

SCHEDULE OF QUANTITIES

NAME OF THE WORK: "Water-proofing of roofs of Quarters MS-IV Bldg., DII/23/1 & 2, P-12, J-2 & 10, B(19-23), R (2 & 4) and Staircase roof of M-10 at CSIR-CMERI Colony, Dgp-9."

No.	Description of work	Unit	Qty	Rate (Rs.)	Amount (Rs.)
1	Demolishing cement concrete manually/ by mechanical means including disposal of material at the location as per direction of Engineer-in-charge.	Cum	36	Rs. Rupees.	
2	Labour for dismantling G.I. pipe with fittings, excavation and refilling trenches after taking out the pipes/ making good the walls including stacking of pipes at a location specified by Engineer-in-charge. 15 - 32 mm nominal bore	Mtr	57	Rs. Rupees.	
3	Supplying, fitting and fixing G.I. pipes of TATA make with all necessary accessories, specials viz. socket, bend, tee, union, cross, elbow, nipple, long screw, reducing socket, reducing tee, short piece etc. fitted with holder bats clamps, including cutting pipes, making threads, fitting, fixing etc. complete in all respect including cost of all necessary fittings as required, jointing materials and two coats of painting with approved paint in any position above ground. (Payment will be made on the centre line measurements of total pipe line including all specials. No separate payment will be made for accessories, specials. Payment for painting will be made separately): (A) For Exposed Work: 20 mm dia. medium quality	Mtr	57	Rs. Rupees.	
4	Grading roof for water proofing treatment with Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size). The firm shall also furnish the guarantee bond for 5 years after DLP for the execution of all items under waterproofing works sub-head (as per appendix -25, of CPWD-14 Manual copy enclosed).	Cum	25	Rs. Rupees.	
5	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	per 50 kg cement	160	Rs. Rupees.	
6	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer, 3 mm thick water proofing membrane, black finished reinforced with glass fibre matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufactured of density at 25°C, 0.87 - 0.89 kg/litre and viscosity 70 -160 cps. Over the primer coat the layer of membrane shall be laid using butane torch and sealing all joints etc., and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 350/300 N/5 cm. Tear strength in longitudinal and transverse direction as 60/80N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto - 2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane ;	Sqm	1540	Rs. Rupees.	
Total					
(Rupees In Words)					

31/02/2016
28/02/16

**CSIR-CENTRAL MECHANICAL ENGINEERING RESEARCH INSTITUTE
(COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH)**

M.G.AVENUE, DURGAPUR- 713209, INDIA

NAME OF PROJECT: Water-proofing of roofs of Quarters MS-IV Bldg., DII/23/1 & 2, P-12, J-2 & 10, B(19-23), R (2 & 4) and Staircase roof of M-10 at CSIR-CMERI Colony, Dgp-9.

LIST OF APPROVED MAKES FOR CIVIL WORK.

1. The Contractor shall obtain approval from the Engineer-In-Charge before placing order for any specific material or engaging any of the specialized agencies.
2. Wherever applicable. The Engineer-In-Charge may approve any material equivalent to that specified in the tender subject to proof being offered by the Contractor for equivalence to his satisfaction.
3. Unless otherwise specified, in the tender document all the materials which are ISI Marked shall be used in the work and if the ISI marked materials are not available, materials conforming to IS shall be used, and for the materials which are neither ISI marked not conform to IS, the manufacturer's Specification shall be followed.

S. No.	Description	Approved Makes
1	G.I. Pipes	Tata
2	CEMENT	ACC, LAFARGE , ULTRATECH, BIRLA
3	Water-proofing material	Dr. FIXIT, FOSROC, SIKA
4	APP (Atactic Polypropylene Polymer)	Dr. FIXIT, BITUMAT

31.9.21 गुहार जस्ट
29/02/16

APPENDIX – 25

(Reference para 22.5(1))

GUARANTEE TO BE EXECUTED BY CONTRACTORS FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS

The Agreement made this day of two thousand and between son of of (hereinafter called the Guarantor of the one part) and the PRESIDENT OF INDIA (hereinafter called Government of the other part).

WHEREAS this agreement is supplementary to a contract (hereinafter called the Contract) dated and made between the GUARANTOR of the one part and the Government of the other part, whereby the Contractor, *inter alia*, undertook to render the buildings and structures in the said contract recited completely water and leak-proof.

AND WHEREAS GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for five years from the date of giving of water proofing treatment.

NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak-proof and the minimum life of such water proofing treatment shall be five years to be reckoned from the date after the maintenance period prescribed in the contract.

Provided that the guarantor will not be responsible for leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

- (a) Misuse of roof shall mean any operation which will damage proofing treatment, like chopping of firewood and things of the same nature which might cause damage to the roof;
- (b) Alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts;
- (c) The decision of the Engineer-in-Charge with regard to cause of leakage shall be final.

During this period of guarantee the guarantor shall make good all defects and in case of any defect being found, render the building water-proof to the satisfaction of the Engineer-in-Charge at his cost, and shall commence the work for such rectification within seven days from the date of issue of the notice from the Engineer-in-Charge calling upon him to rectify the defects, failing which the work shall be got done by the Department by some other contractor at the GUARANTOR'S cost and risk. The decision of the Engineer-in-Charge as to the cost, payable by the Guarantor shall be final and binding.

That if GUARANTOR fails to execute the water proofing or commits breach thereunder then the GUARANTOR will indemnify the Principal and his successors against all loss, damage, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and/or cost incurred by the Government the decision of the Engineer-in-Charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Obligor and by and for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

Signed, sealed and delivered by OBLIGOR in the presence of—

- 1.
- 2.

Signed for and on behalf of THE PRESIDENT OF INDIA by in the presence of—

- 1.
- 2.

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List of Quarters & Scope of work

29.02.2016

NAME OF PROJECT: Water-proofing of roofs of Quarters MS-IV Bldg., DII/23/1 & 2, P-12, J-2 & 10, B(19-23), R (2 & 4) and Staircase roof of M-10 at CSIR-CMERI Colony, Dgp-9.

List of Quarters: Roofs of Quarters MS-IV Bldg., DII/23/1 & 2, P-12, J-2 & 10, B(19-23), R (2 & 4) and Staircase roof of M-10

SCOPE OF WORK: The scope of work includes the following:

1. Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layers, 3 mm thick water proofing membrane over the roof of above mentioned quarters.
2. Demolishing existing cement concrete wherever damaged viz. P-10, B(19-23), J-2 & 10 and roof grading with Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) admixed with water proofing material.
3. Dismantling old G.I. Pipes wherever damaged and refixing new G.I. Pipes in Qtr. No. R-2 and R-4.

Submitted by

31.02.2016
29/02/16
A.K. Gupta
(AEE, Civil)