

TENDER

TENDER NOTIFICATION NO. - **FCX/20211015**

FOR

**Waterproofing over roofs of annexes and other buildings
inside factory area.**

PRICE BID



FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION

BHARAT HEAVY ELECTRICALS LIMITED

**(A Government of India Undertaking)
BHOPAL – 462 022 (M.P)**

PREAMBLE OF PRICE BID

1.0 This Price Bid consists of Three Schedule:

1.1 Schedule A

Schedule A consists of Three Annexure:

The evaluation currency for this tender shall be INR. Total price of the package combining **Annexure I & Annexure II** to be quoted by the bidders which shall form the basis for comparison for deciding lowest bid. For further processing and award, total quoted amount by the L1 (lowest) bidder for the package shall be used for deriving individual item rate by BHEL based on % (percentage) weightage specified at Annexure I & Annexure II of Price Schedule.

1.2 Schedule B

It consists of details of free issue materials by BHEL.

1.3 Schedule C

It consists of details of tools & tackles provided by BHEL either on higher basis or on free of cost basis which are mentioned in price bid.

2.0 The work to be carried out under the contract shall, except as otherwise provided in tender conditions, include all labour, materials, tools, plant, equipment, and transport which may be required in preparation of and for full & entire execution and completion of the Works. The descriptions given in the Schedule of Quantities shall, unless otherwise stated, be held to include waste on materials, carriage and cartage, carrying in return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion as aforesaid in accordance with good practice and recognized principles as laid down in Technical Specification & elsewhere in Tender Specification.

3.0 The price bid should not contain any condition. Conditional price Bids shall be summarily rejected.

4.0 The bidder should not leave any column blank in Price Schedules.

5.0 Price Quoted shall include all taxes, & duties except **GST**.

6.0 Unless otherwise specified in the items involving cement, reinforcement steel or structural steel, these items shall be issued free of cost by BHEL.

FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION

Price Schedule

Name of work : Waterproofing over roofs of annexes and other buildings inside factory area.

SUMMARY

| | Details ANNEXURE | Total Amount (Rs.) |
|--|---|--------------------|
| | Total price of the package combining of Annexure-I & Annexure-II. | |

Amount in words: Rs.

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The evaluation currency for this tender shall be INR. Total price of the package combining of Annexure-I & Annexure-II to be quoted by the bidders which shall form the basis of comparison for deciding lowest bid.

For further processing & award total quoted Amount for the package by the L1 (lowest) bidder shall be used for deriving Individual item rate by BHEL based on % (percentage) weightage specified at Annexure-I & Annexure-II of Price Schedule.

FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION**Price Schedule : Anneuxre - I**

Name of work : Waterproofing over roofs of annexes and other buildings inside factory area.

| Sr. No. | Based on DSR' 2012 | Item Description | Qty. | Unit | % Weightage of item amount against total amount |
|---------|--------------------|--|--------|-----------------|---|
| 1 | | Carriage of material upto 1 km lead by Mechanical transport including, loading, unloading & stacking of - | | | |
| | 1.1.1 | Lime, Moorum, Building rubbish | 20.00 | cum | 0.0708 |
| 2 | 4.12 | Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification. | 545.00 | per 50kg cement | 0.9004 |
| 3 | 5.30 | Add for plaster drip course/groove in plastered surface or moulding to RCC projections. | 300.00 | metre | 0.3569 |
| 4 | ** | Providing gola 75x75 mm in cement concrete 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 10 mm and down guage) including finishing with cement mortar 1 : 3 (1 cement : 3 fine sand) as per standard design:(Cement free issue by deptt.) | | | |
| | 12.21.1 | In 75 x 75 mm deep chase | 40.00 | metre | 0.1886 |
| 5 | ** 12.22 | Making khurras 45 x 45 cm with average minimum thickness of 5 cm cement concrete 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x 1 m x 400 micron, finished with 12 mm cement plaster 1 : 3 (1 cement : 3 coarse sand) and a coat of neat cement rounding the edge sand making and finishing the outlet complete.(Cement free issue by deptt.) | 15.00 | each | 0.0866 |
| 6 | 12.41 | Providing and fixing on wall face unplasticised - Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS:5382 , leaving 10 mm gap for thermal expansion.(i) Single socketed pipes: | | | |
| | 12.41.2 | 110 mm diameter | 65.00 | metre | 0.6372 |
| 7 | 12.42 | Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for unplasticised - Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion: | | | |
| | 12.42.1 | Coupler | | | |
| a) | 12.42.1.2 | 110 mm | 5.00 | each | 0.0304 |

FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION**Price Schedule : Anneuxre - I**

Name of work : Waterproofing over roofs of annexes and other buildings inside factory area.

| Sr. No. | Based on DSR' 2012 | Item Description | Qty. | Unit | % Weightage of item amount against total amount |
|---------|--------------------|--|--------|---|---|
| b) | 12.42.3 | Single tee with door. | | | |
| | 12.42.3.2 | 110x110x110 mm. | 5.00 | each | 0.0693 |
| c) | 12.42.5 | Bend 87.5 degree . | | | |
| | 12.42.5.2 | 110 mm bend. | 5.00 | each | 0.0365 |
| d) | 12.42.6 | Shoe (Plain). | | | |
| | 12.42.6.2 | 110 mm Shoe. | 5.00 | each | 0.0659 |
| 8 | ** | 15 mm cement plaster on rough side of single or half brick wall finished with a floating coat of neat cement of mix:(Cement free issue by deptt.) | | | |
| | 13.8.2 | 1 : 4 (1 cement : 4 fine sand). | 170.00 | sqm | 1.1189 |
| 9 | 13.21 | Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturer's: | 30.00 | Per bag of 50kg cement used in the mix. | 0.0529 |
| 10 | 14.72 | Providing and fixing double scaffolding system (cup lock type) on the exterior side, up to seven storey height made with 40 mm dia M.S. tube 1.5 m centre to centre, horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube challies, M.S. clamps and M.S. staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after .The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineerin-charge .The elevational area of the scaffolding shall be measured for payment purpose .The payment will be made once irrespective of duration of scaffolding. | 65.00 | sqm | 0.4177 |
| | Note :- | This item to be used for maintenance work judiciously. Necessary deduction for scaffolding in the existing item to be done. | | | |
| 11 | 15.56 | Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead:: | 170.00 | sqm | 0.1363 |

FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION**Price Schedule : Anneuxre - I**

Name of work : Waterproofing over roofs of annexes and other buildings inside factory area.

| Sr. No. | Based on DSR' 2012 | Item Description | Qty. | Unit | % Weightage of item amount against total amount |
|---------|--------------------|---|---------|------|---|
| 12 | ** | Grading roof for water proofing treatment with:(Cement free issue by deptt.) | | | |
| | 22.14.1 | Cement concrete 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) | 85.00 | cum | 12.1068 |
| 13 | | Providing and fixing APP (Atactic Polypropylene Polymer) modified prefabricated five layer 3mm thick water proofing membrane, black finished reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 ltr/sq.mt.of density at 25°C, 0.87 - 0.89 kg/ltr and viscosity 70 - 160 cps. Primer shall be compatible for use with APP membrane.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 :Joint strength in longitudinal and transverse direction at 23°C as 650/450 N/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 by the manufacturer or the authorised applicator of the manufacturer of membrane. | | | |
| | 22.20.1 | 3mm thick | 3500.00 | sqm | 68.7821 |
| | | Total | | | 85.0573 |

FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION**Price Schedule : Anneuxre - II**

Name of work : Waterproofing over roofs of annexes and other buildings inside factory area.

| Sr. No. | Item Description | Qty. | Unit | % Weightage of item amount against total amount |
|---------|---|---------|------|---|
| 1 | Removal of old tar felt / APP sheet of water proofing treatment of any course from the roof top of storeyed building including disposal of removed materials within 50m lead. | 3500.00 | sqm | 2.2756 |
| 2 | Removal of RCC or Steel or PVC water storage tank including unscrewing GI pipes and fittings carefully, re-installation in position including erecting concrete pedestals for placement / installation of water tanks over it to create sufficient working space for water proofing treatment etc. complete. | | | |
| | Upto 2 cum capacity | 15.00 | each | 0.6721 |
| Note: | i) Care shall be taken not to damage tank, GI pipes and fittings during removal / dismantling / dismembering of existing installation. | | | |
| | ii) Replacement for damaged GI pipes / fittings etc, if any, shall be made by the department free of cost. | | | |
| | iii) Concrete pedestals, if any, erected , shall be paid for separately. | | | |
| | <u>Solar reflective coat on APP:</u> | | | |
| 3 | Providing and applying two or more coats of highly solar reflective bitumen based silver paint on newly laid APP sheet. | 3500.00 | sqm | 7.0569 |
| | <u>Expansion joint treatment:</u> | | | |
| 4 | Cleaning the surface with wire brush and removing of old, dead loose mortar and disposing the debris upto 50 m lead. Material & labour for making the edges good by applying epoxy bonding agent of Pidilite or suitable equivalent product of Dr. Beck India /Ciba Gaigy/ Chowksey Chemicals etc.as specified and preparing the joint of correct width with the help of epoxy repair mortar of Pidilite or suitable equivalent product of Dr. Beck India /Ciba Gaigy/ Chowksey Chemicals etc and directed. Providing and laying Polysulphide Sealant Treatment in the Expansion joints as under:- Providing and fixing expandite rod i.e. high density polymeric circular rod (of Dr. Beck India/ Ciba Gaigy/ Chowksey chemicals or equivalent) applying Pidiprime A from Pidilite or suitable equivalent chemical from Dr Beck / Ciba Gaigy/ Chowksey Chemicals etc.(Width to depth ratio should be 1:1 by proper masking on sides and removing the masking tape after curing of sealant all as specified and directed for external face/ internal face.) | | | |
| | Width of the joint 25 mm to 40 mm | | | |

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Name of work : Waterproofing over roofs of annexes and other buildings inside factory area.

| Sr. No. | Item Description | Qty. | Unit | % Weightage of item amount against total amount |
|---------|---|-------|-------|---|
| (i) | Horizontal Joint - Polysulphide sealant shall be Pidiseal 42P from Pidilite or equivalent product of Dr. Beck/Ciba Gaigy /Chouksey Chemicals etc.for external face only exposed to sky. | 25.00 | RM | 1.5776 |
| (ii) | Vertical Joint (external face and internal face both) and Horizontal joint (internal face) - Polysulphide sealant shall be Pidiseal 41G from Pidilite or equivalent product of Dr. Beck/Ciba Gaigy /Chouksey Chemicals etc. | 50.00 | RM | 3.3605 |
| | | | Total | 14.9427 |
| | Total : Annexure-I + Annexure-II. | | | 100.0000 |

Note :-

- The contractor shall be a manufacturer or an authorised applicator of manufacturer of APP sheet. The contractor shall submit supporting documents in this regard.
- The work shall be done as per CPWD specifications for sheduled items whereas for non-scheduled items, the work to be carried out as per the manufacturer's specifications or the best engineering practices to the full satisfaction of Engr-in-charge.
- The contractor/agency shall submit relevant test certificate with regard to various parameters such as tear strength in longitudinal and transverse directions, joint strength in longitudinal and transverse directions, softening point of membrane etc. for 3mm thick APP (Atactic Polypropylene Polymer) waterproofing membrane. The certificate shall be obtained from a govt. or govt. approved laboratory or any recognised test house as per the instructions of Engineer-in-charge before start of work. If needed, the contractor may be asked to get the APP sheet tested afresh in a Govt or Govt. approved laboratory or any recognised test house as per the instruction of Engr-in-charge. Such Testing of APP sheet shall be witnessed by the an authorised representative of the department. Testing charges shall be borne by the contractor.
- Cross verification of water proofed area shall be done on the basis of both APP sheets laid on roof and primer consumed during water proofing .Preparation of bill shall be done only after this cross-verification.
- The contractor is expected to ensure all the payments towards applicable royalties/levies paid to concerned authorities for different materials and also must submit the proof of payment as and when asked by the department.
- The contractor shall quote the rates considering the cost of all materials, labours, required tools & tackles and applicable royalties & taxes except GST and including all incidentals complete for carrying out work as per specifications and as per direction of the Engineer In-charge.
- The defect liability period for the work executed shall be **Six years**. In others words, the work carried out in the contract shall be warranted/guaranteed for a period of **six years** from the actual date of completion of the contract. During the warranty/guaranty period, if the complaint is reported in the work carried out, the contractor shall deploy his resources in the time frame given by the department. After attending the complaints, the warranty/guaranty period for that work shall be extended for further 1 year from the date of completion of the repair/ rectification work or the end of the original defect liability period whichever is later. However, if the complaint pertaining to a particular locaton/ area is received more than twice during the warranty/guaranty period, the total value of work pertaining to the affected area shall be deducted from the amount due to contractor including Security deposit.

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| Sr. No. | Item Description | Qty. | Unit | % Weightage of item amount against total amount |
|---------|--|------|------|---|
| | | | | |
| 8 | A log book shall be maintained for work carried out by the contractor. Payment shall be made on the basis of this record only. | | | |
| 9 | The contractor shall replace the water tanks, (if any) at his own cost if they get damaged during their shifting on roof or even otherwise during any operation of work. | | | |
| 10 | Prior approval of the material to be used for work shall be taken from the department by the contractor. | | | |
| 11 | Test certificate shall accompany each lot of APP which shall be submitted to the department. | | | |
| 12 | Deduction towards Income tax and other taxes as applicable from time to time shall be made from the payments, of the contractor. | | | |
| 13 | The tenderers are expected to have inspected the work site, read & understood the conditions prior to quoting their rates as no claim subsequent to submission of the tender shall be entertained. | | | |

FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION

Price Schedule : "B"

Name of work : Waterproofing over roofs of annexes and other buildings inside factory area.

1. Cement will be issued free of cost from BHEL store.

Note:

If the contractor fails to return to the department unconsumed portion of total quantities of respective free issue material after completion of work or as and when instructed by Engineer-in-charge, recovery at twice the respective material cost of the item as procured by BHEL shall be made from the contractor's bill(s).

Price Schedule : "C"

Name of work : Waterproofing over roofs of annexes and other buildings inside factory area.

NIL