

**BEML LIMITED, BANGALORE COMPLEX**

Tender Ref : 6300037257

DATE:-09.03.2022

ISSUED TO:	Period of contract:	FIVE (05) MONTHS
	EMD :	Rs. 49,140/-

**Sub: Arresting roof leakages by providing waterproofing treatment for RCC building roofs of Welfare Department, Payrolls Department, RMH Office, Technical building, Telephone exchange & Laboratory building at Bangalore Complex, BEML Limited, Bangalore.**

**SCHEDULE 'A' - BILL OF QUANTITIES**

Sl. no	Description	Unit	Qty	Rate/ unit in fig. & in words Rs.	Amount. Rs.
1	Complete removal of the existing APP Membrane, brick bat coba / lime concrete carefully without damaging the RCC slab, and the debris to be stacked at a place as shown including tools, tackles etc, complete all as specified and directed by Engineer in charge.	Cu.M	115		
2	Complete removal of the existing APP Membrane including damaged cement mortar/ plastering of any thickness provided over the RCC roof slab, parapet wall & chajja top carefully without damaging the existing structure and stacking the debris at a place all as shown including tools, tackles etc complete, all as specified and directed by Engineer in charge.	Sq.M	485		
3	Cleaning the Roof slab using wire brushes, water washing and removal of rank vegetation, all foreign materials and applying a coat of cement slurry with cement at the rate of 3kg/Sqm over the thoroughly cleaned roof slab as a preparatory course including tools, tackles etc., complete all as specified and directed by the Engineer in charge.	Sq.M	1110		
4	Cleaning the existing RCC roof slab using wire brushes, water washing and removing all foreign materials as a preparatory course over roof slab including tools, tackles etc., complete,all as specified and directed by the Engineer-in-charge.	Sq.M	740		
5	Providing plastering 20mm thick in cement mortar of mix proportion 1:4 over roof slab/concrete surface and admixed with M/s. Fosroc make CONPLAST X42 IC/WL (200ML/Bag of cement) and the surface finished smooth and even etc., complete all as specified and directed by the Engineer-in-charge. Note: M/s. Fosroc Conplast X42 IC/WL water proofing chemical shall be measured & paid separately under relevant item.	Sq.M	1045		

Sl. no	Description	Unit	Qty	Rate/ unit in fig. & in words Rs.	Amount. Rs.
6	Providing Plastering 15mm thick in cement mortar of mix proportion 1:6 over existing brick/concrete surface of parapet wall and admixed with M/s. Fosroc make CONPLAST X42 IC/WL (200ML/Bag of cement) and the surface finished smooth and even etc., complete all as specified and directed by the Engineer-in-charge. <b>Note:</b> M/ Fosroc Conplast X42 IC/WL water proofing chemical shall be measured & paid separately under relevant item.	Sq.M	265		
7	<p>Providing and laying 5 course water proof treatment by using 4mm thick Atatic Polypropylene (APP) Membrane of M/s STP/Sika/Asian or equivalent brand for the roof/parapet wall by preparing the surfaces by cleaning/removing all foreign matter by wire brushing etc, removing of old damaged plastering / concrete if any &amp; making good, providing &amp; applying bonding agent of M/s. STP - SBR Latex and cement mortar 1:4 @ the rain water pipe outlets, after cleaning the gap, washing &amp; saturating with water. Providing 75mmx75mm PCC 1:2:4 coving at the roof &amp; parapet joints admixed with suitable admixture of M/s STP Shalipast &amp; Shali SBR Latex as bond coat.</p> <p>i) Applying a coat of Bituminous primer conforming to relevant IS at the rate of 0.40 Liters/Sqm.</p> <p>ii) Providing Hot applied bitumen of grade 90/15 conforming to relevant IS at the 1.20Kg/Sqm for roof and parapet surfaces over the primer surface.</p>	Sq.M	1975		
	<p>iii) Providing 4mm thick APP membrane sheet reinforced with polyester non woven fabric, (The weight of the membrane shall not be less than 3.9Kg/Sqm) fixed neatly on the hot applied bitumen surface for proper bonding using torching method. The lap joint shall be minimum 75mm width for horizontal &amp; 100mm for vertical surfaces.</p> <p>vi) Providing Hot applied bitumen of grade 90/15 conforming to relevant IS at the rate 1.20Kgs/Sqm for roof and parapet surfaces as a sealing coat.</p> <p>vii) Providing and applying 2 coats of heat resistant aluminium paint at the rate of 0.10 liter/Sqm. for each coat on the bitumen surface.</p>				

Sl. no	Description	Unit	Qty	Rate/ unit in fig. & in words Rs.	Amount. Rs.
	<p><b>Note:-i)</b> Clear flat area of roof surface and vertical area of parapet surface covered with water proofing (APP) only will be considered for the purpose of measurements and laps for every joint will deemed to be included in the quoted rate and no extra measurement will be entertained for the laps.</p> <p>ii) Lap joints should be of 75mm width for horizontal and 100mm width for vertical surfaces and joints shall be sealed thoroughly by proper torching.</p> <p>iii) All materials like bituminous primer, bitumen of grade 90/15, APP membrane as specified shall be from reputed manufacturer approved by BEML. The prior approval of BEML for sample shall be obtained before commencing the work. The necessary test certificate for membrane from supplier shall be submitted.</p> <p>iv) The defect liability period for this work will be 5 years from the date of satisfactory completion of the work and the contractor shall rectify any type of defects during the said warranty period free of cost. To this effect, the Security deposit of 10% of contract sum will be with held for a period of 5 years and released only after the satisfactory performance of the Defect liability period.</p>				
8	Supplying and mixing M/s. Fosroc make CONPLAST X42 IC/WL while rendering for the roof slab and parapet wall surfaces as per Manufacturers instructions (200ml/bag of cement) etc., complete all as specified and directed by the Engineer in charge.	Ltrs	50		
9	Carting away unwanted and unusable debris outside the site premises to a distance exceeding 1.50KM, but not exceeding 5KM, dumping at a place shown at township area premises etc., complete including all lead and lift etc., complete all as specified and as directed by Engineer in charge.	Cu.M	125		
10	Cutting of tree branches at heights, up to a length of 3.0M to 5.0Mts approximately & stacking of serviceable materials & disposal of unserviceable materials to a distance not exceeding 50Mtrs away & clearing the site etc, complete as as specified and as directed by Engineer in charge ( Girth exceeding 30cm to 100cm approximately).	Nos.	85		
11	Removing the existing old broken/ damaged PVC/CI/AC downtake pipes and supplying & fixing new 110 mm diameter PVC class 2 pipes (6kg/cm2) for rain water down take of first quality, approved brand, manufactured by M/s.Supreme/Astral conforming to relevant IS including all standard fittings like elbows, bends, tees, tail pieces & fixtures such as pipe clips, clamps wooden plug, screws, washers etc secured firmly to the wall/floor surfaces etc.,complete all as specified and as directed by Engineer in charge.	RM	380		
12	Providing and laying Plain Cement Concrete of mix proportion 1:2:4 average 100mm thick using 12.5mm graded granite aggregates as a screed concrete over roof slab/chajja/other similar works, laid to a proper slope & gradient, well compacted,mechanical/manual mixing including curing etc., complete all as specified and directed by the Engineer in charge.	Cu.M	5		

Sl. no	Description	Unit	Qty	Rate/ unit in fig. & in words Rs.	Amount. Rs.
13	Providing and constructing 230mm thick burnt brick masonry wall in Cement Mortar 1:6 using first class table molded bricks including scaffolding, curing, etc complete., all as specified and directed by the Engineer in Charge. <b>Note:</b> The rate quoted is deemed to include for wastages, providing and removal of scaffolding/staging wherever necessary.	Cu.M	5		
14	Providing and applying 2 coats of brush bond - RFX & Nitobond BBX a two componet water proofing chemical of M/s FOSROC make to the roof slab and parapet wall as per Manufacturers instructions etc., complete all as specified and directed by Engineer in Charge.	Sq.M	200		
<b>Note:-1. The rate quoted for the above items is deemed to include for providing and removal of scaffolding/staging wherever necessary.</b> <b>2. The Defect Liability Period for this work will be 5 years from the date of satisfactory completion of the work.</b>					
	Total Value of work excluding GST			Rs.	
	GST			Rs.	
	<b>Total Value of work inclusive of GST</b>			Rs.	

Total Amount in words Rupees:

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Signature of the contractor with seal