

# SCHEDULE OF QUANTITIES

NAME OF THE WORK: "Water-proofing of roofs of various Quarters at CSIR-CMERI Colony, Dgp-9." (Phase-1)

It. No.	Description of work	Unit	Qntty	Rate (Rs.)	Amount (Rs.)
1	Demolishing cement concrete/ taking out existing layer of treatment manually/ by mechanical means including disposal of material at the location as per direction of Engineer-in-charge. Nominal concrete 1:3:6 or richer mix (i/c)	Cum	30	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	100	Rs. Rupees.	
3	Supplying, fitting and fixing PVC pipes of approved make of (medium duty) conforming to ASTM D - 1785 and threaded to match with GI Pipes as per IS : 1239 (Part - I). with all necessary accessories, specials viz. socket, bend, tee, union, cross, elbo, 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	100	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	30	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	700	Rs. Rupees.	
6	Providing and laying 3 mm thick APP (Atactic Polypropylene Polymer) modified prefabricated five layer 3 mm thick water proofing membrane, black finished reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufacture 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 650/ 450N/5cm. Tear strength in longitudinal and transverse direction as 300/250N. 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 : 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)	Sqm	3500	Rs. Rupees.	

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7	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within specified distance as per direction of Engineer-in-charge. In cement mortar	Sqm	10		
8	Repairs to plaster of thickness 12 mm to 20 mm including cutting the patch/wall in proper shape, raking out joints and preparing and plastering the surface of the walls complete, including disposal of rubbish to the dumping ground, all complete as per direction of Engineer-in-Charge. With cement mortar 1:4 (1cement: 4 coarse sand).	Sqm	2435		
9	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in : Cement mortar 1:4 (1 cement : 4 coarse sand)	Sqm	10		
	<b>Total</b>				
	<b>(Rupees In Words)</b>				

*May L. Singh*  
08/11/17

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08/11/17

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

**M.G.AVENUE, DURGAPUR- 713209, INDIA**

NAME OF THE WORK: "Water-proofing of roofs of various Quarters at CSIR-CMERI Colony, Dgp-9."(Phase-1)

**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	PVC Pipes (Schedule 40)	Aashirbad, Finolex, Supreme
2	CEMENT	ACC, LAFARGE , ULTRATECH, BIRLA
3	Water-proofing material	Dr. FIXIT, FOSROC, SIKA, CICO
4	APP (Atactic Polypropylene Polymer)	Dr. FIXIT, SIKA

*Dr. J. L. Singh*  
*8/11/17*

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**Scope of work**

**08.11.2017**

**NAME OF THE WORK:** "Water-proofing of roofs of various Quarters at CSIR-CMERI Colony, Dgp-9." (Phase-1)

**List of Quarters:** B-23, B-16, G-10, H-4, H-6, H-20, I-6, I-8, K-6, L-7, L-8, L-12, L-14, M-5, M-6, M-8, N-3, N-9, P-3, P-8, P-14, R-8, R-12, S-5, S-10, S-14, CII/5/2, CII/20/1, D-11/7/1, D-II/13/2 and roof of MS-I & II.

**A. SCOPE OF WORK:** The scope of work includes the following:

1. Dismantling of old plaster and re-plastering admixed with water proofing compound for affected external wall.
2. Dismantling of cement concrete/ taking out existing layer of treatment.
3. Replacement of damaged G.I.Pipes (water line) by PVC Pipes.
4. Replacement of damaged sanitary works and fittings..
5. Water-proofing treatment of roof by grading roof with Cement concrete 1:2:4 admixed waterproofing compound of approved brand and in the proportion as per the manufacturer specification for those affected roof as per the direction of Engineer-in-Charge.
6. Laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer, 3 mm thick water proofing membrane black finished reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufacture of density at 25°C, 0.87-0.89 kg/litre and viscosity 70-160 cps.
7. Repairing of external walls.

**B. Rates:** The rates has been arrived based on DSR-16, WBPWD -15 and RA.

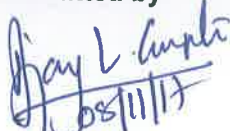
**C. Specifications:** CPWD Specification of items of the work for the execution of the said work shall be followed.

**D. Works Manual:** The said proposal has been prepared based on **CPWD Works Manual 2014**.

**E. Method:** The method proposed for carrying out the project is Item Rate Contract.

**F. Time:** The estimated time of completion from the date of receipt of work order shall be 45 Days.

**Submitted by**

  
A.K. Gupta  
(AEE, Civil)

  
8/11/17



**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.

*Diya L. Singh*  
25/11/17

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25/11/17