattern. The system shall be complete with edge cover profile, special panels, carrier splice, etc. The carrier shall be suspended from roof by 4 mm diameter galvanized steel wire hangers having special height adjustment clips made from spring steel at maximum spacing of 1.2 m c/c both ways. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc.</p> <p>(Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301)</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	244.00			0.0841479486
A1606	<p>Providing and Fixing minimum 12mm thick Gypsum board plain/perforated acoustic false ceiling tiles(600x600mm) of India Gypsum, gyproc or equivalent make in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete as per architectural design and detail. metal suspension system as per ASTM C-635 shall be hot dipped M.S.galvanized (grade 180 as per is :277) nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated. suspension system shall be as per manufacturer's specification supported over movement platform. The work to be complete as per specifications, drawings and direction of engineer. (Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301)</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	130.00			0.0133061099
A1607	<p>Providing and Fixing 12mm thick water resistant Calcium silicate board Gyproc or equivalent in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete as per architectural design and detail. Metal suspension system as per ASTM C-635 shall be hot dipped M.S.galvanized (grade 180 as per is :277) and nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated. Suspension system shall be as per manufacturer's specification. Movement platform of structural steel shall be provided if required for the movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Structural steel works for platform for movement is separately payable under relevant items of BOQ). The work to be complete as per specifications, drawings and direction of engineer.</p> <p>Payment Breakup:</p> <p>a) Supply & Receipt of material at site - 60%</p> <p>b) Execution & Services Associated with the item - 40%</p>	SQM	130.00			0.0143053426

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1700	RAIN WATER DOWN TAKE PIPES: Rain water down take pipes at all level including all labour, material (unless otherwise specified in BOQ/contract specification), transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc as per specification, drawings and as directed by engineer - in - charge.					
1704	Providing and fixing galvanised MS down take pipes of 150 mm dia- Medium quality as per IS:1239(part-I) all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	50.00			0.0076589545
1705	Providing and fixing UPVC down take pipes of 110mm diameter- Class 3 as per IS:4985 all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	710.00			0.0526244292
1706	Providing and fixing UPVC down take pipes of 160mm diameter- Class 3 as per IS:4985 all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	710.00			0.0718365224
1707	Providing and fixing GI down take pipes conforming to IS:1239 /IS:3589 of medium duty all complete for following diameters. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	100 mm Dia	RM	281.00			0.0307011524
b	150 mm Dia	RM	1642.00			0.2568003124
c	200 mm Dia	RM	140.00			0.0330515455
1708	Providing and fixing GI down take pipes conforming to IS:1239 /IS:3589 of heavy duty all complete for following diameters. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	150 mm Dia	RM	150.00			0.0281298927
1800	MISCELLANEOUS: Miscellaneous works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.					
1801	Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 200 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	14834.00			1.8243223296

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A1801	Providing and Filling in trenches, plinths, area paving, grade slab and other underground structures with graded stone aggregate of 40 mm size rammed, consolidated in layers not exceeding 200 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected fine sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	1078.00			0.1325751295
1802	Supply and laying approved quality Stone aggregate 40mm size in transformer yards.	CUM	30.00			0.0067577626
A1802	Providing and laying 75mm thick base layer of M5 grade PCC over the prepared sub grade in Switchyard with adequate slope for easy drainage of the storm water including proving & laying of 100mm uniform thickness of stone aggregate of 40mm nominal size over the PCC bed as per customer specification and as per direction of Engineer-In-Charge .	SQM	26100.00			1.1750318554
B1802	Providing and laying stone aggregate in switchyard areas in two layers of 75 mm each using 40 mm aggregates size in both layers. Each layer shall be compacted by using half tonne roller with 4-5 passes and suitable water sprinkling, all complete as per Customer's specification. Total compacted thickness of gravel /aggregate filling shall be 150mm uniformly. (The rate shall be inclusive of all materials, labour, loading, unloading and surface preparation etc. required for aggregate laying)	SQM	26100.00			0.8822974385
1803	Supply and laying approved quality rounded pebbles / gravels of 40mm size in transformer yards.	CUM	20.00			0.0042651710
A1804	Providing and fixing weep holes in Retaining wall, drains, toe wall etc consisting of 100 mm dia HDPE pipe sleeves with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening all complete.	EACH	150.00			0.0027529882
1805	Providing and mixing approved Bipolar Concrete penetrating Corrosion inhibiting admixture phenolic base (krishna conchem or equivalent) in concrete as per detail specification of manufacturer etc. all complete. Payment shall be made per cum of concrete.	CUM	50.00			0.0017451279
1807	Anti termite chemical treatment of soil with Chlorpyriphos/Lindane E.C. 20% with 1% concentration conforming to IS:8944 and as per IS 6313 all complete. (Plinth area of building at ground floor only shall be measured for payment). Drilling 12mm dia hole @300 c/c using material one liter per hole.	SQM	3243.00			0.0696938975
1808	Laying of earthing mats/rods including risers, transportation from yard stores, loading, unloading, cutting to length, welding, protective painting of joints etc. all complete. (Excavation & Back filling shall be paid separately under respective item of earth work. Earthing mats/rods shall be supplied by BHEL free of cost)	MT	270.00			0.3153442153
1809	Construction of below ground earthing system test pits as per drawing / sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing and specification (excavation & backfilling only will be paid under applicable BOQ items & cement/steel to be supplied by BHEL free of cost)	NO	33.00			0.0290819090
1810	Construction of below ground earthing system test links as per drawing/ sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing & specification (excavation & backfilling only will be paid under applicable BOQ items & cement/steel to be supplied by BHEL free of cost)	NO	33.00			0.0223368525
1811	Construction of below ground earthing system earth electrodes as per drawing and specification. (Excavation and backfilling only will be paid under applicable BOQ items & steel shall be supplied by BHEL free of cost.)	NO	113.00			0.0073118897

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1812	Construction of below ground earthing system - Earth connection and riser pig tails as per drawing and specification. (Excavation and backfilling only will be paid under applicable BOQ items& steel shall be supplied by BHEL free of cost.)	NO	33.00			0.0017186176
1813	Providing Earthing pit as per drawing with charcoal & salt, GI pipes, GI earth electrodes, GI wire, GI strips, brick chamber with covers including associated earthwork etc. all complete.	NO	45.00			0.1249433128
1814	Construction of below ground earthing system test pits as per drawing/ sketches including brickwork, plaster, providing & fixing GI strips/pipes, GI wires, covers etc as per drawing & specification including associated earthwork.	NO	74.00			0.1154535819
1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 900 g/sqm etc. all complete.	Kg	450.00			0.0047647874
1817	Providing and laying dry stone pitching of 225 mm thickness for slope protection in cement mortar 1:6 including hammer dressing, raking of joints, pointing, preparing the bedding surface and voids filling with stone aggregate etc. all complete.	SQM	150.00			0.0294946219
1818	Fire proofing of steel structures with VERMICULITE cementious coating including supply of all materials for vermiculite materials, reinforcement mesh (3mm thick wire, 50x50 size mesh) , nuts, tie wires, weldings, surface preparation, curing, staging, compatible paintings etc. all complete.	CUM	25.00			0.2429806251
1819	Supply & fixing expanded metal steel sheet conforming to IS:412. Size of mesh shall be 10mmX40mm with strands of 2.5mm width and 1mm thickness to the structural steel for facilitating fireproofing works.	SQM	125.00			0.0046275301
1821	Sprinkling of water by water tanker fitted with perforated GI pipe (portable tanker minimum 3000 litre capacity) for roads and miscellaneous area within plant boundary, for dust suppression and reduction of suspended material at site for day to day work, as directed by BHEL site engineer (water for this purpose shall be provided by BHEL free of cost and utilisation of machine will be in terms of Tank-hour put in actual use for water sprinkling).	TANK-HR	350.00			0.0294554056
1822	Providing & filling Bentonite Powder (Sodium base) mixed with water in electronic earthing pit as per drawing & direction below ground level including all materials, transportation, labour, incidental etc all complete as per specification.	CUM	5.00			0.0068546270
1823	Providing and laying cinder filling in the toilets,roads,etc complete as directed by engineer in charge.	CUM	20.00			0.0026525944
A1827	<p>Antiweed treatment in switchyard area (Antiweed chemical shall be customer approved & as per Technical specification) including surface dressing/preparation (surface dressing of earth to an extent of ±200mm) to the lines & grades including removing vegetation/plant, dressing, micro-leveling, cutting and filling earth, maintain slope to nearest drain, water spinkal on surface, compaction /consolidating with roller (Min. 1/2 ton roller with 4-5 passes), shifting of excess earth/debris generated during the process to the designated point and all works complete as per instructions of the Engineer -in- Charge (The rate shall be inclusive of all materials & all activities mentioned above including any other activity required for completion but not mentioned above etc all complete as per Technical Specification & direction of Engineer-In-Charge).</p> <p>Note: 1. The anti-weed / soil sterilization chemical shall be procured from reputed manufacturer. The Bidder shall submit necessary details pertaining to the types of weeds found in the vicinity, anti-weed/soil sterilization such as manufacturer's name, their specification, test certificate etc. for Employer's approval.</p> <p>2. The Bidder shall be required to furnish a performance guarantee of three years for the anti-weed treatment.</p>	SQM	26100.00			0.0593657209

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1831	Providing random rubble (RR) stone masonry in foundation, super structure, boundary wall, retaining wall and embankment with cement mortar 1:6 at all elevations including all labour, material, equipment, handling, scaffolding etc. all complete.	CUM	50.00			0.0154512446
A1841	Supplying, fabrication and installation of 200mm nominal dia PVC pipes in concrete / Duct bank for all kind of works, including setting material in concrete, layout, cutting, forming, grinding, jointing etc. all complete as per specification and as guided by engineer-in-charge. (Concrete, Reinf. paid separately)	RM	375.00			0.0379418252
2000	FENCING AND GATES: Fencing and gates including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc at all level as per specification, drawings and as directed by engineer - in - charge.					
A2001	Supplying and erecting in position 2.4 m high PVC coated G.I. welded wire mesh fencing of minimum 4 mm diameter (including PVC coating) of mesh size 75mmX75mm of height 2.4m above the toe wall with a 600mm high galvanized concertina at the top, such that total fence height of 3.0m above the toe wall is achieved. The diameter of the steel wire for chain link fence (excluding PVC coating) shall not be less than 2.5 mm. The PVC coated chain link will be stretched by the clips at 0.5m intervals to three strands of galvanized high tensile spring steel wire (HTSSW) of 2.5 mm diameter interwoven with chain link wire mesh and kept under tension which in turn are attached to the fence post with security nuts and bolts. On every fourth post a clamping strip will be threaded through the links of chain link and bolted to the fence post with the help of security nuts and bolts. Above the chain link a 600mm high tensile serrated galvanized wire (HTSW) concertina made with wire diameter of 2.5mm will be stretched to 6m and attached to two strands of galvanized HTSSW of 2.5 mm diameter by means of clips at 1m intervals. These two HTSSW strands will be attached to the fence posts with 12 mm security fasteners. All nuts, bolts, fasteners, clamping strips, clamps, clips, etc., shall be galvanized. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, 25X6 mm GI flat stretcher bar at end posts, accessories etc. all complete. (Structural post shall be separately under item 2007). Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	1036.00			0.2215046500
2007	Supply and fixing of hot dip galvanised mild steel posts for fencing. Rate of zinc coating shall not be less than 710 g/m ² on steel posts. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	15.00			0.1271257030
A2008	Supply, fabrication and fixing of mild steel posts for fencing including chlorinated rubber paint over a suitable primer etc all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	3.00			0.0238149954

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A2009	Supply, fabrication and installing in position and testing galvanised MS Gates made of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffeners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, provision for wicket gate of size 1.0MX2.1M, paintings etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	8.00			0.0769406097
2100	WATER SUPPLY: Water supply work including men, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass long neck/body bib cocks including sockets, union, nuts etc all complete - 15mm nominal bore.	NOS	10.00			0.0008525636
A2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass wall mounted mixture including sockets, union, nuts etc all complete - 15mm nominal bore.	NOS	13.00			0.0011083327
B2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass wall mounted sink mixture including sockets, union, nuts etc all complete - 15mm nominal bore.	NOS	39.00			0.0033249980
C2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass pillar tap including sockets, union, nuts etc all complete - 15mm nominal bore.	NOS	26.00			0.0022166654
2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc all complete - 15mm nominal bore.	NOS	10.00			0.0007576600
A2102	Providing and fixing in position CP brass angulat stop cock of approved quality including all specials etc all complete- 15mm nominal bore.	NOS	39.00			0.0029548741
2103	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality including all specials etc all complete for following sizes:					
a	25mm nominal bore.	NOS	23.00			0.0019608963
b	50mm nominal bore.	NOS	23.00			0.0028322053
2104	Providing and fixing GI pipes class B medium class conforming to IS:1239 pipes shall be concealed and painted with anticorrsive paint, complete for internal works with GI sockets, unions, elbows, tees, nipples etc and clamps including cutting and making good the walls etc all complete for following sizes:					
a	15 mm nominal bore.	RM	60.00			0.0022165085
b	20 mm nominal bore.	RM	80.00			0.0032565263
c	25 mm nominal bore.	RM	175.00			0.0085236751
d	50 mm nominal bore.	RM	53.00			0.0035001383
2105	Providing and fixing GI pipes class B complete for external work with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:					
a	15 mm nominal bore.	RM	60.00			0.0016941466
b	20 mm nominal bore.	RM	80.00			0.0025663184
c	25 mm nominal bore.	RM	63.00			0.0025200431
d	50 mm nominal bore.	RM	53.00			0.0030387186
A2106	Providing and fixing 600mmx450mmx5.5mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete as per specification.	NOS	17.00			0.0019840339

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B2106	Providing and fixing 5.5mm thk mirror from basin counter top to bottom of false ceiling and full length of counter in control room from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete as per specification.	SQM	35.00			0.0151284940
2107	Providing and fixing 610mmx127mmx6mm thk clear glass with C.P. Guard rails and mounted on C.P. brackets etc all complete.	NOS	4.00			0.0002864363
2108	Providing and fixing 25 mm diameter stainless steel towel rails (600mm X 25mm) with C.P. mounting brackets all complete.	NOS	5.00			0.0005266757
2109	Providing and fixing 20mm dia chromium plated M.S. pipes wall mounted towel rod with C.P. Brackets etc all complete.	NOS	5.00			0.0004137326
A2109	Providing and fixing 600 mm long and 20mm dia chromium plated brass pipes wall mounted towel rail with C.P. Brackets etc all complete.	NOS	13.00			0.0010757047
2110	Providing and fixing C.P. Soap holder mounted with C.P. screws etc all complete.	NOS	21.00			0.0013588468
A2110	Providing and fixing SS liquid Soap holder mounted with C.P. screws etc all complete.	NOS	13.00			0.0009258198
2111	Providing and fixing stainless steel / C.P. liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete.	NOS	8.00			0.0004316937
2112	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. all complete.	NOS	8.00			0.0004969497
A2112	Providing and fixing CP wall mounted toilet paper holder with suitable cover cum cutter fitted with CP screws etc. all complete.	NOS	13.00			0.0008075432
2113	Providing and fixing chromium plated brass shower rose 100mm dia with 15 or 20 mm inlet dia shower arm all complete.	NOS	17.00			0.0010466846
2114	Providing & fixing in position P.V.C. water tank of Syntex or approved equivalent including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete for following capacities. GI pipes shall be paid separately under ST No. 2105. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	500 litres capacity	NOS	5.00			0.0032471143
b	1000 litres capacity	NOS	1.00			0.0012988457
c	2000 litres capacity	NOS	5.00			0.0129884574
d	5000 litres capacity	NOS	2.00			0.0129884574
A2115	Providing and fixing grab bars, barrier-free access and appropriate fittings and fixtures for toilets for handicapped etc. all complete.	NOS	13.00			0.0020871729
A2117	Providing and fixing robehook of approved make as per indian standard etc. all complete as per specification.	NOS	13.00			0.0005087930
A2118	Providing and fixing Janitor room of approved make as per indian standard etc. all complete as per specification.	NOS	13.00			0.0101962528
B2119	Providing and fixing automatic hand dryer of approved make as per indian standard etc. all complete as per specification.	NOS	2.00			0.0008100531
A2120	Providing and fixing glass selves of size 610X127X6mm glassapproved make as per indian standard etc. all complete as per specification.	NOS	28.00			0.0020050539
2200	SANITARY: Sanitary work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge.					

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2201	Supply and fixing glazed vitreous china Wash Basin of approved make conforming to IS:2556 part 4 of oval shape with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug, 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, fittings, cutting and making good the walls where required etc all complete.					
a	White	EACH	4.00			0.0047624344
b	Colored	EACH	4.00			0.0048383572
A2201	Supply and fixing glazed vitreous china Wash Basin (size 550x440mm) of approved make conforming to IS:2556 part 4 of oval shape with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug, 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, CP waste coupling, plastic connection pipe with chromium plated nuts, fittings, cutting and making good the walls where required etc all complete.					
a	White	EACH	11.00			0.0130966945
b	Colored	EACH	11.00			0.0133054824
2203	Providing and fixing stainless steel kitchen sink of size 610x510x200mm conforming to IS: 13983 including all fittings etc. all complete.	EACH	2.00			0.0014210439
A2203	Providing and fixing stainless steel kitchen sink of size 600x400x200mm conforming to IS: 13983 including all fittings etc. all complete.	EACH	2.00			0.0012911593
2204	Providing and fixing colour glazed vitreous china European type water closet conforming to IS:2556 with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre PVC flushing cistern (same colour as WC) with valveless fittings, 2 way bibcock with health faucet necessary C.P connections etc all complete as per specification, drawings and as per direction of Engineer-in-charge.					
a	Floor mounted	EACH	9.00			0.0075933063
b	Wall mounted	EACH	9.00			0.0123249166
2205	Providing and fixing colour glazed vitreous indian type Orissa pattern (580x440mm) water closet conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valveless fittings, 2 way bibcock with health faucet necessary C.P connections etc all complete.	EACH	28.00			0.0183309801
A2206	Providing and fixing white flat back glazed vitreous china urinals of size 590x480x380mm with photo voltaic control flushing system as per IS:2556 (part 6, section 1) with flush pipes, lead pipes, gratings, traps and necessary C.P. fittings etc. all complete.	EACH	34.00			0.0794813590
B2206	Providing and fixing waterless Bio Urinals with enclosure satisfying indian standard or equivalent including maintenance of toilet in hygienic condition till COD of the unit, flush pipes, lead pipes, gratings, traps, necessary C.P. fittings etc. all complete as per specification.	EACH	3.00			0.0199831652
2207	Supply, laying and jointing UPVC pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	75mm dia pipes	RM	20.00			0.0006949138

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b	110mm dia pipes	RM	150.00			0.0083060244
A2207	Supply, laying and jointing UPVC SWR pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	75mm dia pipes	RM	50.00			0.0017372846
b	110mm dia pipes	RM	50.00			0.0027686748
c	160mm dia pipes	RM	50.00			0.0038235948
d	200mm dia pipes	RM	25.00			0.0027961262
B2207	Supply, laying and jointing CPVC pipes satisfying relevant indian standard including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	75mm dia pipes	RM	38.00			0.0014514758
b	110mm dia pipes	RM	50.00			0.0030471109
c	160mm dia pipes	RM	50.00			0.0042079151
d	200mm dia pipes	RM	25.00			0.0030765232
2208	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	200mm dia	RM	76.00			0.0077908783
b	300mm dia	RM	402.00			0.0659921872
c	450mm dia	RM	222.00			0.0464553825
d	600mm dia	RM	122.00			0.0314239098
e	900mm dia	RM	36.00			0.0125423321
2210	Providing, laying light duty non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	450mm dia	RM	30.00			0.0072236529
b	600mm dia	RM	20.00			0.0058322566
2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx450mm including frame from reputed manufacturer etc. all complete.	EACH	25.00			0.0337613616
A2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx600mm including frame from reputed manufacturer etc. all complete.	EACH	15.00			0.0229580396
2212	Providing and fixing circular heavy duty C.I. manhole cover of 600 mm dia with frame etc. all complete.	EACH	10.00			0.0139555327

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2213	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber(Clay Brickwork in 1:6 mortar, 12mm plaster in 1:6 mortar & 1:2:4 Cement Concrete) and water tight CI cover with 300x300mm (inside). The weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg etc all complete for following sizes: a) 100x100mm P or S Type. b) 150x100mm P or S Type. c) 150x150mm P or S Type.					
a	100x100mm P or S Type.	EACH	20.00			0.0035733944
b	150x100mm P or S Type.	EACH	20.00			0.0039388909
c	150x150mm P or S Type.	EACH	20.00			0.0045255676
2214	Providing and fixing C.I. floor traps size 100 mm Inlet and 100 mm Outlet Sand Cast Iron S&S as per IS: 1729 with C.P jalli/grill all complete as per specification.	EACH	10.00			0.0018015994
2215	Providing and fixing 100mm heavy duty UPVC floor traps with 100 mm inlet and 100 mm outlet & C.P jalli all complete.	EACH	20.00			0.0032063293
A2216	Providing and installing approved brand single tap water cooler of 80 L cooling capacity with RO system etc. all complete as per specification	EACH	2.00			0.0091231364
A2217	Providing and installing approved brand single tap water cooler of 150 L cooling capacity with RO system etc. all complete as per specification	EACH	12.00			0.0763862472
2218	Providing and fixing white vitreous urinal partitions of size 675x325x85mm all complete.	EACH	10.00			0.0028188717
2219	Providing and fixing eye and face drinking water fountain (combined unit with receptacle conforming to IS: 10592) all complete as per specification.	EACH	3.00			0.0049113781
2220	Providing and fixing heavy duty cast iron pipes for above and below ground sanitary works with water tight lead joint, fixing clamps, excavation, filling, disposal etc. all complete for the following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	75mm dia pipes	RM	60.00			0.0066871732
b	100mm dia pipes	RM	35.00			0.0050593022
c	150mm dia	RM	18.00			0.0040193628
d	200mm dia pipes	RM	13.00			0.0043313682
e	250mm dia pipes	RM	5.00			0.0026820066
2221	Providing, laying spun CI pipes with conforming to IS 1536 complete for following.(Excavation,backfilling,concrete to be paid seperately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	75mm dia	RM	10.00			0.0012015892
b	100mm dia	RM	10.00			0.0014188478
c	150mm dia	RM	5.00			0.0011031561
2222	Providing and fixing HDPE pipes in concrete/ brick work of following sizes including cutting, fixing and levelling in position etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	Upto 75 mm dia	RM	10.00			0.0004149091
b	100 mm dia	RM	10.00			0.0005051067
c	150 mm dia	RM	100.00			0.0104629240
d	200 mm dia	RM	10.00			0.0015419871

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2223	Providing and fixing vertical wall mounted water geysers/heaters(minimum 5 star rating) of required capacity including all connections & fittings(angular stop cock and brass connection pipes, etc.) all complete as per specification.					
a	15 Litres	Each	7.00			0.0073081250
b	25 Litres	Each	2.00			0.0027194190
2300	STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A2301	Erection of shop fabricated (field connections will be bolted type unless noted otherwise) Mild structural steel, Medium and High Tensile structural steel with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including loading, transportation, unloading, collection of steel from stores, alignment, true to line, level, plumb & dimension, temporary erection bolts & nuts assembly, visual inspection, non destructive and special testing, rectification and correction of defective bolting works, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete as per approved drawing, specification and approval of engineer in charge. The work shall be satisfactorily completed with required tightening of HSFG bolts. The shop fabricated structure shall be supplied in variable length to the maximum length of 10 meters -12 meters and all erection work on ground or at any elevation is included in this item. Payment shall be made for weight of structure but not for temporary erection bolts & nuts. High strength (HSFG) bolt including nuts and washer shall be paid separately. Payment Break-up: 1. On completion of erection - 60% 2. On Completion of welding/bolting, alignment - 40%	MT	4700.00			6.9815546650

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D2301	<p>Fabrication (Site Welded as per specification), transportation from fabrication yard and erection of Mild structural steel (Grade designation E250/E350) conforming to IS 2062. Plates beyond 40mm thickness shall be vacuum degassed & furnace normalised and shall also be 100% ultrasonically tested as per ASTM -A578 level BS2.)with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, handrails etc collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of temporary erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 200 C for welding over 20 mm and upto 40 mm & 660 C for welding over 40 mm and upto 63 mm & 1100 C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, surface preparation by means of manual or mechanical power tools as per IS:1477 part 1, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete.</p> <p>This item is excluding appointment of a separate agency, approved by BHEL, for connection design & preparation of fabrication drgs (Using 3D model software like Tekla or equivalent) preparation and submission of fabrication drgs in consultation with BHEL. (Rate shall be exclusive of surface preparation and primer)</p> <p>Payment Break-up:</p> <p>1. On completion of fabrication - 60%</p>	MT	2977.00			8.0653562547

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E2301	<p>Erection of shop fabricated (field connections will be welded type unless noted otherwise) Mild structural steel (Grade designation E250), Medium and High Tensile structural steel (Grade designation E350 or higher) with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including loading, transportation, unloading, collection of steel from stores, machining, welding, electrodes and other consumables, alignment, true to line, level, plumb & dimension, erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 200 C for welding over 20 mm and upto 40 mm & 660 C for welding over 40 mm and upto 63 mm & 1100 C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete as per approved drawing, specification and approval of engineer in charge.</p> <p>Payment Break-up:</p> <ol style="list-style-type: none"> 1. On completion of erection - 60% 2. On Completion of welding/bolting, alignment - 40% 	MT	100.00			0.1633988722
A2302	Extra over ST NO. A2301 & B2301 for blast cleaning of steel structures to near white metal surface (Sa 2 1/2) finish of ISO 8501-1 with surface profile 40- 60Micron and applying two coats of zinc ethyl silicate primer (having minimum 80% of metallic Zinc content in dry film, solid by volume minimum 60%±2%) of minimum 70 micron (total DFT), one coat shall be applied at shop and second coat shall be applied at site after erection including touch-up painting etc all complete as per specification. The primer coat shall be applied in shop immediately after blast cleaning by airless spray technique. Zinc dust composition and properties shall be Type-II as per ASTM D520-00.	MT	2977.00			1.1198381274
A2304	Extra over ST No. A2301 & B2301 for providing and applying Intermediate coat having two component polyamide cured epoxy with MI Content (containing lamellar MI minimum 30% on pigment, solid by volume minimum 80% ±2%) of minimum 180 microdots. This coat shall be applied after an interval of minimum 24 hours (from the application of primer coat) by airless spray technique including protection, touch-up painting, cleaning, scaffolding etc. all complete as per specification.	MT	2977.00			0.5704263022

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A2305	Extra over ST No. A2301 & B2301 for providing and applying finish coat of two pack aliphatic Isocyanate cured acrylic finish paint (solid by volume minimum 55% $\pm 2\%$) with Gloss retention (SSPC Paint Spec No 36, ASTM D4587, D 2244, D523) of Level 2 (after minimum 1000 hours exposure, Gloss loss less than 30 and colour change less than $2.0\Delta E$) and minimum 70micron DFT. This coat shall be applied after an interval of minimum 10 hours and within six (6) months (from the completion of Intermediate coat), Colour and shade of the coat shall be as approved by the employer including protection and cleaning, scaffolding etc. all complete as per specification.	MT	2977.00			0.5045809411
2306	Providing, laying and clamping of crane rails over the crane girder at all elevations as per IS 3443 including all fixtures, clamps, testings etc. all complete as per drawing and specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	5.00			0.0562801780
2307	Supplying, fabrication, erection and alignment of factory made electroforged galvanised grating units with mild steel having minimum galvanisation conforming to IS:2062 in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	Minimum galvanisation of 610 g/sqm	MT	15.00			0.1470107489
2308	Supplying, fabrication, erection and alignment of factory made galvanised welded grating units(minimum 610 g/sqm galvanisation) with mild steel conforming to IS:2062 in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	104.00			1.0830867540
A2308	Supplying, fabrication, erection and alignment of FRP grating in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	1.00			0.0130178696
B2308	Supplying, fabrication, erection and alignment of FRP chequered plate in flooring, platforms, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	1.00			0.0165990289

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2309	Extra over above ST NO. 2301/2308 for finishing the grating units/bolts/inserts with hot dipped galvanisation @ 610 gm/sqm over blast cleaned steel surfaces instead of painting with two coats of red oxide zinc-chromate primer all complete.	MT	406.00			1.0867293260
2311	Providing and fixing in position of permanent mild steel bolts (class 4.6 as per IS : 1367 and grade 'C' as per IS: 1363) and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	KG	736.00			0.0077930744
2312	Providing and fixing in position of high strength structural bolts (of property class 8.8 and product grade 'C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class '8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	KG	43682.00			0.4899319847
A2312	Providing and fixing in position of high strength structural bolts (of property class 10.9 and product grade 'C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class '8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	KG	47717.00			0.6137821023
2313	Dismantling of steel structure, lowering of material and carriage of the dismantled material up to field fabrication shop / projects storage including temporary dismantling, cutting, re-welding, supporting, and restoring to correct position all temporarily dismantled members, re-alignment of all adjacent connected members to their correct positions (weight of such adjacent members and temporarily dismantled members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	42.00			0.0342791743
2314	Addition to, alterations in and/or modification of "Erection Marks" including cutting of parts, gauging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to the required level, painting, transportation, return of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all the temporarily dismantled members, realignment of adjacent connected members (weight of such temporarily dismantled and adjacent members not payable) etc all complete for the following:					
a	In erected position	MT	37.00			0.0763722078
b	In fabrication yard	MT	37.00			0.0645842415

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2315	Re-erection of dismantled fabricated structural steel members including carriage of modified "Erection Marks" from the field fabrication shop to erection site, lifting to required position, aligning in position, tack welding, final welding and touch up painting including temporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position of all temporarily dismantled members, re-alignment of adjacent connected members (weight of such temporarily dismantled members and adjacent members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	37.00			0.0489859356
A2316	Supply, fabrication and erection of minimum 3 mm thick stainless steel liner of grade SS:304M on M.S. plate in bottom conical portion plus up to 3m in cylindrical portion of the bunker including fixing with stainless steel studs, bolting (including countersunk), welding with electrode classification E308L for welding of stainless steel to stainless steel and E309 for stainless steel to mild steel etc. all complete as per specification. Payment Break-up: 1. Supply & Receipt of material at site - 60% 2. On completion of fabrication - 25% 3. On Completion of erection, welding/bolting, alignment - 15%	MT	93.00			3.0187294967
2318	Providing and fixing in position PTFE type sliding bearings of reputed manufacturer, individual bearing suitable for required vertical loads as per the construction drawings and for maximum displacement of ± 50 mm including all taxes, duties, transportation, installation, drilling, bolting, erecting, aligning etc all complete for following vertical loads. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	20 Tons	EACH	8.00			0.0070463950
b	25 Tons	EACH	8.00			0.0082398272
c	40 Tons	EACH	14.00			0.0206841184
d	50 Tons	EACH	8.00			0.0142063605
e	60 Tons	EACH	12.00			0.0248888961
f	100 Tons	EACH	4.00			0.0090919202
2319	Providing and fixing flexible open ended bellow strap of neoprene of minimum thickness 2 mm and minimum width 200 mm with aluminium stripped edges as sealing below top of bunker and bottom of tripper floor to avoid the coal dust nuisance all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	262.00			0.0836564892
2320	Supply, fabrication and fixing of stainless steel pipe hand railing conforming to SS 409 of 32 mm/40 mm dia including transportation, loading/unloading etc. all complete.. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	4.00			0.0927231540

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A2321	Supply, fabrication and fixing of hot dip galvanised MS pipe (Medium Class) hand railing of 32 mm/40 mm dia having rate of galvanisation 610gm/sqm including GI toe guard min 6mm thick & min 150 mm wide, transportation, loading/unloading etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	34.00			0.3333390328
B2321	Supply, fabrication and fixing of FRP pipe hand railing including transportation, loading/unloading etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	1.00			0.0125797445
2323	Conducting radiography test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	37.00			0.0289881819
2324	Conducting ultasonic test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	37.00			0.0035897869
2325	Conducting ultasonic test on steel plates as per ASTM-A435 or equivalent wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	SQM	74.00			0.0032908798
2326	Conducting magnetic particle test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	37.00			0.0023767465
2327	Conducting dye penetration test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges etc. all complete (over and above the work already specified in the specifications.)	RM	37.00			0.0025827893
2328	Supply, fixing lightning arrester and air terminal over roof of power house building, pump house and other structures inluding all materials, labour, electrodes etc complete (all materials to be supplied by the contractor).	NO	1.00			0.0004189876
2400	ROAD WORKS: Road works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. as per specification, drawings and as directed by engineer - in - charge.					
2401	Preparation of sub grade by excavating earth to required depth for all types of soil/ rock, dressing to camber and consolidating the base including making good the undulation etc and disposal of surplus earth within a lead upto 1 km etc. all complete.	CUM	7030.00			0.0374939744
A2402	Supplying and filling with selected good earth of approved quality in layers not exceeding 300 mm compacted thickness using excavated soil within a lead upto1km soil and compacted so as to achieve at least 98 % maximum dry density as per IS-2720 (Part-VII) including royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete.	CUM	556.00			0.0192749962
2403	Providing, stacking & laying granular morrum for shoulder including watering, compaction with road roller to required camber etc all complete.	CUM	80.00			0.0060173578
2404	Providing & laying water bound macadam sub base course in layers of required thickness with crushed stone aggregates 90 to 40 mm down size (IRC 19 - grading -1), stone screening & blinding material including screening, sorting, spreading to template & consolidation with road roller including carriage, spreading & consolidation of blinding material moorum etc all complete.	CUM	380.00			0.0554660464

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A2405	Providing & Laying granular sub-base using close graded Material conforming to MORTH specification (Table 400-1, Grading-I) , mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, for all leads & lifts, spreading in uniform layers of specified thickness on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications, drawings and directions of Engineer-in-Charge.	CUM	2870.00			0.4211656325
A2406	Providing & Laying water bound macadam sub base/base course with stone aggregate 53 mm to 22.4 mm size stone conforming to MORTH specification (Table 400-7) mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, for all leads & lifts, spreading in uniform layers of specified thickness on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications, drawings and directions of Engineer-in-Charge.	CUM	817.00			0.1210462265
B2413	Supplying and laying 300mmx250mmx150mm deep precast concrete kerb stone of grade M-25 with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:6) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	65.00			0.0015243398
C2413	Supplying and laying 400mmx100mmx375mm deep precast concrete kerb stone of grade M-15 with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	1520.00			0.0387457605
D2413	Supplying and laying 400mmx100mmx375mm deep precast concrete kerb stone of grade M-25 with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:6) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	300.00			0.0072707126
2415	Supply and laying 150mm dia R.C.C NP-2 type Hume pipe in raised shoulders as rain water drains as per detailed drawing including fixing with cement mortar (1:3) in 13mm thick joints, finishing of joints with neat cement paste etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	830.00			0.0652944497
A2415	Supply and laying 200mm dia R.C.C NP-3 type Hume pipe in raised shoulders as rain water drains as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	940.00			0.0838273156
2416	Dismantling of existing road consisting of premix carpet, kerb stone/ brick on edge, bitumen macadem course, WBM, prepairing subgrade to receive new WBM including camber consolidation including disposal of debris within a lead of 1 km etc all complete.	SQM	50.00			0.0004705963
2418	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc. (Cement will be supplied by BHEL free of cost as per TCC)	CUM	10.00			0.0028322053

ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
A2419	Providing and laying pavement quality concrete of grade M35 using 20 mm nominal size stone aggregate with approved admixture (if required), in road pavement using fully mechanized paver fitted with electronic sensors, provision for necessary joints including compaction, finishing to lines and grades, curing and providing & fixing forwork etc. all complete. (Excluding the cost of reinforcement and dowel bar) (Minimum cement content shall be 360kg/cum)	CUM	2880.00			1.0634723009
2421	Providing & laying dry lean cement concrete of grade M15 with 20 mm nominal size graded stone aggregate over a prepared sub-grade including compaction, finishing, curing etc all complete. (Cement will be supplied by BHEL free of cost as per TCC)	CUM	1190.00			0.4108603582
B2421	Providing and laying of plain cement concrete of grade M15 using 40 mm graded stone aggregate including providing and fixing formwork, compaction etc. all complete	CUM	675.00			0.2026622887
C2421	Providing and laying of plain cement concrete of grade M7.5 using 40 mm graded stone aggregate including providing and fixing formwork, compaction etc. all complete	CUM	300.00			0.0900721283
A2422	Providing and fixing in position MS dowel bar reinforcement including surface painted with bitumen and greasing, dowel end caps with cotton fills etc all complete as per specification, drawing and as directed by Engineer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	25.00			0.1640675111
A2423	Providing, straightening cutting, bending, placing in position at any level, binding in position of steel reinforcement of mild steel reinforcements including cost of binding wire, labour, scaffolding transportation to & from stores etc all complete as per specifications, drawings and as directed by Engineer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	2.00			0.0131254009
B2423	Supply and Fixing of Hard Drawn Steel Wire fabric including straightening, cutting, bending, placing in position at grade slabs / plinth levels / pavings etc. binding in position of grade Fe-500 (min.) confirming to IS:1566 including cost of steel, binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	160.00			0.9975260753
A2424	Providing & installation of bitumen impregnated fibre board of specified thickness confirming to IS 1838 as joint filler including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete as per specification, drawing and as directed by engineer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	2695.00			0.0579170687
A2425	Providing and filling in position hot applied bitumen sealing compound (Grade A) of specified thick confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints, sealant primer etc all complete as per specification, drawing and as directed by Engineer.	RM	2810.00			0.0167500903
A2426	Providing and laying debonding strip/tape of specified thickness before applying sealant including cleaning etc all complete as per specification, drawing and as directed by Engineer.	RM	2660.00			0.0114747060

ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
A2427	Providing & laying 80 mm thick precast interlocking concrete pavers of grade M35 of approved colour and pattern as per specification and recommendation of manufacturer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	2280.00			0.2038623092
A2428	Providing and laying 20mm thick sand layer below concrete pavers including compaction etc all complete as per specification, drawing and as directed by Engineer.	SQM	2280.00			0.0071530635
A2429	Providing and laying Impermeable plastic sheeting 125 microns thick laid flat without creases as per IRC 15-2002 etc all complete as per specification, drawing and as directed by Engineer.	SQM	10100.00			0.0126747265
A2430	Supplying, fixing and removing formwork for concrete road pavement complete as per specification and as directed by the engineer-in-charge.	SQM	4811.00			0.1894245721
A2431	Providing and installation of Variable message signs including Cantilever type MS supports etc. all complete as per drawings, specifications, manufacturer's recommendations, indian standards. (Payment for structural work shall be paid seperately under relevant BOQ item)	EACH	30.00			0.0092354520
2600	LEVELING & GRADING: Levelling & grading works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. as per specification, drawings and as directed by engineer - in charge.					
2601	Cutting of trees having girth more than 300 mm measured at a height of 1m above ground level including removal of roots, stacking the seviceable material like trunks,branches etc at specified area within the plant boundary and disposal of unseviceable parts/materials within a lead upto 1km etc all complete.					
a	300 mm upto 600 mm girth.	Nos	25.00			0.0008607990
2602	Earth work in stripping of top soil upto a maximum depth of 0.30m below ground level so as to exclude all debris, grass, vegetation, bushes including roots and organic materials etc for leveling and grading including dressing to specified levels & grades and compacting the graded/stripped surface by manual/mechanical means, disposal of stripped materials within a lead upto 1km etc all complete as per specification, drawing and as directed by the engineer-in-charge.	SQM	30600.00			0.0600010259
2608	Earth work in filling upto any depth below ground level for grading to proper grade and level in layers not exceeding 300mm compacted thickness so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII) with selected approved soil/soft rock directly from excavation within a lead upto1km and compacted as specified including dewatering if required, sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete as per specification, drawing and as directed by the engineer for the following.	CUM	7500.00			0.0317652490
2610	Extra over ST No. 2602 to 2609 for carriage of unserviceable material/earth for every 500m or part thereof beyond an initial lead of 1km.	CUM	193000.00			0.2270627059
2612	Providing and laying 225mm thick stone pitching including caulking with 1 cement: 4 sand mortar on the slopes of earth fill/cut with approved quality of rock fragments including materials, testing, necessary excavations if any, compaction etc all complete as per specification, drawing and as directed by the engineer.	CUM	50.00			0.0098315406
2614	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc.	CUM	50.00			0.0150120214
2900	Switchyard Others					

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A2901	Dismantling barbed wire or flexible wire rope in fencing including making rolls and stacking within 5km lead.	KG	450.00			0.0056471554
A2911	Fixing of stub angles of transmission line towers in position with help of the template and necessary arrangements including erection of template, leveling, alignment, all complete, as per drawing and directions of Engr-in-Charge (Stub angles & templates will be supplied by BHEL. Weight of stub angles & template will be considered for payment purpose).	KG	4150.00			0.0081373940
	TOTAL AMOUNT				₹ 3,15,60,000.00	100