

## Bill of Quantity

**Water proofing treatment over the roof top of NTC building, Canteen, Electronics section,  
Office block at Plot 4 area etc. at BITM, Kolkata.**

Sl. No.	Description of item	Qty.	Unit	Rate	Amount
1.0	Repairing of crack in wall, roof etc. by cement grouting (1:2) including widening the crack on the surface (into V-section) cleaning and packing the same with cement mortar (1:2) and finishing off to match with adjacent surface. (Cement-69 Kg/100 m).	300	Mtr.	13.92	4,176.00
2.0	Dismantling all types of masonry excepting cement concrete plain or reinforced, stacking serviceable materials at site and removing rubbish as directed within a lead of 150m. At any floor including roof.	1	Cum	447.00	447.00
3.0	Dismantling all types of plain cement concrete works, stacking serviceable materials at site and removing rubbish as directed with a lead of 150m at any level.	0.5	Cum	1,417.00	708.50
4.0	Stripping off worn out plaster and raking out joints of walls, ceilings etc upto any height and in any floor including removing rubbish within a lead of 150m as directed.	200	Sqm.	19.00	3,800.00
5.0	Cleaning the concrete surface by removing dirt and debris, marking defective locations and removing loose concrete by careful stripping untill hard surface is exposed, cutting the concrete to regular shape, wire brushing the exposed surface and removing debris from site complete as per direction of the Engineer - in - Charge.	100	Sqm.	90.00	9,000.00
6.0	Cleaning the exposed reinforcement preferably upto full diameter by wire brush, applying two coats of polymer based rust removing compound left for 24 hours, removing the coating and then applying two (2) coats of polymer modified anti corrosive protective coating formulated to inhibit the corrosion of reinforcement as per manufacturer's specification				
6.1	Providing & applying rust removing compound (Sika Rustoff 100 or equivalent).	4	Kg	312.00	1,248.00
6.2	Providing & applying polymer modified anti corrosive protective coating (Sika Rustop or equivalent).	5	Kg	245.00	1,225.00
7.0	Applying 2 coats of bonding agent with synthetic multi functional rubber emulsion having adhesive and water proofing properties by mixing with water in proportion (1 bonding agent : 4 water : 6 cement) as per Manufacturer's specification and direction of EIC.	100	Sqm.	88.00	8,800.00
8.0	Providing & mixing polymer based water resistant, bonding agent like Dr. Fixit 101 LW+/ Sika Latex power or equivalent in cement plaster, concrete etc. as per manufacture's specification and direction of EIC.	15	Lit.	360.00	5,400.00
9.0	Brick work with 1st class bricks (Class designation 75) in cement mortar (1:6) In superstructure at any floor.	0.5	Cum	5,636.00	2,818.00
10.0	125mm thick brick work with 1st class bricks in cement mortar (1:4) at any floor.	2	Sqm.	736.00	1,472.00

Sl. No.	Description of item	Qty.	Unit	Rate	Amount
11.0	Plaster (to wall, floor, ceiling etc.) with sand and cement mortar including rounding off or chamfering corners as directed and raking out joints including throating, nosing and drip course, scaffolding/staging where necessary at any height. With 1:4 cement mortar, 20mm thick plaster.	200	Sqm.	194.00	38,800.00
12.0	Neat cement punning about 1.5mm thick in wall, dado, window, sill, floor etc. NOTE: Cement 0.152 cu.m per100 sq.m.	50	Sqm.	34.00	1,700.00
13.0	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering at any floor/ level as per relevant IS code. 1:1½:3 (1 Cement: 1½ coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size).	1	Cum	6,374.25	6,374.25
14.0	Hire and labour charges for shuttering with centering and necessary staging upto 4 m using approved stout props and thick hard wood planks of approved thickness with required bracing for concrete slabs, beams, columns, lintels, curved or straight including fitting, fixing and striking out after completion of works. 25mm to 30mm thick wooden shuttering without staging.	10	Sqm.	209.00	2,090.00
15.0	Taking out old damaged tarfelt/ APP membrane from the roof, parapet etc. preparing the roof surfaces by removing all spoils, blisters, moss etc. from the working site and disposal of the same beyond the compound and cleaning the site in all respect as per direction of Engineer-in-Charge.	1200	Sqm	12.00	14,400.00
16.0	Preparation of drainage spout on roof for bituminous waterproofing treatment after required grading and shaping of the under bed with Cement Concrete (1:2:4) or Cement Mortar (1:4) as directed, Chamfering and moulding the parapet wall to form a bell mouth entry, if required and providing full course treatment with bituminous felt to facilitate quick and smooth drainage of water into the down pipes complete including cost of all materials and labour according to satisfaction of the Engineer - in - Charge.	30	Each	110.00	3,300.00
17.0	Supplying & laying 3mm thick pre-fabricated plastomeric water proofing membrane conforming to EN 12311-1 & ASTM D 5147, manufactured with atactic poly propylene (APP) modified premium grade asphalt , specially reinforced with non-woven polyester core with polyester reinforcement @160 gms per sqm & both faces covered with thermo-fusible polyethylene film /Mineral on top face over a coat of primer @ 0.40 lit/sqm of manufacturer's specification on smooth, clean dry surface prepared wherever required including repairing the old surface with cement mortar (1:2) admixing Sika Latex etc.				

Sl. No.	Description of item	Qty.	Unit	Rate	Amount
	<p>Lap joint shall be provided of 75 mm in longitudinal &amp; 100 mm in transverse direction and fused using LPG/ Propane torch employing extra care ensuring full bondage, complete removal of entrapped air and sealing edges into grooves in appropriate manner as per direction of Engineer -in-charge all complete including materials, labour and applicable taxes. Membrane Property: Softening Point &gt; 150 deg C, Cold Flexibility &lt; -6 deg C, Tensile Strength, N/cm : 600 (longitudinal), 450 (transverse), Tearing Strength, N: 300 (longitudinal), 200 (transverse).</p> <p><b>The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane following manufacturer's specification.</b> Necessary groove to be made on vertical wall and inserted the APP membrane into the groove, including mending the damages, complete. (Payment shall be made on the basis of finished surface area, no extra payment for lapping/ wastage / grooving &amp; mending etc.) <i>Make : Sika India Pvt Ltd or equivalent approved make.</i></p>	1200	Sq.m	407.00	4,88,400.00
18.0	<p>Painting with superior quality aluminium paint of approved make and brand over the top surface of APP membrane. <i>Two or more coats</i>.</p> <p>The rate is inclusive of all materials, labour, taxes, scaffolding, staging, safety measures, insurance coverage for workmen and other incidental charges complete.</p> <p>Manufacturer: ICI, Asian paints, Berger, Nerolac or equivalent.</p>	1200	Sqm	57.00	68,400.00
19.0	<p>Sealing new/ old expansion joint with Elastomeric polysulphide Sealant of gap size 50mm X 25mm Including cleaning of the expansion joint thoroughly, mending of edges &amp; surface, placing 50mm dia Backer rod as back up material with the cost of materials, labours &amp; all other incidental charges as per manufacturer's specification &amp; direction of Engineer-in-charge.</p>	20	Mtr.	792.00	15,840.00
20.0	<p>Filling the gap in between aluminium frame &amp; adjacent RCC / Brick/ Stone work by providing weather silicon sealant over 6mm dia backer rod of approved quality as per architectural drawings and direction of Engineer-in- Charge complete.</p> <p>Upto 5 mm depth and 5 mm width. The work is to executed on the inside or out side wall upto 30m height from ground level. The rate is inclusive of materials , labour, scaffolding etc. complete.</p>	20	Mtr.	69.00	1,380.00
21.0	<p>Supplying, fitting &amp; fixing UPVC pipes A- Type and fittings conforming to IS:13592-1992 with all necessary clamps nails, including making holes in walls, floor etc. cutting trenches in any soil through masonry concrete structures etc if necessary and mending good damages including joining with jointing materials (Spun Yarn, Valamoid/Bitumen/M-Seal etc) complete.</p> <p>(Make: Supreme, Oriplast, Ashirvad or equivalent)</p>				

Sl. No.	Description of item	Qty.	Unit	Rate	Amount
21.1	UPVC Pipe: 110mm dia.	30	Metre	251.00	7,530.00
21.2	UPVC Pipe: 160mm dia.	30	Metre	485.00	14,550.00
	<b>UPVC Fittings</b>				
21.3	Plain Tee: 110 mm dia.	2	Each	172.00	344.00
21.4	Plain Tee: 160 mm dia.	2	Each	507.00	1,014.00
21.5	Plain Y: 110 mm dia.	2	Each	223.00	446.00
21.6	Plain Y: 160 mm dia.	2	Each	579.00	1,158.00
21.7	Bend 87.5 degree: 110 mm dia.	8	Each	140.00	1,120.00
21.8	Bend 87.5 degree: 160 mm dia.	2	Each	346.00	692.00
21.9	Shoe: 110 mm dia.	2	Each	111.00	222.00
21.10	Shoe: 160 mm dia.	2	Each	305.00	610.00
21.11	Door Tee: 110 mm dia.	2	Each	195.00	390.00
21.12	Door Tee: 160 mm dia.	2	Each	514.00	1,028.00
21.13	Door Bend 87.5 degree: 110 mm dia.	2	Each	147.00	294.00
21.14	Door Bend 87.5 degree: 160 mm dia.	2	Each	369.00	738.00
21.15	Half Bend 45 degree: 110 mm dia.	2	Each	89.00	178.00
21.16	Half Bend 45 degree: 160 mm dia.	2	Each	293.00	586.00
21.17	Vent Cowl: 110 mm dia.	2	Each	33.00	66.00
21.18	Vent Cowl: 160 mm dia.	2	Each	57.00	114.00
22.0	Uprooting and removing plants from the surface of walls parapet etc and making good damages. (Repairing of damages to be paid separately). Small plant of girth of exposed stem upto 75 mm. The work includes any height of the exterior wall, roof etc and treatment to be done with CuSO4 (Copper sulphate solution) and mending damages good with C.C. (1:1.5:3) including sika latex. The cost of concrete shall be paid separately.	20	Each	50.00	1,000.00
23.0	Removal of rubbish, earth, scrap material etc. from the working site and dispose of the same beyond the compound in truck loads in conformity with Municipal/Corporation rules and as per instruction of Engineer - in - Charge.	1	L.S.	12,000.00	12,000.00

Cost of Civil works ::: 7,23,858.75

GST, as applicable over cost of Civil work @ 12% ::: 86,863.05

Cost of Civil works excluding labour welfare cess ::: 8,10,721.80

Labour welfare cess @ 1% ::: 8,107.22

**Total amount of Civil Work ::: 8,18,829.02**

**Say Rs. 8,18,829.00**