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**REPAIR TO ROOF, PLASTER, JOINERY, WALL FLOOR FALSE CEILING AND  
CONNECTED WORKS AT CERTAIN MD ACCN AT INS DRONACHARYA UNDER GE  
FORT KOCHI**

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\_\_\_\_\_

Signature of contractor

Date :

AGE (Contracts)  
for Accepting Officer

**REGISTERED ACK DUE**

Military Engineer Services  
Garrison Engineer  
Kochi – 682 001

8140 /E8

Aug 2024

**REPAIR TO ROOF, PLASTER, JOINERY, WALL FLOOR FALSE CEILING AND  
CONNECTED WORKS AT CERTAIN MD ACCN AT INS DRONACHARYA UNDER GE  
FORT KOCHI**

Dear Sir(s),

1. Tender documents in respect of above work are uploaded on the site **www.defproc.gov.in**. The tender is on single stage two cover e-tendering system. The contents of cover I & Cover II are specified in NOTICE OF TENDER.
2. Bid will be received online by ACCEPTING OFFICER up to the date and time mentioned in the NOTICE INVITING TENDER (NIT). No tender/bid will be received in physical form and any tender/bid received in such manner will be treated as non bonafide tender/bid.
3. Bid will be opened on a due date and time fixed for opening as per critical dates given in the portal. Cover 1 will be opened first. Tenderers may see the result of the opening of Cover 1 on the tender portal. Date of opening of Cover 2 shall be decided after technical evaluation of Cover 1 keeping in view the various eligibility criteria given in the NIT and the same will be intimated to the tenderers while uploading the technical evaluation on the tender portal.
4. Your attention is also drawn to instruction on filling and submission of tender attached herewith. You may forward your points on tender documents and/or depute your technical representative for discussion on tender / drawings and to clarify doubts, if any on or before **bid submission start date**. You are requested not to write piecemeal points and forward your points duly consolidated before due date **bid submission start date**.
5. Un-enlisted contractors are required to submit the scanned copies (in pdf file) of documents required as per eligibility criteria mentioned in instructions for filling the tender documents and Appendix "A" to **NIT** along with EARNEST MONEY DEPOSIT (EMD) and tender fee on e-procurement portal and submit the physical documents in the office of **GE Fort Kochi** within the time limit specified in **NIT**. Inadequacy/deficiency of documents shall make the bid liable for rejection resulting in disqualification for opening of finance bid.
6. Contractor having not executed standing security bond and standing security deposit in any MES formation shall upload scanned copy of EARNEST MONEY DEPOSIT (EMD) mentioned in Notice of Tender and shall ensure receipt of hard copy of EMD in the office of tender issuing authority before date & time fixed for this purpose. In case of failure to abide by any of these two requirements, the finance bid will not be opened.
7. Enlisted contractors of MES shall submit the scanned copies (pdf file) of enlistment letter, tender fee and such other documents as mentioned in Appx 'A' to **NIT** on e-procurement portal and submit physical documents in the office of GE Fort Kochi before date & time fixed for this purpose.
8. The contractor must ensure that the tender/bid is uploaded on the tender portal using the authorised DSC in time as the Accepting Officer will take no cognizance of any quotation/offer received in any other electronic or physical form like e-mail/fax/by hand/through post from tenderer/bidder.

(Contd..)

9. In view of delays due to system failure or other communication related failures, it is suggested that the tender/bid be uploaded, if necessary, sufficiently in advance of the last due date and time fixed on the portal.

10. General Conditions of Contracts (IAFW-2249) (1989 Print) and errata and amendments thereto, Schedule of minimum fair wages and MES SSR (Part- I and Part- II) are not enclosed with these documents. These are available for perusal in the office of GE/AGE concerned and this office. Tenderer is also requested to keep the copy of these documents with him as same are available in the market.

11. ANY TENDERER, WHO PROPOSES ALTERATIONS TO ANY OF THE CONDITION, SPECIFICATIONS LAID DOWN IN THE TENDER DOCUMENTS OR ANY NEW CONDITION, WHATSOEVER, IS LIABLE TO BE REJECTED.

12 **Since amendment No. 41 to 49 of IAFW-2249 is now part of this tender, the bidders may kindly go through the provisions contained in E-in-C's Branch letter No. 66546/MANUAL/924/E8 dt 18 Feb 2019 and 66546/P-2/44/E8 dt 16 Feb 2021. The letter is available in MES website and the same is open to public. The important points are 5% cost as "Performance Security" and increased the period of defect liability period. Once the bid is submitted by the bidder, it will be presumed that bidders are now familiar with the new provisions and nothing extra can be claimed at later stage.**

Yours faithfully,

**Encls:-** (As above)

AGE (Contracts)  
For Accepting Officer

Signature of contractor

**INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER**

**1. EARNEST MONEY DEPOSIT (EMD)**

Contractor(s) who are not enlisted with MES/who are enlisted, but have not executed the Standing Security Bond shall submit Earnest Money Deposit as detailed in Notice of Tender in one of the following forms, along with their tender/bid :-

- (a) Deposit at Call Receipt from a scheduled Bank in favour of **GE FORT KOCHI**
- (b) Receipted Treasury Chellan, the amount being credited to the Revenue Deposit of **GE FORT KOCHI**.

**It is advisable that Earnest money is deposited in the form of deposit call receipt from an approved Schedule Bank for easy refund. In case the tender/ bidder wants to lodge ‘EARNEST MONEY DEPOSIT’ in any other form allowed by MES, a confirmation about its acceptability will be obtained from the Accepting Officer well in advance of the bid submission end date and time. Earnest Money Deposit shall be submitted in the name of concerned GE.**

**Note:-** Earnest Money Deposit (EMD) in the form of Cheque/ Bank Guarantee etc., will not be accepted. NON-SUBMISSION OF EARNEST MONEY DEPOSIT (EMD) (scanned copy alongwith Technical Bid & hard copy before the date & time fixed for opening of BOQ) WILL RENDER THE BID DISQUALIFIED FOR OPENING OF COVER II (FINANCE BID)

Sl No	Estimated cost of works	Earnest Money
1	Upto Rs 50 Lakhs	2% of the amount subject to a minimum of Rs 5,000/-
2	Over Rs 50 lakhs and upto Rs. 100 lakhs	Rs.1,00,000/- + 1.5% of the amount exceeding Rs.50 Lakh
3	Over Rs 100 lakhs and upto Rs 500 lakhs	Rs.1,75,000/- + 1% of the amount exceeding Rs.100 Lakh
4	Over Rs 500 lakhs and upto Rs 1500 lakhs	Rs.5,75,000/- + 0.5% of the amount exceeding Rs.500 Lakh
5	Over Rs 1500 lakhs	Rs 10,75,000/- + 0.5% of the amount exceeding Rs 1500 lakh subject to a maximum of Rs 15,00,000/-

**2. PERFORMANCE SECURITY DEPOSIT**

2.1 Within 28 days of receipt of the Letter of Acceptance, the successful contractor shall deliver to the Accepting Officer a Performance Security in any of the forms given below for an amount equivalent to 5% of the contract sum.

- (a) A Bank Guarantee in the prescribed form
- (b) Government Securities, FDR or any other Govt Instruments stipulated by the Accepting Officer.

**2.2 Work order shall be placed only after submission of Performance Security of adequate value by the Contractor.** If the Performance Security is provided by the successful Contractor in the form of a Bank Guarantee, it shall be issued by Nationalized/ Scheduled Indian Bank but its confirmation shall be done only from the Head Office of the Bank.

2.3 Failure of the successful contractor to comply with the requirements of sub-clause 2.1 shall constitute sufficient grounds for cancellation of the award of work and forfeiture of the Earnest Money. In case of MES enlisted contractor, amount equal to the Earnest Money stipulated in the NIT, shall be notified to the tenderer for depositing the amount through MRO. Issue of tender to such tenderers shall remain suspended till the aforesaid amount equal to the Earnest Money is deposited in Government Treasury.

2.4 All compensation or other sums of money payable by the contractor to the Government under the terms of this contract or under any other contract with Government may be deducted from or paid by the sale of a sufficient part of the Performance Security or from the interest arising there from or from any sums which may be due or become due to the contractor by the Government on any account whatsoever and in the event of his Performance Security being reduced by reason of any such deduction, or sale as aforesaid, the contractor shall within ten days thereafter make good in cash or securities, endorsed as aforesaid, any sum or sums which may have been deducted from or realized by the sale of his Performance Security or any part thereof.

### **INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER**

2.5 Government shall not be responsible for any loss of securities or any depreciation in the value of securities while in their charge nor for loss of interest thereon.

2.6 In the event of contract being cancelled, under Condition of 52, 53 & 54 of GCC, the Performance Security shall be forfeited in full and shall be credited into Consolidated Fund of India.

2.7 **Refund of Performance Security** : The Performance Security Deposit mentioned herein above shall be refunded to the Contractor ***after the expiration of the defects liability period of one year*** by the GE provided always that the Contractor shall first have been paid the final bill and have rendered a No-Demand Certificate (IAFW 451).

### **3. BANK GUARANTEE BOND AGAINST PERFORMANCE SECURITY**

3.1 The Performance Security shall be in favour of Accepting Officer and shall be in any of the forms mentioned in Clause 2.1 above. **Work order No.1 shall be placed only after submission of Performance Security of adequate value by the Contractor.** The period of validity of the Bank Guarantee Bond against Performance security shall be **initially valid upto the stipulated date of expiry of Defects Liability Period plus minimum 60 days beyond that.** In case final bill is not paid during this period, the Contractor shall get the validity of Performance Guarantee extended to cover such enlarged time required for payment of final bill.

3.2 The instructions/ clarifications issued by E-in-C's letter No. 66546/Manual/11/E8 dt 01 Jan 2020 which is forming part of this contract, shall be read in conjunction with the above said provisions. The letter is available in MES website and the same is open to public.

### **4. -BLANK-**

### **5. GENERAL INSTRUCTIONS FOR COMPLIANCE:**

5.1 The tender/bids only in the electronic form will be considered. All bids shall be submitted on 'www.defproc.gov.in' portal. Documents should be scanned and forwarded in pdf form or xls form as indicated.

5.2 Tenders/Bids shall be uploaded on 'www.defproc.gov.in' portal on or before the bid closing date mentioned in the tender. No tender/bid in any other electronic or physical form like email/ fax/ by hand/ through post will be considered.

5.3 Bid should be DIGITALLY signed using valid DSC. All pages of tender documents, corrections/ alterations shall be signed / initialed by the lowest bidder after acceptance. /

5.4 Drawings, if issued in physical form, must be returned duly initialed by the tender/bidder in separate envelope indicating his name and address.

5.5 The tender shall be signed, dated and witnessed at all places provided for in the documents after acceptance. All corrections shall be initialed. The Contractor shall initial every page of tender and shall sign all drawings forming part of the tender. Any tender/ bid, which proposes alterations to any of the conditions whatsoever, is liable to be rejected.

5.6 In the technical bid, a scanned copy of Power of Attorney in favour of the person uploading the bid using his/ her DSC shall be uploaded. In case the digital signatory himself is the sole proprietor, scanned copy of an affidavit on stamp paper of appropriate value to this effect stating that he has authority to bind the firm in all matters pertaining to contract including the Arbitration Clause, shall be attached in 'pdf' form. In case of partnership concern or a limited company, digital signatory of the bid/ tender shall ensure that he is competent to bind the contractor (through partnership deed, general power of attorney or memorandum and Articles of Association of the Company) in all the matters pertaining to the contracts with Union of India including arbitration clause. A scanned copy (in 'pdf' form) of Power of Attorney duly executed in his favour by such other or all of the Partner(s) or in accordance with constitution of the company in case of company, stating that he has authority to bind such other person of the firm or the Company, as the case may be in all matters pertaining to the contract including the Arbitration Clause.

5.7 Even in case of firms or companies which have already given Power of attorney to an individual authorizing him to sign tender in pursuance of which bids are being uploaded by such person as a routine, fresh Power of Attorney duly executed in his favour stating specifically that the said person has authority to bind such partners of the Firm, or the Company as the case may be, including the condition relating to Arbitration Clause, should be uploaded in 'pdf' form with the tender/ bid; unless such authority has already been given to him by the Firm or the Company. It shall be ensured that power of Attorney shall be executed in accordance with the constitution of the company as laid down in its Memorandum & Article of Association.

5.8. Hard copies of all above documents should be sent by the contractor to the Tender issuing authority well in advance to be received before the date & time fixed for the same.

(Contd..)

**INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER**

5.9 Bid (Cover 1 & 2) shall be uploaded online well in time.

5.10. The contractor shall employ only Indian Nationals after verifying their antecedents and loyalty. Attention is also drawn to special condition 3 referred hereinafter and also conditions 24 & 25 of IAFW 2249 (General conditions of Contract)

5.11. Tendered/ bidders who uploaded their priced tenders/ bids and are desirous of being present at the time of opening of the tenders/ bids, may do so at the appointed time.

5.12 Power of attorney shall be executed on stamp paper of adequate value as applicable. Scanned copy of the same will be forwarded along with the bid submission.

5.13 The tenderer/bid shall quote his rates on the BOQ file only. No alteration to the format will be accepted, else the bid will be disqualified and summarily rejected.

5.14. In case the tenderer/ bidder has to revise/ modify the rates quoted in the BOQ (excel sheet) he can do so only in the BOQ, through [www.defproc.gov.in](http://www.defproc.gov.in) site only before the bid closing time and date.

**6. REVOKATION/ REVISION OF OFFER UPWARD/ OFFERING VOLUNTARY REDUCTION, AFTER OPENING OF FINANCIAL BIDS BY LOWEST BIDDER**

In the event of lowest tenderer/bidder revoking his offer or revising his rates upward/ offering voluntary reduction, after closing of bid submission date & time, his offer will be treated as revoked and the Earnest Money deposited by him shall be forfeited. In case of MES enlisted Contractors, the amount equal to the Earnest Money stipulated in the Notice of Tender, shall be notified to the tenderer for depositing the amount through MRO. Bids of such Contractors/bidders shall not be opened till the aforesaid amount equal to the earnest money is deposited by him in Govt Treasury. In addition, bids of such tenderer/bidder and his related firm shall not be opened in second call or subsequent calls. Reduction offered by the tenderer/bidder on the freak high rates referred for review shall not be treated as voluntary reduction.

**7. CPM (Critical Path Method)**

7.1 The project planning for work covered in the scope of tender is based on CPM.

7.2 The tenderer is expected to be fully conversant with the CPM technique and employ technical staff who can use the technique in sufficient details. Sufficient books and other literature on the subject are widely available which the tenderer/bidder may make use of.

7.3 The tenderers attention is drawn to special condition of the tender regarding preparation of the detailed net works and time schedule for the works and his liability for employing sufficient resources to adhere to this schedule. Any inability on the part of the tenderer in using the technique will be taken as his technical insufficiency and will affect his class of enlistment and future prospects of receiving tenders for works.

8. The department may issue amendments/errata's in form of CORRIGENDUM to tender / revised BOQ to the tender documents. The tenderer/bidder is requested to read the tender documents in conjunction with amendments/errata's/corrigendum if any issued by the department.

9. No out of pocket expenditure incurred by tenderer for quoting the tender will be reimbursed.

10. These instructions shall form part of the contract documents

AGE (Contracts)  
For Accepting Officer

Signature of Contractor  
Dated :

In lieu of IAFW-1779A (R-1955)

(To be used in conjunction with General condition of contract IAFW-2249)

**MILITARY ENGINEER SERVICES**

Tele: 0484 2218295

Military Engineer Services  
Garrison Engineer Fort Kochi  
Fort Kochi Post  
Kochi – 682 001

8140/ /E8

Aug 2024

**REPAIR TO ROOF, PLASTER, JOINERY, WALL FLOOR FALSE CEILING AND  
CONNECTED WORKS AT CERTAIN MD ACCN AT INS DRONACHARYA UNDER GE  
FORT KOCHI**

1. A tenderer/Bidder who is qualified as per the eligibility criteria mentioned in the tender documents and has inter alia sound past record is hereby authorized to quote the tender for the above work. The technical and price bid (Cover 1 & 2) to be uploaded in the website [www.defproc.gov.in](http://www.defproc.gov.in) on date and time as per critical dates given in the tender documents and bids (cover 1 & 2) will be opened on date and time as per critical dates given in the tender documents.

2. Any correspondence concerning to this tender, shall be forwarded to Military Engineer Services, Garrison Engineer Fort Kochi, INS Dronacharya, Fort Kochi Post, Kochi - 682 001 quoting the reference given above and marked on the outside CA NO. GE/FK/ \_\_\_\_ OF 2024-2025

“THE PRESIDENT OF INDIA DOES NOT BIND HIMSELF TO ACCEPT THE LOWEST OR ANY TENDER”

Signature of the Officer issuing the documents  
Appointment : AGE(Contracts)  
for Accepting Officer

Signature of Contractor  
Date:

**SCHEDULE 'A'****REPAIR TO ROOF, PLASTER, JOINERY, WALL FLOOR FALSE CEILING AND  
CONNECTED WORKS AT CERTAIN MD ACCN AT INS DRONACHARYA UNDER GE  
FORT KOCHI**

Note: -

1. The entire work shall be completed within 270 (Two hundred seventy) days from the date of handing over site.
2. For Schedule of works refer BOQ sheet in Excel format
3. The quantities shown in Schedule of work (BOQ sheet) are approximate and inserted as guide only. They do not constitute any guarantee of the ultimate quantities which will be ordered on the Contractor. They shall, however, not be varied beyond the limits laid down in condition 7 of IAFW-2249 General Conditions of Contract.
4. The bidder shall enter the unit rate in Column 5 of BOQ in MES portal [www.defproc.gov.in](http://www.defproc.gov.in) . The unit rates in figure shall only be entered by bidder and rate in words will be generated by the system.
5. Unless otherwise specifically stated in the description of the items, the unit rates quoted in Column 5 shall be deemed to include for all labour and materials complete required for executing the respective items of work.
6. Unit rate, quoted by the tenderer against respective items of BoQ shall be deemed to allow for all minor constructional details which are not specifically shown on drgs or given in the particular specification but are essential to the execution of the work in a workman like manner and sound construction. In case of difference of opinion between the contractor and Engineer-in-Charge as to whether or not certain items of works constitute minor constructional details which is deemed to have been included in the contractor's quoted prices, the decision of the Accepting Officer shall be final, conclusive and binding.
7. Tenderers shall be deemed to have inspected the site and ascertained for themselves the works to be carried out for the full and entire completion of the work all as specified.
8. The description of Schedule 'A' items in BOQ sheet (Excel format) shall be read in conjunction with particular specifications.
9. All the items unless otherwise described as "supply only", "Fixing only" shall be deemed to be inclusive of "Materials and labour" complete (Supply and fix, material and labour etc).
10. The unit rates quoted by the contractor 'rate' column of BoQ shall be net inclusive of all charges such as :-
  - i) Good and Service Tax
  - ii) Insurance
  - iii) Packing and unpacking
  - iv) Transport and delivery
  - v) Work contract tax and labour welfare tax

contd...



**SCHEDULE 'A'(Contd..)**

11. The following abbreviations have been used in schedule/tender:-
- (a) RM - Running Meter
  - (b) Kg - Kilogram
  - (c) Sqm - Square Metre
  - (d) Cum - Cubic Metre
  - (e) Qtl - Quintal
  - (f) AGE - Assistant Garrison Engineer
  - (g) GE - Garrison Engineer
  - (h) CWE - Commander Works Engineers
  - (j) CE - Chief Engineer
  - (k) JE - Junior Engineer
  - (l) Lab - Laboratory
  - (m) Govt - Government
  - (n) Sch - Schedule
  - (o) Dept - Department
  - (p) MD - Ministry of Defence
  - (q) EIC - Engineer-in-Charge
  - (r) DRG/drg - Drawing
  - (s) SSR - Standard Schedule of Rates
  - (t) M&L - Material and labour
  - (u) S&F - Supply and fix
12. All royalty and cess charges for Bricks, stone aggregate, sand, other boulders including all earthwork done at site of work and other allied items for which royalty and cess charges are levied by State Government as per statutory rules/law shall be deemed to be included in unit rates quoted by contractor for the items of Sch of works (BOQ in excel sheet) and no claim whatsoever on this account is admissible. The contractor shall be solely responsible to pay necessary royalty and cess charges and the same shall be recovered from any payment due to the contractor and remitted to the State revenue authorities in case of default/ dispute of any or on receipt of demand notice from them.
13. Since the work lies in restricted area, carrying camera enabled mobile phone by contractors or their agents are strictly prohibited. Also all vehicles brought by contractors in connection with execution of work shall possess valid papers and license and shall produce for security check. The contractor, his agents, work people etc shall adhere to the security instructions as laid down in the contract conditions strictly. No claim whatsoever for observance of restrictions imposed at site shall be admissible at any stage of work.
14. Contractors quoted rate shall be deemed to include for cost of testing of materials as per relevant IS codes.
15. The defects liability period shall be as follows (See Condition 46 of IAFW-2249):- Twelve calendar months after the works have been handed over to the Government (herein after preferred to us the defects liability period).
16. This Tender comprises the following Maintenance works: -

**Job No : CWE(NB) KOCHI LETTER NO: 20008/NB/376/E2 DT: 18.04.2024**  
**REPAIR TO ROOF, PLASTER, JOINERY, WALL FLOOR FALSE CEILING AND**  
**CONNECTED WORKS AT CERTAIN MD ACCN AT INS DRONACHARYA UNDER GE**  
**FORT KOCHI**

Signature of contractor  
Dated:\_\_\_\_\_

AGE (Contracts)  
for Accepting Officer

**SCHEDULE OF CREDIT**

**NOTES:-**

- 1. All materials obtained from demolition/ dismantling under this schedule shall become contractor's property and shall be removed from the site only after realization of the credit amount from the bills.
- 2. Quantity of shown under column 4 against each item is approximate and may vary depending upon the site conditions and accordingly total of Schedule of Credit may vary for which contractor will have not claim at later stage.
- 3. The rates given under column 5 are firm and the contractor shall have no claim what so ever against the department if the actual value of dismantled materials turns out to be different from the cost given by the department.
- 4. Quality of materials to be retrieved from dismantling/demolition and shown in Schedule of credit is on "AS IS WHERE BASIS". Any claim at a later stage regarding quality of materials will not be entertained at all. For this purpose tenderers are advised to visit the site with prior appointment and satisfactory themselves about quality.
- 5. The quantities given under column "4" below are PROVISIONAL. The tenderer shall have no claim on any account if there is any variation in actual quantities and those mentioned in "Schedule of Credit" and the cost indicated there in and the actual cost.
- 6. If any item is obtained from dismantling/demolition/taking down is not included in this schedule, such items shall become the property of the department and same be removed and handed over to MES Store without any cost to state.
- 7. Materials considered in this schedule shall not be re-issued in the subject work.
- 8. The cost of materials under Schedule of Credit will be deducted from the respective RARs / Final Bill, irrespective of the fact that the materials are actually removed from the site or not.

Sl. No.	Description of work	Unit	Qty	Rate	Amount
1	U/S shutter n exc 2 sqm	Per leaf	15.00	125.00	1875.00
2	U/S door shutter exce 2 sqm and n exc 4 sqm	Per leaf	20.00	200.00	4000.00
3	U/s Chowkhat or door frame with shutter not exc 1.5 Sqm	Each	20.00	150.00	3000.00
4	U/s Chowkhat or door frame with shutter exc 1.5 Sqm and n exc 4 sqm	Each	20.00	200.00	4000.00
5	Old U/s Aluminium Frame	Kg	110.00	55.00	6050.00
6	Old aluminium shutter of any description	Each	15.00	500.00	7500.00
7	Old Door closer of any description	Each	5.00	50.00	250.00
8	Old False ceiling of any description	Sqm	50.00	5.00	250.00
9	Old Roof sheeting of any description	Sqm	100.00	40.00	4000.00
10	Old Iron scrap	Kg	150.00	10.00	1500.00
11	Old Mirror of any description	Each	15.00	10.00	150.00
12	Old Stone slab of any description	Sqm	5.00	50.00	250.00
13	Old Door spring of any description	Each	10.00	15.00	150.00
14	Old PCC Block of any description	Cum	5.00	450.00	2250.00
15	Old Aluminium wire cloth	Sqm	15.00	5.00	75.00
16	Old Stainless wire cloth	Sqm	10.00	5.00	50.00
<b>Amount of Schedule of credit to be deducted from total Amount of Schedule 'A'.</b>					<b>35350.00</b>

Signature of Contractor

AGE (Contracts)  
For Accepting Officer

**SCHEDULE ‘B’**  
**(See Condition 10 of IAFW – 2249)**

**ISSUE OF MATERIALS TO THE CONTRACTOR**

Sl No	Particulars	Unit	Rate	Place at which stores etc will be issued to the contractor	Remarks
1	2	3	4	5	6
-----N I L-----					

Signature of contractor  
Dated: \_\_\_\_\_

AGE (Contracts)  
for Accepting Officer

**SCHEDULE ‘C’**

**LIST OF TOOLS AND PLANTS (OTHER THAN TRANSPORT WHICH WILL BE HIRED TO THE CONTRACTOR)**

(See Conditions 15, 34 and 35 of IAFW-2249)

Sl. No.	Quantity	Particulars	Details of MES crew supplied	Hire charges per unit of working day	Standby charges per unit per off day	Place of issue (by name)
1	2	3	4	5	6	7
----- NIL -----						

Signature of contractor  
Dated: \_\_\_\_\_

AGE (Contracts)  
for Accepting Officer

**SCHEDULE ‘D’**

**TRANSPORT TO BE HIRED TO THE CONTRACTOR**

(See Condition 16 and 35 of IAFW 2249)

Sl. No.	Quantity	Particulars	Rate per unit per working day	Place of issue of name	Remarks
1	2	3	4	5	6
----- NIL -----					

Signature of contractor  
Dated:\_\_\_\_\_

AGE (Contracts)  
for Accepting Officer

(In lieu of IAFW-1779-A(R-1955))

**TENDER**

To,

The President of India

Having examined and perused at the following documents: -

1. Specifications signed by AGE (Contracts).
2. Drawings as detailed in the specifications
3. Schedule 'A' 'B' 'C' and 'D' attached hereto
4. MES Standard Schedule of Rates –2009, Part I (Specifications) together with amendments 1 to 3 and 2020 Part II (Rates) together with amendments 1 to 122 and newly added section 30 (hereinafter and in IAFW-2249 referred to as the MES Schedule).
5. General Conditions of Contracts IAFW-2249 (1989 Print) together with Amendment Nos 1 to 49 and errata Nos 1 to 20.
6. WATER: Water will not be supplied by MES. The contractor shall make their own arrangement for water. The water shall be tested before use in the work and shall confirm to the requirements shown in IS-456.

**SHOULD THIS TENDER BE ACCEPTED I / WE AGREE**

\*(a) that the sum of Rs. **29000/-** (Rupees Twenty-nine thousand only) forwarded as Earnest money shall either be retained as a part of Performance Security or be refunded by the Government on receipt of an appropriate amount of Performance Security, as per Condition 19 of IAFW-2249.

(b) To execute all the works referred to in the said documents upon the terms and conditions contained or referred to therein at the item rates contained in the aforesaid Schedule 'A' or at such other rates as may be fixed under the provisions of Condition 62 of IAFW-2249 and to carry out such deviations as may be ordered vide Condition 7 of IAFW-2249 up to a maximum of **10% (TEN PERCENT)** and further agree to refer all disputes as required by condition 70 to sole Arbitration of serving officer having degree in Engineering or equivalent or having passed final/direct final examination of sub division II of Institution of Surveyors (India) recognized by Govt. to be appointed by Chief Engineer (NW) Kochi, or in his absence the officer officiating as Chief Engineer (NW) Kochi whose decision shall be final, conclusive and binding.

- To be deleted where not applicable.

(In lieu of IAFW-1779A (Rev-1955))

Brought forward from SI Page No\_\_\_\_\_ for the contract sum of Rs.....

(Rupees .....only)

Signature : \_\_\_\_\_

Name : \_\_\_\_\_  
(In BLOCK CAPITALS)

In the capacity of .....duly authorized to sign the tender for and on  
behalf of .....  
(in BLOCK CAPITALS)

Witness .....

Date : .....

Address .....  
.....  
.....

Postal address .....  
.....  
.....

Telephone No.....

**ACCEPTANCE**

..... Alterations have been made in this document and as evidence that  
these alterations were made before the execution of the contract agreement and they have  
been initialed by the contractor and \_\_\_\_\_, **AGE (Contracts)**. The said  
Officer is hereby authorised to sign and initial on my behalf of documents forming part of this  
contract. The above tender was accepted by me on behalf of the President of India for the  
item rate contained therein for the contract sum of Rs.....  
(Rupees.....  
.....only)

on ..... day of .....

Signature \_\_\_\_\_ dated this \_\_\_\_\_ day of \_\_\_\_\_ 2024.

GENERAL CONDITIONS OF CONTRACTS(IAFW-2249,1989 PRINT) FOR LUMP SUM CONTRACTS(IAFW-2159),TERM CONTRACTS FOR ARTIFICERS WORKS (IAFW-1821) AND MEASUREMENT CONTRACTS (IAFW-1779 & 1779 A)

1. It is hereby agreed by me/us\* that the General Conditions of Contracts, including condition 70 & 71 pertaining to the settlement of disputes by Arbitration (IAFW-2249 1989 Print containing 33 Pages (Serial Page No 21 to 53 with errata 1 to 20 and amendments **1 to 49** containing 34 pages (Serial page Nos 54 to 87) enclosed with the tender documents) from an integral part of the tender documents.

2. This tender submitted by \* me/us is subject to the aforesaid General Conditions of Contracts in IAFW-2249, an amended copy of which has been supplied \* me/us and is in my/our \* possession and which I/We\* have read and fully understood before submission of this tender.

3. \*My/our signature there under is in token of \* our having accepted the aforesaid amended General Conditions of Contracts together with errata and amendments (IAFW2249-1989 Print) and the clause relating to arbitration forming an integral part of this tender.

\* Delete whichever is not applicable.

Signature of contractor

AGE (Contracts)  
For Accepting Officer

Date:\_\_\_\_\_

**SCHEDULE OF MINIMUM FAIR WAGES**

**PAYABLE BY CONTRACTORS UNDER FAIR WAGES**

(See Condition 58 of IAFW-2249)

1. It is hereby agreed that the “Schedule of Minimum Fair Wages” (SMFW) as published by Government of India or provincial Government, Notification (whichever is higher) issued up to date of submission of tenders shall form part of these tender documents.
2. Schedule of Minimum Fair Wages is not enclosed, along with tender but the contractor is deemed to have full knowledge regarding the minimum wages payable to labourers as legally effective on the date of submission of tender and his tendered rates shall be deemed to have been based on this (For the purpose of reimbursement of price variation for wage escalation of labour the minimum wages legally effective on the date of receipt of tender shall be the basis). The minimum wages legally effective referred to above are the minimum wages notified in the State/Central Gazette governed by any local regulation whichever is higher.
3. My/Our signature here under amounts to my/our having signed the aforesaid documents forming part of this tender.

AGE (CONTRACTS)  
FOR ACCEPTING OFFICER

SIGNATURE OF CONTRACTOR  
DATED : \_\_\_\_\_

Note:- Schedule of Minimum fair wage referred to above is available for reference, in this office of “ GE Fort Kochi-682001”

**SPECIAL CONDITIONS****1.0 GENERAL**

1.1 The following special conditions shall be read in conjunction with General Conditions of Contracts (IAFW-2249 1989 print) including amendments and errata thereto. If provisions in these special conditions are at variance with the provisions in the foresaid documents, the provisions in these special conditions shall be deemed to take precedence there over.

1.2 The work under this contract shall be carried out in accordance with BOQ, the particular Specifications, drawings and other provisions in MES schedule.

1.3 The term General specifications referred to hereinbefore as well as referred to in IAFW-2249 (General conditions of contracts) shall mean the specifications contained in the MES schedule.

1.4 General rules specifications, special conditions and all preambles in the MES schedule shall be deemed to apply to the works under this contract. In case of any discrepancy the provisions in these documents shall take precedence over the aforesaid provisions in the MES schedule.

**2.0 SECURITY OF CLASSIFIED DOCUMENTS (REFER CONDITION 2A & 3 OF IAFW-2249)**

2.1 Contractor's special attention is drawn to conditions 2A and 3 of General Conditions of contracts (IAFW-2249) and also to the Indian Official Secret Act –1923 (particularly section 5). The contractor is bound by the provisions of the Act. The contractor shall not communicate any classified information regarding works either to sub contractor(s) or others without prior approval of Engineer-in-Charge. The contractor shall also not make copies of the design/drawings and other documents furnished to him in respect of works and he shall return all the documents on completion of the work or on earlier termination of the contract. The contractor shall alongwith final bill attach a receipt from the Engineer-in-Charge in respect of his having returned the classified documents as per condition 3 of the General conditions of Contracts (IAFW-2249).

3.0 **INSPECTION OF SITE AND RELEVANT DOCUMENTS (REFER CONDITON 4 OF IAFW-2249) :-** The contractor is required to visit the site of works and make himself thoroughly acquainted with the working conditions and of the approaches/accessibility to site availability of materials and all other relevant conditions affecting the completion of entire work. He is required to make himself fully acquainted with the nature and scope of work before tendering. For the purpose of inspection of relevant documents other than those sent herewith, the contractor is required to contact the Garrison Engineer who will give the reasonable facilities. The contractor shall be deemed to have visited the site before submitting the tender irrespective of whether he does it or not.

**4. MATERIALS AND SAMPLES (REFER CONDITION 10 OF IAFW –2249)**

4.1 The tenderer is advised to inspect samples of the local buildings materials maintained by the GE before submitting his tender. He will be deemed to have full knowledge of these materials whether he inspects them or not. The materials to be provided by the contractor shall conform to/shall be superior to the standard of samples displayed in the office of Garrison Engineer in matter of quality unless otherwise specified.

4.2 All materials unless otherwise specified (excluding the materials issued under Schedule'B') supplied and incorporated in the works shall comply with the requirements of relevant Bureau of Indian Standards (BIS) including published as on the date of tender mentioned in the MES standard Schedule of Rates (SSR) mentioned herein before, duly ISI marked. Material having ISI certification marks issued by BIS only will be incorporated in the work except where specified "Makes" have been specified in which case such article/material/equipment of particular 'Make' specified shall only be incorporated in the works. In case the materials conforming to the relevant ISI may be incorporated in the works. These provisions shall supersede all the specifications given elsewhere in the tender documents.

4.3 The contractor shall produce samples of materials for incorporation direct to the GE and get them approved in the writing by the GE before commencement of work. All samples of materials, articles etc as approved shall be labeled as such and shall be signed by

GE and contractor and kept in the safe custody of GE/Engineer-in-Charge.



**SPECIAL CONDITIONS (CONTD..)****5.0 RECORD OF MATERIALS**

- (a) Original vouchers/invoices for the following proprietary materials as required for execution of work shall be produced by the contractor before claiming RAR payments :-
- (i) Cement
  - (ii) Steel
- (b) In addition to the above any other proprietary materials which are not reflected but included in the work shall also be submitted by the contractor as per the direction of GE, his decision shall be final and binding.
- (c) The vouchers/invoices shall be from the manufacturers and/or from their authorized agents for full quantity of respective items required for the work under this contract. These vouchers shall be endorsed, dated and initialed by the Engineer-in-Charge giving the contract number and name of work and a certified true copy of each such voucher signed both by the Engineer-in-charge and the contractor shall also be kept on MES record.
- (d) The quantity brought to site shall be recorded in measurement books and signed by contractor and Engineer-in-Charge as a check to ensure that the required quantity have been brought to site for incorporation in the work.
- (e) Proprietary materials brought at site shall be stored as directed by Engineer-in-Charge and those already recorded shall be suitable marked for identification.
- (f) The contractor shall ensure that materials are brought to site in original sealed in containers or packing bearing manufacturer's marking except in the case of the total requirement less than the smallest packing.

**6.0 BLANK****7.0 CO-OPERATION WITH OTHER AGENCIES**

- 7.1 The contractor shall permit free access and generally afford reasonable facilities to other agencies or Departmental workmen engaged by Government to carry out their part of the works, if any, under separate arrangements.
- 7.2 The contractor's prices shall be deemed to cater for all the above contingencies and nothing extra shall be admissible on this account.

- 8.0 **DAMAGE TO EXISTING STRUCTURE/BUILDING** :- Any damage done to existing structure during the execution of work shall be made good by the contractor at his own cost and the site of work left clean and tidy on completion. Rectification/reinstatement/making good etc shall conform to the standard of materials originally used in the work and finalized work shall match with the existing work in all respects to the entire satisfaction of the GE. In case of any dispute on this account the matter shall be referred to the Accepting Officer whose decision in writing shall be final conclusive and binding.

- 9.0 **CONTRACT LABOUR (REGULATION AND ABOLITION) ACT 1970** :- The contractor when required to employ more than twenty workmen on the works under this contract, shall be bound by the contract labour (Regulation and Abolition Act 1970) and rules framed under. No contractor can undertake or execute his work without a license issued by a licensing Officer.

**10.0 MINIMUM WAGES : PAYMENT TO LABOUR (CONDITION 58 OF IAFW -2249)**

- 10.1 Refer condition 58 of IAFW-2249. The contractor shall not wages lower than minimum wages for labour as fixed by the Govt of India/State Govt/Union Territory whichever is higher.
- 10.2 The fair wages referred to in condition 58 of IAFW-2249 shall be deemed to be the same as The minimum wages payable as referred to above.

Contd..

**SPECIAL CONDITIONS (CONTD..)**

10.3 The contractor have shall have no claim whatsoever if on account of local factor and or regulations or otherwise he is required to pay the wages in excess of minimum wages as described above during the execution of work receipt except reimbursement refund of wages of labour specified hereinafter.

10.4 The payments will be made into AADHAR linked bank account of the employees by the contractor. Where the employee insists on being paid in coins or currency notes or by cheque, the same will not be denied. An undertaking may be obtained from such employees. However, efforts shall be made to educate the employees on benefits of bank/digital payments and pursue with the individual(s) to shift towards banking system/digital modes.

**11.0 ANTECEDENTS OF CONTRACTORS AND THEIR AGENTS REPRESENTATIVE**

11.1 The contractor shall employ only Indian Nationals and his representative's servants, workmen and verify their antecedents and loyalty before employing them on the works. He shall ensure that no person of doubtful antecedents and Nationality is, in any way associated with the works and if for reasons of technical collaboration or other consideration, the employment of any foreign national is unavoidable, the contractor furnish full particulars to this effect to the Accepting Officer at the time of submission of tender. The GE shall have full powers and without giving any reasons to the contractor immediately cease to to employ in connection of this contract any Representative Agent, servant and workmen or employee whose continued employment in his opinion is undesirable. The contractor shall not be allowed any compensation on this account.

**12.0 ELECTRICITY SUPPLY**

12.1.1 Electrical energy required for lighting and power purpose shall be made available MES at one point near the contractors shed marked in the site plan and KWH meter to register the power supplied shall be provided and installed by MES. The contractor shall provide all necessary connection, cable fittings etc from the main switch in order to ensure proper supply of electricity.

12.2 The contractor shall charged for electric supply consumed for the work at Rs 13.74 per unit.(Rupees Thirteen and paise Seventy four only )

12.3 The aforesaid charge is inclusive of charges for meter to be installed by MES.

12.4 MES do not guarantee continuity of supply and compensation whatsoever shall be allowed for supply becoming intermittent or break down in the system.

**13.0 WATER :- (REFER CONDITION 31 OF IAFW-2249)**

13.1 Water will not be supplied by the MES.

13.2 Contractor shall make his own arrangements for the water required for this contract. The water shall be tested before use in the work and shall confirm to the requirements shown in IS-456.

**14.0 RECORD OF CONSUMPTION OF CEMENT**

14.1 For the purpose of keeping a record of cement brought and consumed by the contractor shall maintain a pucca/bound Register in the form approved by the Engineer-in-Charge showing daily receipt from MES, quantity used in works and balance in hand. This register shall be signed daily by the contractor/Contractor's representative and the Engineer-in-Charge in token of their verification of its correctness.

14.2 The Register shall be kept at site in the safe custody of the Contractor during progress of work and he shall on demand produce the same for verification of Inspecting Officer. On completion of the work, the register shall be handed over to the Engineer-in-Charge for the record with MES.

Contd.....

**SPECIAL CONDITIONS (CONTD..)****15.0 SECURITY AGAINST LOSS OR DAMAGE**

- 15.1 The contractor shall furnish to the Engineer-in-Charge every morning distribution return to his plants/equipments on site of work stating the following particulars: -
- i) Particulars of plants/equipment's, their make, model No, if any, Regn No, if any, capacity, year of manufacture and year of purchase etc.
  - ii) Total No (quantity) on site of work.
  - iii) Location, indication No, quantity of each location of site of work.
  - iv) Purchase value on the date of purchase.

For the purpose of this condition, plant/equipment shall be given vehicle No i.e trucks and lorries but neither the workmen tools or any manually operated tools/equipment. The Engineer-in-charge shall record the particulars supplied by the contractor in works dairy and send the return to the GE for record in his office.

**16.0 REFUND OF PERFORMANCE SECURITY (REFER AMENDMENT NO 45 OF IAFW-2249)**

- 16.1 The **Performance Security deposit. mentioned** in Condition 19 may be refunded to the contractor after the expiry of defects liability period (vide Condition 46) by the GE provided always that the contractor shall first have been paid the final bill and have rendered a No-Demand Certificate (I.A.F.W-451)

**17.0 ROYALTIES**

- 17.1 Reference Condition 14 of General Conditions of Contracts (IAFW-2249). No quarries on defence land are available.

**18.0 PERIOD OF KEEPING THE TENDER OPEN**

- 18.1 **The tender shall remain open for acceptance for a period of 60 (sixty) days from the next date subsequent to bid submission end date.**

**19.0 NETWORK ANALYSIS**

- 19.1 The time and progress chart to be prepared as per conditions of IAFW-2249 (General Conditions of Contracts) shall consists of detailed network analysis and a time schedule. The critical path network will be drawn jointly by the GE and the contractor soon after the acceptance of tender. The time scheduling of the activities will be done by the contractor, so as to finish the work within the time schedule a firm calendar date schedule will be submitted in four copies within two weeks from the date of handing over the site.

- 19.2 During the currency of the work, the contractor is expected to adhere to the time schedule and this adherence will be part of the contractor's performance under the contract. During the execution of the work the contractor is expected to participate in the review and updating of network undertaken by the GE. The review may be undertaken at the discretion of the GE either as periodical appraisal measure or when the quantum of work ordered on the contractor is substantially changed through deviation order or amendments. Any revision of time schedule as a result of the review will be submitted by the contractor to the GE within a week for his approval after due scrutiny. The contractor shall adhere to the revised time schedule thereafter. In case of contractor not agreeing with the revised schedule, the same will be referred to the Accepting Officer whose decision shall be final conclusive and binding. GE's approval to the revised schedule resulting in a completing date beyond the stipulated date of completion shall not be automatically account to a grant of extension of time. Extension of time shall be considered and decided by the appropriate authority mentioned in condition 11 of IAFW-2249 and separately regulated.

Contd..

**SPECIAL CONDITIONS (CONTD..)**

19.3 Contractor is expected to mobilize and employ sufficient resources to achieve the detailed schedule within the broad frame work of the accepted methods of working and safety. No additional payment will be made to the contractor for any multiple shifts or other incentive contemplated by him in his work schedule even though the time schedule is approved by the Department.

**20.0 SITE CLEARANCE**

20.1 (Refer condition 49 of IAFW-2249, General Conditions of Contract). The contractor shall remove from the site unused stores and huts and the like belonging to the contractor provided for the execution of work under this contract and the site of works shall be cleared off all rubbish and waste materials by the contractor and the site of work delivered in clean and tidy manner to the satisfaction of the Engineer-in-Charge on before the date of completion. Nothing extra whatsoever shall be paid to the contractor for such clearance of site.

20.2 The contractor shall clean all floors, remove cement/lime/pain drops etc clean the joinery, glass panes etc, touch up all painting work and carry out all other necessary items of work in connection there with and leave the whole premises clean and tidy to the entire satisfaction entire satisfaction of the Engineer-in-Charge before handing over the buildings.

**21.0 QUALITY OF WORK AND FINISHES :-**

21.1 To determine the acceptable standard of workmanship, portion of different works included in the Schedule of works as decided by GE shall be completed by the contractor well in advance under close supervision of the Engineer-in-Charge and shall be got approved from the GE. The workmanship of various trades and finishes of this portion shall serve as guiding samples for work in the remaining works.

21.2 The contractor shall proceed with work in bulk only after satisfactory compliance of the requirements in para 21.1 above. The total completion period allowed for work shall be deemed to have made allowance for the requirement.

22.0 **OUT OF POCKET EXPENSES :-** Out of pocket expenses incurred by the tenderer in submitting this tender shall not be reimbursed whether tender is accepted or not.

**23.0 AVAILABILITY OF LAND FOR STORAGE OF MATERIALS**

23.1 Delete the following in para 1 of condition 24 of IAFW –2249, General Conditions of Contracts” In the event of areas of land.....allotted to him.]

23.2 The contractor shall be allotted free of charge, the area marked on layout plan for the purpose of erection of temporary workshop, stores etc. No Defence land is available for accommodation of labour and canteen for which contractor shall make his own arrangement at his own expenses.

24.0 **WORKING HOURS/DAYS :-** The contractor or his workmen shall not be permitted to work on Sundays, Holidays or after normal working hours without prior written permission of the GE/AGE(I).

**25.0 CONDITIONS OF WORKING IN RESTRICTED AREA**

25.1 Work under this contract lies in Restricted Area.

25.2 **Visit to The Site Before Tendering:** - Permission to enter the Restricted Area at the time of submission of tenders can be obtained through the GE. Tenderers are advised to send prior intimation to the GE about the particulars of their agents, representatives etc, if any, dates any time of their proposed visits so that necessary arrangements may be made by GE to secure admission whether a tenderer visits the site or not be shall be deemed to have full knowledge of the restrictions on entering into/exit from and working within the Restricted Area.

Contd...

**SPECIAL CONDITIONS (CONTD..)**

- 25.3 **ENTRY/EXIT** :- The contractor, his agents(s), representatives, workmen etc and his materials, carts trucks or other means of transports etc will be allowed to enter through and leave from only such gate or/gates and at such times as the GE or authority in charge of the Restricted Area may at their sole discretion permit to be used. The contractor's authorized representative is required to be present at the place of entry and exit for the purpose of identifying his carts, trucks etc to the personnel in charge of the security of Restricted Area.
- 25.4 **IDENTITY CARDS OR PASSES** :- The contractor, his agents and representative are required individually to be in possession of an identity Card or pass duly verified by the Police Department. The Identity Card or pass will be examined by the security staff at the time of Entry into or exit from the Restricted Area and also at any time or number of times inside the Restricted Area.
- 25.5 **IDENTITY OF WORKMEN**
- 25.5.1 Every workmen shall be in possession of an identity card. The identity card will be issued after through investigation of the antecedents of the labourers by the contractor and attested by the Officer-in-Charge of the unit concerned in accordance with the standing rules and regulations of the units.
- 25.5.2 Contractor shall be responsible for the conduct and action of his workmen, agents and representatives.
- 25.6 **SEARCH** :- Though search of all persons and transport shall be carried out at each gate and for as many time as a gate is used for entry or exit and may also be carried out at any time or any number of times at the work site with the Restricted Area.
- 25.7 **FEMALE SEARCHES** :- If the contractor desired to employ female labour on works to be carried out inside the area of a factory, Depot, Park etc and a female searcher is not borne on the authorized strength of the factory, Depot, Park etc at the time of submission of the tender, he shall be deemed to have allowed in his tender for pay and allowances etc for a female searcher (class IV servant/Group 'D' servant calculated for the period of female labour is employed by him inside the area. If more than one contractor has/have to be employed in addition to the additional female searchers (s) shall be distributed on an equitable basis between the contractors employing female labour taking into consideration the value and period of completion of their contracts. The GE's decision in regard to the amount recoverable on this account from any contractor shall be final and binding.
- 25.8 **WORKING HOURS**
- 25.8.1 The units controlling restricted area, usually work during six days in the week and remain closed on the 7 day. The working hours available to contractor's labour and staff are however, appreciably reduced because of the time taken in security checks carried at the time of entry, exit and during working hours.
- 25.8.2 The exact working hours of the days and non-working days observed for the restricted area, where works are to be carried out shall deemed to have been ascertained by the contractor before submitting his tender. The tenderers attention is invited to the fact that the total number of working hours for a unit are prescribed in regulations and they can not be increased by the Garrison Engineer.
- 25.8.3 Contractor's materials transport etc, shall normally be permitted to go out of the area between 8.00 AM to 6.00PM only.
- 25.8.4 Contractor's may also be allowed to carry out the work beyond 6.00 pm and upto 8.00 pm (day and night). However no movements or materials and transport out of site of works shall be permitted during night unless special permission obtained from the factories/unit authority.

**CONTD..**

**SPECIAL CONDITIONS (CONTD..)**

25.8.5 WORK ON HOLIDAYS :- The contractor shall not carry out any work on gazette holidays, weekly holidays and other non-working days except when he is specially authorised in writing to do so by the GE. The GE may at his sole discretion declare any days as holiday or non-working day without assigning for such declaration.

25.8.6 ACCESS TO RESTRICTED AREA AFTER COMPLETION OF WORKS After the works are completed and surplus stores etc returned to the contractor, his agents, representatives or workmen etc may not be allowed to have access to the restricted area except for attending any rectification of defects pointed out to him by the GE.

**26.0 MINOR AND MISSING DETAILS**

26.1 The lump sum quoted by the tenderers shall also include for any minor details of works and/or construction which are obviously and fairly intended and which may not have been specifically referred to in the tender documents but which are essential for the execution and completion of the work in a workman like manner and sound construction.

26.2 If certain details are missing, in that case, the details indicated elsewhere in the drawings which are similar or near to the missed out items of work shall be followed. In the absence of any other similar, and near details, the minimum essential requirement for the completion of work from the structural and utility point of view shall be deemed to be included in the amount quoted.

26.3 In the case of difference of opinion between the contractor and department as to whether or not a certain item of work constitutes minor extra constructional details included in the lump sum amount quoted or not the decision of the Accepting Officer shall be final, conclusive and binding.

**27.0 REIMBURSEMENT/REFUND ON VARIATION IN TAXES DIRECTLY RELATED TO CONTRACT VALUE**

(a) The rates quoted by the Contractor shall be deemed to be inclusive of all taxes (including Sales Tax/ VAT on materials, Sales Tax/VAT on Works Contracts, Turnover Tax, Service Tax, Labour Welfare Cess/tax etc) duties, Royalties, Octroi & other levies payable under the respective statutes. No reimbursement/refund for variation in rates of taxes, duties, Royalties, Octroi & other levies, and/or imposition/abolition of any new/existing taxes, duties, royalties, octroi & other levies shall be made except as provided in sub para (b) here-in-below.

(b) (i) The taxes which are levied by Govt at certain percentage rates of contract sum/Amount shall be termed as "taxes directly related to contract value" such as Sales Tax/VAT/Service tax on Works Contracts, Turnover Tax, Labour Welfare Cess/tax and like but excluding Income Tax. The tendered rates shall be deemed to be inclusive of all "taxes directly related to Contract value" with existing percentage rates as prevailing on last due date for receipt of tenders. Any increase in percentage rates of "taxes directly related to Contract Value" with reference to prevailing rates on last due date for receipt of tenders shall be reimbursed to the Contractor and any decrease in percentage rates of "taxes directly related to contract value" with reference to prevailing rates on last due date for receipt of tender shall be refunded by the Contractor to the Govt/deducted by the Govt from any payments due to the contractor.

(ii) The Contractor shall within a reasonable time of his becoming aware of variation in percentage rates and/or imposition of any further "taxes directly related to Contract value" give written notice thereof to the GE stating that the same is given pursuant to this Special Condition, together with all information relating thereto which he may be in a position to supply. The Contractor shall also submit documentary proof/information as the GE may require.

(iii) The Contractor shall, for the purpose of this condition, keep such books of account and other documents as are necessary and shall allow inspection of the same by a duly authorized representative of Government, and shall further, at the request of the GE furnish, verified in such a manner as the GE may require any documents so kept and such other information as the GE may require.

**SPECIAL CONDITIONS (CONTD..)**

(iv) Reimbursement for increase in percentage rates/ imposition of “taxes directly related to contract value” shall be made only if the Contractor necessarily & properly pays additional “taxes directly related to contract value” to the Govt, without getting the same adjusted against any other tax liability or without getting the same refunded from the concerned Govt Authority and submits documentary proof for the same as the GE may require”.

**28.0 SECURITY AND PASSES**

28.1 Contractor’s attention is invited to condition 25 of IAFW-2249. He shall employ only Indian Nationals after verifying their antecedents and loyalty. The contractor shall on demand by the Engineer-in-Charge submit list of his agents, employees and work people concerned and shall satisfy the Engineer-in-Charge as to the bonafide of such people.

28.2 The Engineer-in-Charge shall at his discretion have the right to use passes as per rules and regulations of the installation/Area in force to control the admission of the contractor, his agents employees and work people to the site of the work or any part thereof. Passes should be returned at any time on demand by the Engineer-in-Charge or the authorities concerned and in any case on completion of work.

28.2.1 The contractor and his agents, employees and work people shall observe all the rules promulgated by the authority controlling the installation/Area in which the work is to be carried out eg, prohibition of smoking and lighting, fire precautions search of persons on entry and exist, keeping to specific routes, observing specified timing etc, nothing extra shall be admissible for any man hours etc, lost on this account.

**29.0. CONDITION FOR CONCILIATION**

Consequent to enactment of the Arbitration and Conciliation Act 1996, with an objective to encourage settlement of disputes which may arise under the contract shall, in first place be referred to the Sole Conciliator, to be appointed by CE (NW) Kochi or in his absence the Officer Officiating as Chief Engineer (NW) Kochi.

**29.1 SCOPE OF CONCILIATION**

Refer condition 71 of IAFW-2249.

**30.0 EMPLOYEES PROVIDENT FUND AND MISC PROVN (EPF & MP) ACT**

30.1 All contractors shall get themselves registered with Employees Provident Fund Organization and deposit the necessary contributions with the EPFO. All the workers deployed by contractors shall be enrolled as members of Provident Fund and should be given the Universal Account Number (UAN). While submitting the Running Account Receipt and Final Bill, the contractor shall submit a certificate to the effect that all the workers employed directly or indirectly by him are registered for EPF and due contributions have been credited into their account. Failure to provide social security benefits to the workers employed by the contractor are an offence under EPF & MP Act and appropriate penal can be taken in case of failure to ensure compliance of the Act.

**31.0 COVID PROTOCOL:-**

31.1 Adequate precautions shall be taken to prevent epidemic infections. Adequate number of face mask, hand wash facilities, hand rub liquid, sanitizers etc. shall be provided to staff and workmen. Quoted rates are deemed to inclusive of these provisions.

Signature of Contractor  
Dated:

AGE (Contracts)  
For Accepting Officer

**PARTICULAR SPECIFICATION****GENERAL**

- 1.1 The following specifications shall be read in conjunction with the general condition of contracts IAFW-2249 and IAFW-1779A including Errata/Amendments thereto. If any provision in these particulars specification is at variance with that of the aforesaid documents, the former shall be deemed to take precedence there over.
- 1.2 The work under this contract shall be carried out in accordance with schedule of works, the particular specifications, General Specifications and other provisions in MES schedule, read in conjunction with each other.
- 1.2 The term General specifications referred to here-in-before as well as referred to in IAFW-2249 (General conditions of contracts) shall mean the specifications contained in the MES Schedule.
- 1.3 SSR wherever mentioned shall mean the MES Schedule
- 1.4 .
- 1.4 General rules, specifications, special conditions and all preambles in the MES Schedule shall be deemed to apply to the works under this contract. Unless mentioned other wise in these documents, the provisions in these documents shall take precedence over the aforesaid provisions in the MES Schedule.

**2.0 SCOPE OF WORK**

- 2.1 This contract comprises full and entire completion of the works as detailed in Sch of Works(BOQ), Particular Specification and other conditions as expressed in this contract. All reference to clauses in succeeding paragraphs pertains to MES Schedule Part I.

- 2.1 This contract comprises the following sanctioned works **“REPAIR TO ROOF, PLASTER, JOINERY, WALL FLOOR FALSE CEILING AND CONNECTED WORKS AT CERTAIN MD ACCN AT INS DRONACHARYA UNDER GE FORT KOCHI”**

2.2 Before starting the work, the contractor shall produce samples of all materials to be incorporated in this contract including accessories for approval by the GE. Samples that are approved shall be retained by the GE, until the works completed and accepted. The contractor will not be allowed to commence the work before the samples are approved. The contractor shall ensure that the materials used in the work are identical with approved samples and are uniform throughout..

**3.0 CONCRETE WORK****3.1 CEMENT****3.1.1 SPECIFICATIONS FOR CEMENT TO BE PROCURED BY THE CONTRCTOR**

- 3.1.2 General : Cement required for the work under the contract shall be procured, supplied and incorporated in the works by the contractor under his own arrangement. Cement shall be of tested quality and shall comply with the requirements mentioned in the SSR, IS Specification as amended and particular specifications given hereinafter.

- 3.1.3 Type of cement for the subject work shall be ordinary Portland cement grade 43 (forty three) in accordance with IS 8112-1989.

**3.2. Sources of Procurement**

- 3.2.1 Cement shall be procured by the contractor from any of main producers of cement as stated below :-  
M/s Cement Manufacturing Company Ltd, M/s Ultra Tech Cement Ltd, M/s OCL India Ltd, M/s Dalmia Cement (Bharath) Ltd, M/s Heidelberg Cement India Ltd, M/s Parasakthi Cements Ltd, M/s Zuari Cement Ltd, M/s Toshall Cements Pvt Ltd, M/s Saifco Cement Pvt Ltd, M/s Prism Cement Ltd, M/s Shree Guru Kripa Cement (Pvt) Ltd, M/s Dhruv Industrial Company Ltd, M/s Madras Cement, M/s Saurashtra Cement, M/s Lafarge Cement (Lafarge India Pvt Ltd), The Associated Cement



**PARTICULAR SPECIFICATION (Contd.....)**

Companies Ltd, The India Cement, M/s Andhra Cement Ltd, M/s Century Cements, M/s Mangalam Cement Ltd, M/s Birla Corporation Ltd, M/s Orient Cement M/s Shree Cement, M/s JK Cement, M/s Lakshmi Cement Ltd, M/s Jaypee Rewa Cement, M/s Ambuja Cement Ltd.

3.2.1.1 In case the total requirement of cement is less than 1200 bags, the same shall be procured from the authorized dealers of the manufacturers listed above.

3.2.2 The Contractor shall furnish the particulars of the manufacturer/supplier of cement along with the date of manufacture to the Garrison Engineer for every lot of cement separately. The cement so brought shall be fresh and in no case older than 60 days from the date of manufacture. The documents in support of the purchases of cement shall be verified by the Garrison Engineer. Before placing the order for supply of cement by the contractor, he shall obtain written approval from the GE regarding name of manufacturer, quantity of cement etc. Cement shall be procured for minimum requirement of one month and not exceeding the requirement of the same for more than two months at a time. The cement shall be consumed in the work within three months after receipt. Cement shall conform to the requirement of Indian Standard Specification and each bag of cement shall bear relevant ISI mark. The weight of each consignment shall be verified by the GE and recorded. The content of cement shall be checked at random to verify the actual weight of cement per bag. However, the content of cement per bag shall be 50Kg only, subject to tolerance given in clause 10.2.1.1 and Annexure 'B' of IS-1489 of 1991 part I.

**3.2.3 TESTING OF CEMENT**

3.2.4 The contractor shall submit the manufacturer's test certificate in original alongwith test sheets giving the results of each physical test as stipulated in accordance with relevant IS provision and the chemical composition of cement or authenticated copy thereof duly signed by the manufacturer with each consignment, as per the following IS provision :-

- (a) Method of sampling hydraulic cement as per IS-3535-1986.
- (b) Methods of physical test for hydraulic cements as per IS-4031.
- (c) Method of chemical analysis of hydraulic cement as per IS-4032-1985.

The test certificate and test sheet shall be furnished with each batch by manufacture. The Engineer-in-Charge shall record these details in cement acceptance register to be maintained by him which will be signed by Junior Engineer (Civil), Engineer-in-Charge, Garrison Engineer and the contractors as given in the format hereinafter for verification.

3.2.5 The contractor shall however, organize setting time and a compressive strength test of cement through designated laboratory on samples collected from the lot brought at site before incorporation in work. The contractor will be allowed to use the cement only after satisfactory compressive strength of seven days. To meet this requirement contractor is required to keep minimum 10 days stock before any new lot brought at site which can be used in the work. The contractor shall be required to remove the cement not meeting the requirement from site within 24 hours. Seven-day strength test will be relied upon to accept the lot of cement to commence the work. 28 days compressive strength test will be the final criteria to accept/reject the lot.

3.2.6 The GE shall carryout independent testing as per the tests mentioned in the 'CEMENT SUPPLY / ACCEPTANCE FORM' of random samples of cement drawn from various lots. The testing shall be carried out through national test house, SEMT wing of CME, Regional Research Laboratories, Govt approved Laboratories, Zonal Laboratories as per IS-3535-1986 (method of sampling hydraulic cement) and IS-4031 (method of physical test for hydraulic cement) and IS-4032-1985 (method of chemical analysis of hydraulic cement) referred to above. The cement shall be tested both for physical and chemical properties as per relevant IS codes. In case the cement is not of requisite standard despite manufacturer's test certificate, the contractor shall remove the total consignment from the site at his own cost after written rejection order of the consignment by the GE. The cost of sample transportation and test shall be borne by the contractor irrespective of the results of testing.

3.2.7 The random samples as per relevant IS shall be selected by GE in accordance with IS 3535-1986 for independent or additional tests before carrying out testing. The cement shall be tested with in one week on supply but before in-corporation of the

**PARTICULAR SPECIFICATION (Contd.....)**

- same in works. Cost of testing transportation and materials used in testing etc shall be borne by the contractor and no extra claim whatsoever will be admissible. The record of such samples selected by the GE for testing shall be properly maintained in the 'Cement Testing Register' giving cross reference to relevant consignment of cement and quantity received etc.
- 3.2.8 Cost of transportation of samples to the approved laboratory/test house and all testing charges including cost of sample shall be borne by the contractor. Testing of cement shall be carried out in Govt approved and accepted only on satisfactory test results of the tests. All the expenditure for the testing of cement in Govt approved laboratory shall be borne by the contractor. Since all the facilities for testing of cement as per IS-4031-1985 are not available in Zonal Lab the test results of testing of cement carried out in zonal Lab shall not be considered as final criteria for acceptance and these results may be considered for comparison of values only if reqd. In case testing is done Zonal Laboratory, the recovery shall be made as per Appx'G' to Special condition hereinbefore.
- 3.2.9 The contractor shall be required to set up adequate testing facilities at site to the entire satisfaction of Garrison Engineer for conducting the tests as per IS codes referred to hereinbefore for the samples collected from the lot brought at site. These tests shall be carried out within 7 days of receipt of cement at site. The tests can alternatively be carried out at the Zonal/Project laboratory, or any other recognized laboratory so designated by GE at Contractor's expense.
- 3.2.10 The contractor shall submit original purchase vouchers for the total quantity of cement supplied under each consignment to be incorporated in the work. All consignments received at the work site shall be inspected by the GE alongwith the relevant documents to ensure the requirements as mentioned hereinbefore, before acceptance. The original purchase vouchers and the test certificates shall be verified for subject contract and defaced by the Engineer-in-Charge and kept on record in the office of the Garrison Engineer duly authenticated and with cross reference to the consignment/control number recorded in the Cement Acceptance Register. The cement acceptance register shall be signed by the JE (Civil), Engineer-in-Charge, GE and the contractor. The contractor shall maintain schedule of supply of cement for each consignment such a manner as to prevent deterioration due to moisture or intrusion of foreign matter. In case of store room, the stack should be atleast 20 cm away from floors and walls. The stacking of cement shall be done as specified in relevant IS. The storage, accounting and preservation of cement supplied by the contractor shall be done as per standard engineering practice till the same is incorporated in the work and the cost of the same shall be deemed to be included in the unit rate/amount quoted by the tenderer. The Engineer-in-Charge shall inspect once a day to verify that cement lying at site is stored, accounted, preserved and maintained as per the norms. The cement shall be stored so as to differentiate each tested and untested consignment separately with distinct identification. If the GE is not satisfied with the storage / preservation of cement, he may order for any test(s) of cement as applicable for that consignment to ensure its conformity to the quality mentioned in the manufacturer's test certificate. The contractor shall bear the cost of necessary testing (s) in this regard and no claim whatsoever shall be entertained
- 3.3.2 Stacking of cement shall be done as per relevant IS and as under :-
- Each cement consignment shall be stacked separately and removal shall be made on the basis of 'First in First out'.
  - Adequate top cover will be provided.
  - Stacks in no case shall be higher than 12 bags. The maximum width of each stack shall be 3.00m. If the stack is to be more than 7 or 8 bags high, the bags shall be arranged in header and stretcher fashion; i.e alternatively lengthwise and cross wise so as to tie the piles together and avoid danger of topping over.
  - Adequate space shall be kept between two stacks.
  - Tested and untested cement are segregated and stored with distinct identification.
- 3.3.3 Cement go down shall be provided with two locks on each door. The key of one lock at each door shall remain with the Engineer-in-Charge or his representative and that of the other lock with the contractor's authorised agent at site of works so that cement is removed from the go down only according to daily requirement with the knowledge of both the parties. During the period of storage, if any cement bag(s) found to be in damaged condition due to whatsoever reason, the same shall be removed from the cement go down on written orders of the GE and suitable replacement for the cement

**PARTICULAR SPECIFICATION (Contd.....)**

bag(s) so removed shall be made and no claim, whatsoever, shall be admissible on this account.

- 3.3.4 Cement shall be removed from the store only according to daily requirement with the knowledge of both parties and daily consumption of cement shall be recorded in cement consumption register which shall be signed by the Engineer-in-Charge and the contractor.
- 3.3.5 In case the consumption of cement as per cement consumption register is found to be more than the estimated quantity of cement due to whatsoever reason, the contractor shall not have any claim whatsoever for such excess consumption of cement.
- 3.4 Measurements and Payment of Cement.
- 3.4.1 The entire quantity of cement shall also be suitably recorded in the Measurement Book for record purposes as "Not to be abstracted" before incorporation in the work and shall be signed by the Engineer-in-Charge and the contractor duly checked by AGE.
- 3.4.2 The payment shall only be allowed after production of original purchase vouchers, certified copies of test certificates from manufacturer for each consignment and results of testing carried out in laboratory on receipt of cement (7 days compressive test) are found satisfactory after testing as specified hereinbefore. Cement shall be paid as material lying at site as per condition 64 of IAFW-2249. Rate of cement given in SSR shall be applicable for cement irrespective of grade of cement specified for use in the work.
- 3.5 FINE AGGREGATE: Fine aggregate shall be conforming to material specification and grading within the limits of grading Zone I to III as specified in Clause 4.4.1 to 4.4.7 of SSR Part I. Fine aggregate shall be natural river sand and shall be from Always / Piravom or any other source as approved by GE. Sand shall be free from admixture of clay, loam, silt, organic matters etc and the sand shall be washed before use. The percentage of deleterious materials shall not exceed the permissible limits laid down in IS 2386-A [Part-I]. The contractor shall also be allowed to use crushed stone sand obtained from approved quarry without any price adjustment
- 3.6 COARSE AGGREGATE: Coarse aggregate for all concrete work i.e PCC/RCC shall be crushed or broken stone (granite). Aggregate and shall be as specified in Clause 4.4.1 to 4.4.7 of SSR Part I. The same shall be obtained from approved quarries.
- 3.7 GRADING OF COARSE AGGREGATE: Graded aggregate of nominal sizes given hereunder, shall be used, unless specified otherwise.
  - (a) Reinforced cement concrete
    - (i) For structural elements of depth/thickness - 20mm  
more than and including 100mm
    - (ii) For structural elements of depth/ - 12.5mm  
thickness less than 100mm

Note: However, in no case the nominal size of Aggregate shall be greater than one fourth the minimum size of the member.

- (b) Plain concrete :-
  - (i) Under 30mm thickness - 12.5mm
  - (ii) 30 to 80mm thickness - 20mm
  - (iii) Exceeding 80mm thickness - 40mm

- 3.8 WATER : Water shall conform to the requirements stipulated in IS-456-2000 and as per clause 4.9 of MES Schedule.
- 3.9 CURING :The contractor shall take necessary arrangement to maintain an environment of high humidity around the freshly placed concrete till it attains reasonably good strength and proper curing. Contractor shall follow any of the following method of curing while execution of work based on the site conditions:-

**PARTICULAR SPECIFICATION (Contd.....)**

- |     |                                |     |                               |
|-----|--------------------------------|-----|-------------------------------|
| (a) | Ponding or immersion of water. | (b) | Fogging or spraying of water. |
| (c) | Moist fabric covers.           | (d) | Covering by plastic sheets.   |
- 3.10 Recovery @ 0.25% of total cost of concrete at contract rate shall be recovered as penalty in case of improper curing and cracks if any are noticed by GE or by the Dept official at any stage. “
- 3.11 Mix of concrete : Mix of concrete shall be as described in schedule of Works.
- 3.12 CONSOLIDATION OF CONCRETE :- Consolidation shall be done by mechanical vibrators, plate type for slab and needle type for other locations.
- 3.12.1 Concrete for RCC work shall be consolidated / compacted by mechanical vibrators of approved type. Precast/cast-in-situ, plain cement concrete shall, however, be rammed and consolidated by tamping and roding as specified in para 4.11.11 on page 4-11 of MES Schedule 1991 (Part I).
- 3.13 IMPORTANT REQUIREMENT OF REINFORCED CEMENT CONCRETE/PLAIN CEMENT CONCRETE
- 3.13.2 All cement concrete, both plain and reinforced shall be mixed in mechanical mixer of approved type. However in case of small quantity except design mix (i.e the quantity of concrete required being less than one batch of mix), the contractor may, after obtaining written permission of the Engineer-in-Charge, which shall be exceptional, adopt hand mix for small quantities of work such as bed blocks and cills subject to addition of 10% extra cement without any price adjustment. Where hand mixing is permitted, it shall be carried out on a water tight platform and care shall be taken to ensure that mixing is continued until the concrete is uniform in colour and consistency.
- 3.13.3 Engineer-in-Charge shall maintain a record of actual consumption of cement in proper register (Other than the cement register mentioned in condition 11 of Special Conditions) and initial the entry for every change in quantity of materials.
- 3.13.4 All concrete for RCC work shall be consolidated/compacted by mechanical vibrators of approved type. Precast/cast in-situ, plain cement concrete shall however, be rammed and consolidated by tamping and rodding as specified in Para 4.11.11 on page 4-11 of MES Sch 1991 (Part I).
- 3.13 TESTING OF BUILDING MATERIALS : Test for building materials shall be conducted as per IS requirement as directed by the GE. The Contractor shall provide necessary samples, make adequate arrangement for transportation and testing of the same. Testing charges shall be paid by the Contractor. Recovery on account of testing charges shall be made from the Contractor for various tests conducted in MES project lab as per Appx enclosed. The test for which the facility is not available in MES lab shall be got done by contractor in approved lab outside MES and the testing charges as charged by the concerned authorities shall be borne by the contractor as provided in condition 10A of IAFW-2249, General Conditions of contracts and no claims, whatsoever, shall be entertained on this accounts.
- INTEGRAL WATER PROOFING COMPOUND:** Wherever integral water proofing admixture is specified or indicated to be mixed to concrete/mortar, plaster etc, the percentage of integral water proofing compound to be added shall be as per manufactures instructions. Integral water proofing compound shall conform to IS-2645 and shall be ISI marked and shall be in liquid form.
- 4.0 **STEEL AND IRON WORK**
- 4.1 **General :-** All items of steel which are required for the work under this contract shall be procured supplied and incorporated in the work by the contractor under his own arrangement.
- 4.2.0 **Grades and Quality**
- 4.2.1 Steel supplied by the contractor shall conform to the following grades and quality.

**PARTICULAR SPECIFICATION (Contd.....)**

(a) Reinforcement Steel: Reinforcement shall be CRS (corrosion resistant steel)/HCRM/CRM TMT bars conforming to IS 1786-2008 having minimum yield strength of 500 N/mm<sup>2</sup> of grades Fe 500 D and minimum elongation of 16%. Mild steel bars shall conform to IS 432 (Part I) and grade I.

(b) Structural Steel

- (i) Structural steel - E250 (Fe 410W) Conforming to IS-2062
- (ii) General purpose - E165 (Fe 290) Conforming to IS-2062
- (c) Galvanized steel sheets (Plain or corrugated) - Conforming to IS-277
- (d) Fabric reinforcement for concrete - Conforming to IS 1566 5.3

#### 4.3 Source of Procurement

(a) All steel reinforcement and structural steel shall be procured directly from any of the primary producers mentioned below:-

- (i) Steel Authority of India Ltd(SAIL) - For all types of steel
- (ii) Tata Iron & Steel Company(TISCO, or Tata Steel) - For all types of steel
- (iii) Rashtriya Ispat Nigam Limited(RINL) - For all types of steel
- (iv) M/S Electrotherm(India)Ltd - For TMT bars& CRS bars ( 8 to 36mm dia)
- (v) M/S Steel Exchange India Ltd - For TMT & HSCRM bars only
- (vi) M/s Jai Balaji Industries Ltd - For TMT bars only
- (vii) M/s MSP Steel&Power Ltd . - For TMT bars only( 8 to 32mm dia)
- (viii) M/s Shyam steel Industries Ltd - For TMT& CRS bars only
- (ix) M/s Real Ispat & Power Ltd ( G K TMT) - For TMT bars only ( 8 to 32mm dia)
- (x) M/s Shri Bajrang Power &Ispat Ltd. - For TMT bars only( 8 to 32mm dia)
- (xi) M/s Super Smelters Ltd,Kolkata - For TMT bars only( 8 to 32mm dia)
- (xii) M/s Kamachi Industries Ltd - For TMT & HCRM bars only( 8 to 40mm dia)
- (xiii) M/s Gallantt Ispat Ltd, Gujarat - For TMT& CRS bars only( 8 to 32mm dia)
- (xiv) M/s Shyam Metalics & Energy Ltd - For TMT Bars only( 8 to 32mm dia)
- (xv) M/s Rashmi Metaliks Ltd.W.B - For TMT Bars only( 8 to 25mm dia)

Note:-Any primary producer not included above but already approved by E-n-C Branch and also approved during execution shall be deemed to be included without any price adjustment .

(b) The contractor shall procure all the structural steel directly from the manufacturers, Viz (i) SAIL (ii) TISCO (iii) RINL (iv) JINDAL Steel or other approved primary producers. In case of its non availability with primary producers the structural steel can be procured from the approved secondary producers with a reduction of 5% (Five percent) of the accepted rates of structural steel (SSR rate + CP) to be adjusted through a minus Deviation Order. In case the desired section of structural steel is not rolled/manufactured by the primary producer there shall be no price adjustment in use of structural steel procured from the approved secondary producers

(c) The contractor shall within 15 days of placing of work order indicate the source for procurement of steel to GE in writing. List of approved secondary producers for structural steel is given below :-

- (1) KL Steel Pvt Ltd, Post Box No 61, Lal Kuan, Bulandshahar Rd, Ghaziabad (UP)
- (2) Shree Badrinarayan Alloys & Steels Ltd, 95, Stephen house, 4 BBD Bag, Kolkata-1
- (3) Pushpak Steel Industries Pvt Ltd, Gate No-119, Anandi Market Rd, Dhanore, Tah Khed Pune
- (4) Amba Shakti Ispat Ltd, Plot No 6, Phase II Industrial Area, Kala Amb, Dist-Sirmour-173030 (HP)
- (5) SRMB Udyog Ltd, 46 BB Ganguly Street, Kolkota -12 (Ph-033-22369999)
- (6) Shree Parashnath Re-Rolling Mills Ltd, Durgapur, 4C Maharshi Devendre Rd, 3<sup>rd</sup> floor, Kolkota – 7 (Phone- 033-2274 0045 / 4475)
- (7) Tata Steel Structura, Tata Steel –Tube Division, 1st floor, 5 Sansad Marg, Delhi-1
- (8) KL Concast Pvt Ltd, Z-18, Naraina, New Delhi
- (9) Karam Steel Corp, Nasrali Rd, PO Box No 56, Mandi Gobind Garh – 147 301

Note:- However, steel sections for railing, gates, fencing, guard bars, grills steel chowkats, hold fast etc, which do not constitute structural members, can be procured from main producers/ secondary

**PARTICULAR SPECIFICATION (Contd.....)**

producer/BIS marked manufacturers or their authorized dealers at the option of contractor without any minus price adjustment. Tests will not be insisted upon for such steel sections.

- (d) The contractor shall produce original vouchers from suppliers for the total quantity of steel purchased, under each consignment and be kept on record of the GE duly defaced by Engineer-in-Charge and authenticated.
- (e) Steel tubular sections and Structural steel and steel for reinforcement may be permitted from authorized dealers of main producers in case of total requirement of steel is less than 5 tonnes.

**4.4 Testing and Test Certificate**

(a) The contractor shall produce manufacturers test certificate in original along with the test sheet giving the result of each mechanical test as applicable and the chemical composition of the steel supplied as specified in relevant IS Codes, duly signed by the manufacturer of their authorized dealers with each consignment.

(b) The original test certificate shall be kept on record in the office of GE duly defaced by Engineer-in-Charge and authenticated.

(c) In addition to production of test certificate as mentioned in clause and above. The contractor shall provide all facilities to the Dept for independent testing of steel in Govt Approved laboratories if considered necessary by GE. The cost of such tests shall be borne by the Contractor. Independent testing of reinforcement steels structural steel by the GE shall be mandatory in case of procurement from secondary producers and testing charges shall be borne by the contractors irrespective of the outcome of test results.

Note : For various tests, Acceptance criteria, tolerance etc shall be as per Steel supply/ Acceptance form attached here in after and relevant BIS code.

**4.5 Storage:-** Steel supplied by the contractor shall be stored in accordance with the requirement of ISS. Each grade and quality of steel shall be stored separately and have identification tags indicating the source, quality and grade

**4.6 Preservation and maintenance of steel :-** The steel brought by the contractor shall be preserved to ensure that no rusting takes place till it is incorporated in the works.

**4.7 Schedule of Supply :-** The contractor shall procure the steel sections, timely as required in accordance with CPM Chart, agreed between GE and contractor. The contractor will forego his right to demand extension of time if the supply of steel got delayed due to his failure in placing order in time to the manufacturer/supplier.

**4.8 Payment :-** Running Account Receipt of payment of steel shall be governed by in accordance with Condition 64 of IAFW-2249. Payment shall allowed after production of test certificate and original paid/purchase vouchers by the contractor.

**4.9 Measurement :-** The entire quantity of steel brought to site shall be recorded in measurement book as "NOT TO BE ABSTRACTED" indicating the reference to

manufacturers, source of supply voucher number and test certificate before incorporation in the work and shall be signed both by the Engineer-in-Charge and the contractor. Proper documentation / record shall be maintained as per the instructions on the subject.

**4.9.1** Weight of steel supplied by the contractor shall be calculated at unit weights given in Appendix A' of MES Sch Part II. For section not listed in MES Sch, the ISI conversion table shall be followed or manufacturer's certificate if the weights are not available in MES Sch/ISI table.

**4.9.2** Normal waste and off cuts shall be stacked neatly which shall be the property of the Contractor. Contractor shall be allowed to remove such cut pieces after inspection and certifications by the Engineer-in-Charge.

**4.9.3** Advance on account of payment made towards these cut pieces shall be recovered from advance on account of payment immediately falling due and before removal of such cut pieces from site.

**4.9.4** Bending and fixing of bars for concrete reinforcement including mild steel wire for binding shall be carried out all as specified in MES Schedule.

**4.9.5** Hooks shall be provided only for mild steel bars. In case of cold twisted/deformed steel CRS ends shall be bend instead of hooks.

**PARTICULAR SPECIFICATION (Contd.....)**

4.10 Binding wire for reinforcement shall be mild steel wire (annealed) of size not less than 0.9mm.

4.11 Steel supply/Acceptance form :- For each consignment of steel supply/acceptance form will be filled in and jointly signed by the department Rep.(JE/AGE) and contractor and accepted/rejected by GE before incorporation in the works as per Appendix attached here-in-after.

4.12 Steel Reinforcement :- Reinforcement shall be fabricated, placed in position all as shown on drgs and specified in clause 10.17 to 10.22 of MES Schedule (Part I) without application of heat.

4.13 Welding Welding wherever shown in drawings shall be fillet welding 6mm unless otherwise indicated or are as specified.

**5.0 WOOD WORK AND JOINERY**

5.1 **TIMBER:** Timber for all wood work shall be of class as specified in Schedule „A”.

5.1.1 Timber for all joinery and wood work shall be as per specifications given in clause 7.3 of the MES Schedule part I and shall be within the permissible limits of defects defined in clauses 7.4 and 7.5 of the MES Schedule Part I. In case of second class hard wood, it shall be any of the species of Thambakam, Karimatti, Anjili, Maruthu. Where use of 1st class hard wood is mentioned same shall be of Indian Teak ( TectonaGrandis). Timber ceiling shall be as specified in BoQ and shall be provided as in Clause 7.24 of MES SSR Part I.

5.1.2 Timber shall be well seasoned (whether air or kiln dried) at the discretion of the contractor but without any price adjustments. The moisture content of timber shall not exceed the limits laid down vide clause 7.7 of the MES Schedule Part I.

**5.2 PRESERVATION OF TIMBER**

5.2.1 Preservation/antitermite treatment shall be carried out to all wood work and joinery fabricated by the contractor at site. Factory made ply/boards are not to be treated with any chemical. The timber used for fabricating wood work/joinery shall be pressure treated.

5.2.3 Chemical used for antitermite treatment to wood work and joinery shall be copper NAPHTHENATE or any other chemical specified in IS : 401-1982 applied in any one of the manners specified in ibid IS.

**5.3 GUARANTEE**

5.3.1 The contractor shall submit a written guarantee, in favour of GE for 10(TEN) years from the certified date of completion to the government for the wood work/joinery work against the occurrence for termite infestation should the GE at any time during the currency of the contract or prior to the expiry of the said guarantee period, find that the timber work have been infested with termite, the contractor, on demand in writing from the GE, will forthwith undertake to carryout such work/treatment including replacement of infested timber work, which may be necessary to render the buildings free from termite infestation at his own expenses till expiry of the guarantee period of ten years.

5.4 **Species of Timber:** The species of timber and prefabricated wood products(i.e. plywood, wooden particle boards etc.) shall be as specified below:- (i) Glazed/wire gauzed door shutter - Factory made shutter 2nd Class Hard wood. (Thambakam, Karimatti, Anjili, Maruthu) (ii) Wooden frame for doors and , - 2 nd class hard wood(Thambakam, cupboards, etc where Karimatti, Anjili, Maruthu) indicated of wood.

5.5 **Veneered Particle Board.** Veneered particle boards shall be commercial (general purpose) bonded with phenol formaldehyde synthetic resin adhesive and shall conform to exterior grade of IS-3097-1985 with duly marked specifications for veneered particle board. Thickness wherever shown as 19mm shall be amended to read 18mm / 19mm.

**5.6 PANELLED DOOR SHUTTERS**

5.6.1 Panelled shutters of doors comprising styles, rails and panels) shall be factory made shutters obtained from approved manufacturers listed in appendix here-in-after.

5.6.2 The factory made paneled shutters of all doors except doors of WC/Bath shall comprise of styles and rails of second class hard wood and panels of 9mm thick marine plywood. Panels shall be fitted in 12mm deep grooves in styles and rails of the shutters.

**PARTICULAR SPECIFICATION (Contd.....)**

5.6.3 Factory made shutters shall however, conform to size as per details shown BoQ.

5.6.4 Timber used for factory made shutter shall be of kiln seasoned and chemically treated by pressure process as specified in para 5.5 of IS-401.

5.6.5 Other treatment to timber surface such as tarring, painting etc shall be carried out in addition to the preservative treatment.

5.6.6 Factory made panelled shutters shall be brought to site before applying the primer and the shutters shall be got passed by the Engineer-in-Charge before applying the primer.

5.7 **GLAZED SHUTTERS:-** The dimensions of various components of glazed shutters are as under:- Windows :- (a) Stiles and rails - 75 mm wide & 30 mm thick (b) Glazing bars - 40 mm wide & 30 mm thick (c) Beading for fixing glass panes shall be of 1st class hard wood with size 15mm x 10mm.

5.8.1 **FIXING OF SHUTTERS**

5.8.1 Shutters shall be fixed to the frames all as specified in Clause 8.22 of MES Sch Part I.

5.9 **WORKMANSHIP**

5.9.1 Joinery: Timber exposed to view shall be wrought, not exposed to view shall be clean swan. The workmanship and fixing of joinery shall be as per clause 8.11 to 8.23 of MES Schedule Part I.

5.9.2 Timber members upto 3.0 meters length shall be in one piece.

5.10 **Frames**

5.10.1 Frames of doors and windows shall be provided with second class hard wood all as shown on drgs and as specified under Clauses 8.15 of MES Schedule Part I except for FRP/ Aluminium doors/windows.

5.10.2 Vertical members of wooden door frames shall be embedded 4cm deep below finished floor level All door shutters shall have 3mm clearance above finished floor level.

5.10.3 Wooden frames of joinery shall be fixed to masonry jambs with flat iron hold fasts. Provide hold fasts/bolts etc. as directed.

5.10.4 Wherever joinery frames are fixed on the walls with their faces flush with plastered surfaces triangular grooves shall be made on the frames to receive plaster all as directed by the Engineer-in-Charge.

5.11. **PVC DOOR**

5.11.1 **PVC DOOR FRAME:** PVC door chowkats frame shall be single rebated made of solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 50 mm width & 47 mm thickness and shall be fixed to wall using 100 x 8 sheet metal CSK screws as directed by Engineer -in - Charge.

5.11.2 **PVC SOLID / MOULDED DOOR SHUTTER** : These shall be factory made and shall be as per BOQ. Fixing shall be done as per manufacturers instruction

5.12. **REPAIRS TO ALUMINIUM DOORS/ WINDOWS**

5.12.1 Repairs to aluminium doors and window shall be carried out as per site requirement and all as directed by Engineer in charge.

6.0 **BUILDER'S HARDWARE**

6.1 General All articles of builders hardware shall bear ISI marking. In case ISI marked particular item is not manufactured, it shall conform to the relevant IS and specifications given in MES Schedule.



**PARTICULAR SPECIFICATION (Contd.....)**

6.2 Screws used for fixing items of builder's hardware shall be steel chromium plated screws.

6.3 Articles of builders hardware, where specified of aluminium, these shall be of Anodised Aluminium. All items of builders hardware (except butt hinges) shall be aluminium anodized with mat finish and shall be ISI marked.

**6.4 Articles**

6.4.1 BUTT HINGES: Butt hinges shall be of Mild steel powder coated hinges of quality cold rolled medium weight / Stainless steel butt hinges as specified in Schedule „A" and shall conforming to relevant IS and as approved by GE.

6.4.2 DOOR HANDLES: All doors shall be provided with aluminium anodized(mat finish) handles fabricated type all as specified in Clause 9.11.1 of SSR Part I duly ISI marked and as per IS-208.

6.4.3 TOWER BOLTS: Tower bolts shall be of aluminium anodized matt finish(extruded Section)ISI marked as per IS 204.

6.4.4 SLIDING DOOR BOLTS: Sliding door bolts shall be of aluminium anodized mat finish (extruded section) all as specified in clause 9.5 of SSR Part I duly ISI marked and as per relevant IS. Size shall be as indicated in Sch"A".

6.4.5 STAINLESS STEEL WIRE CLOTH: It shall conform to IS. Nominal dia of wire and average width of aperture shall be as indicated in the schedule and shall conform to relevant IS.

7.0 **ALUMINIUM DOORS , WINDOWS ,VENTILATORS AND CUPBOARD** Chemical and mechanical properties of sections shall comply with requirements given in IS 733-1983 Specification for wrought aluminium and aluminium alloy bars, rods and sections, IS 737-1986, Specification for wrought aluminium and aluminium alloys sheet and strip for general engineering purpose and IS 1285-2002, Specification for wrought aluminium and aluminium alloys extruded round tube and hollow sections for general engineering purposes. Aluminium sections and fittings shall be anodized and minimum average thickness of anodizing (coating of anodizing) on all aluminium section and fitting shall be 15 micron and shall conform to IS 1868-1996, Testing of anodizing coating shall be in accordance with IS 5523-1983. Joining of sections, providing fittings, lugs method of fixing etc shall be as per IS 1948-1961. The aluminium sections shall be coloured powder coated.

**8.0 FLOORING****8.1 General**

8.1.1 Provisions contained in clause 13.25, 13.32, 13.38 & 13.39 of MES Sch Part I are to be adopted for laying floors and pavements.

8.1.2 Floors shall be laid to levels and as directed by the Engineer-in-Charge.

8.1.3 Floor finish shall be extended over dwarf walls, doors and other openings.

8.1.4 Floor topping of cast-in-situ cement concrete shall be finished even and smooth without using extra cement as specified in clause 13.32.8 of MES Sch Part I.

8.1.5 Possolana or pozzolana slag cement shall not be used for floor topping.

**8.2 CEMENT CONCRETE FLOORS/SUB FLOORS**

8.2.1 Cement concrete flooring, Sub base/Base floors shall be carried out as specified in clause 13.27 and 13.32 of MES Sch Part I

8.2.1.1 Cement concrete floors shall be finished to an even and smooth surface with steel trowel using extra cement. Where chequered finish is specified, it shall be carried out as specified in clause 13.32.9 of MES Sch Part I using expanded metal of mesh size as directed by Engineer-in-Charge.

**PARTICULAR SPECIFICATION (Contd.....)**

8.2.3 The thickness of PCC floor topping shall be as indicated in Specified in Sch 'A'.

**8.3 NON SKID CERAMIC TILES/JOINT FREE NON SKID CERAMIC TILES FLOORING**

8.3.1 Where Non-skid ceramic tiles/Joint free non skid ceramic tiles specified on Schedules provide coloured non-skid ceramic tiles of size as specified in the schedule, as per Gde B II (a) shall be laid and jointed pointed with white cement paste & pigment. Tiles shall confirm to IS – 15622-2006. The tiles shall be first quality product procured from any of the manufacturers as listed in list of manufacturers here-in-below. Laying jointing and finishing shall be all as per manufactures guidance/ instructions. The colour of ceramic tiles shall be as decided by GE.

**6.0 VITRIFIED/NON SKID /GLAZED CERAMIC FLOORING**

6.1 Size and thickness of tiles shall be as indicated in Sch of Works. Colour of the tiles shall be got approved by GE before incorporation in the work.

6.2.1 The tiles shall be 1<sup>st</sup> quality from any of the manufacturers as listed in list of manufacturers here-in-below.

6.3 Tiles shall be non-skid type/glazed type as indicated in Sch of Works'.

Laying, joining and pointing of tiles shall be as specified in clause 13.40.2 and 13.40.3 of MES Sch Part I and as directed by Engineer-in-Charge.

**8.4 GLAZED CERAMIC TILE DADO :**

8.4.1 The ceramic dado shall be provided with ceramic tiles of size as specified in BOQ and shall be glazed quality colour and/or white as indicated in BOQ and conforming to relevant IS specifications. The tiles shall be jointed and pointed with white or coloured cement to match with the colour of tiles. The tiles shall be laid over cement mortar screed as specified in BOQ.

**8.5 KOTA STONE SLAB FLOORING - MIRROR POLISHED AT SITE AND FINISHED WITH BEE WAX POLISHING.**

8.5.1 20 mm thick Kota stone should be of approved design shall be laid over screed bed as shown in BOQ and as directed. The size of slabs shall be not less than 550 x 550 mm as approved by GE.

8.6 **KOTA STONE SLAB ON STAIR / STEPS/DADO/SKIRTING:** Provide calibrated, bull nosed, pre polished stone with mirror polished Kota stone slab 20 mm thick, size to suit the width of treads of steps laid over cement sand screed set ,jointed and pointed in neat cement slurry as specified and shown in BOQ. Riser of steps shall be provided with Kota stone fixed over 10 mm thick in cement mortar (1:3) , set, jointed and pointed in neat cement slurry mixed with pigment to match with the colour of Kota stone. Kota stone provided in treads and riser shall be in one piece and machine cut and prepolished mirror finish. Polishing shall be done at site and finished with bee wax polishing.

**9.0 SOLID PCC BLOCKS :**

9.1 Size of PCC solid blocks shall be of (a) Length - 300 mm (b) Height – 150 mm/200mm (c) Width - 200 mm or 100 mm. PCC solid block masonry shall conform to the specifications as per IS 2185 -2005

9.2 The blocks shall have a minimum average Compressive strength of 4 N/ Sq mm (Minimum strength of individual unit 3.2 N/ Sq mm) conforming to C-4 grade IS 2185 - 2005 when tested for 28 days cube test. The manufacture of Block, surface texture and finish, physical requirements of blocks, testing of PCC blocks, sampling etc shall be all as per IS 2185-2005 and proper record shall be maintained. Density of block shall be not less than 1800 Kg/Cum. Water absorption shall be not more than 10% by weight of block. The cost of blocks including transportation of block from work site to an approved laboratory for testing and cost of testing shall be borne by the contractor.

**PARTICULAR SPECIFICATION (Contd.....)****10.0 PLASTERING.**

10.1 Plastering shall be as described in schedule of Works. Fine aggregate for plaster shall be river sand as specified in clause 14.6 of SSR Part I. Water shall be as specified in clause 14.11 of SSR Part I. Preparation of mortar for plaster shall be as specified in clause 14.13.2 & 14.13.3 of SSR Part I. Application of plaster shall be as specified in clause 14.14.1 to 14.14.8 of SSR Part I. Curing shall be done for at least 7 days. In the alternative crushed stone sand conforming to grading and other characteristics Zone I to III and other requirement in all respect may also be used without any price adjustment. The crushed stone sand shall be from clean hard stone / aggregate to required grading and shall be free from all deleterious materials. Sand obtained from quarry dust by washing and screening method shall not be used.

**11.0 WHITEWASH:**

11.1 White washing shall be composed of freshly burnt fat lime of good quality, free from unburnt stone and other matter and containing minimum 85% of calcium and magnesium oxide content. Slacking should be done at site with excess of water and the lime should be allowed to remain under water for two days. The mixture of lime and water shall then be drawn off, placed in suitable receptacle. Fresh water shall be added to bring it to consistency of cream.

11.2 The mixture then prepared shall be screened through course cloth of fine sieve and mixed gum water. The quantities of gum to be used shall be at the rate of 4 Kg per Cum. Sufficient quantity of blue shall be added to the mixture of white wash to make it look bright.

11.3 White washing shall be carried out all as specified in relevant clause of MES Schedule 2009 Part I and BOQ. White wash shall be applied properly with fibre brushes to surfaces of wall, ceiling etc with horizontal strokes of brushing at the first instances and then finish it with vertical / opposite strokes so as to produce an even and fair coating of wash to the satisfaction of Engineer-in-Charge.

**12.0 GLAZING**

13.1 All glazing shall be with sheet glass of ordinary quality or pin head type or specified herein after. Glass shall be free from all defects viz bubbles, waviness and shall be homogeneous thickness.

13.1.1 Glazing to windows/doors etc as shall be as shown on drawing. Provide 3mm thick glass up to 0.5sqm and 4mm thick beyond 0.5 sqm in each pane. Glass used shall be plain sheet glass except in baths/WC/toilet shall be figured glass pin head type.

13.1.2 Glass to wood frames shall be fixed with beads and golden putty as specified in clause 16.5 to 16.10.2 of SSR Part I.

**13.0 BLANK****14.0 PAINTING****14.1 PAINT AND ALLIED MATERIALS**

14.2 Paints and allied materials, compatibility of paints etc shall be as specified in clause 17.2 of MES Schedule Part-I.

14.3 SYNTHETIC ENAMEL PAINT and primer shall be from any of the manufactures given in list of manufacturers.

14.4 The contractor shall inform the GE, within three weeks of the acceptance of the tender, the brand name of the manufacturer of paint proposed to be used in the works and submit sample thereof and obtain prior written approval of the GE before use in work.

14.5 Paints for priming coat, under coat and finishing coat shall be of same manufacturer.

14.6 Tint of paint will be as approved by the GE.

**PARTICULAR SPECIFICATION (Contd.....)**

14.7 Paint shall be procured in containers of not more than 4 ltrs for easy consumption without deterioration of its quality.

**14.8 GENERAL NOTES FOR APPLYING PUTTY, DISTEMPER, CEMENT BASED PAINT, ANTIFUNGAL AND ENAMEL PAINTING**

14.8.1 These works shall be executed using modern technics and tools to maintain the required quality work. Following smart painting tools shall be used in site. (a) Hand held sander / long handle sander shall be used for plaster / putty work. (b) Multipurpose mixer shall be used for mixing putty to get a uniform mix. (c) Auto roller and Airless spray shall be used for painting. (d) Jet washer to be used for cleaning dirt and fungus etc from external walls.

**14.9 EXTERIOR WEATHER PROOF PAINTING****14.9.1 ANTIFUNGAL PAINTING**

14.9.2 The contractor shall purchase materials directly from the manufacturer or their authorized dealer only. The painting materials shall be brought to the site in sealed containers only. The materials like synthetic enamel paint, primer, oil bound distemper acrylic paint etc brought at site for incorporation into work shall be recorded in MB for "NOT TO BE ABSTRACTED" after verifying the purchase vouchers by the Engineer-in-Charge. This shall be done before such materials are incorporated into work.

14.9.3 After approval of the sample the quantity of materials to be incorporated in the work shall be brought to the site by contractor along with the purchased vouchers indicating quality and quantity of materials in a single or more number of lots. The contractor shall inform Engineer-in-Charge in writing regarding the quality and quantity brought to site in each lot which will be inspected by the Engineer-in-Charge before incorporation into the work. The work shall commence only after verification & ascertaining correctness/quantities of quality and quantity of materials brought in each lot.

14.9.4 Antifungal paint shall be water based, modified acrylic, anti algal, high performance exterior wall finish. It shall incorporate the latest state of art technology to provide long lasting exterior performance even in the most extreme conditions of India. It shall be advanced anti algal chemistry ensures that exterior walls are provided with power packed resistance against algae and fungal growth on the surface. It should have very good Dust pick up resistance (DPUR) power and dirt cleaning properties which will ensure a fresh look to the building for years.

**14.9.5 APPLICATION**

(a) Old fungus/Moss/Algae affected surfaces on new or old surfaces. Remove fungus growth if any with anti fungal treatment or with the help of available fungicide bleaching powder solution all as per Manufacturer's instructions. The surface shall be cleaned by wire brushing and washed with water before application of paint.

(b) Surface imperfections such as holes and fine cracks are to be filled with wall putty crack seal or specifications specified by paint manufacturer) or a mixture of white cement & fine sand only (in the ratio as specified by paint manufacturer)

(c) In the case of freshly plastered completely cured surface only, apply one coat of Exterior primer (or specifications specified by paint manufacturer) by mixing water and primer in the ratio as specified by paint with specified quantity of water

(d) The acrylic emulsion weather proof paint shall be applied by brush or roller. No strainer or colorants shall be used. The paint shall be stirred well before use.

(e) The drying period between two coats shall be as per Manufacturer's instructions. The shade shall be as approved by Accepting Officer. The finish of Acrylic emulsion weather proof paint shall be smooth matt finish.

(f) The paint shall be as per Manufacturer's original colour as available. No mix of tint shall be made into original shade.

**PARTICULAR SPECIFICATION (Contd.....)**

(g) When using paint for best results, on all surfaces, apply a coat of Exterior sealer (of specifications specified by paint manufacturer) as such or with specified percentage dilution, and allow to dry for specified hours.

(h) The acrylic emulsion weather proof paint shall be applied by diluting specified litre of paint (of specifications specified by paint manufacturer) with suitable quantity of water recommended by paint manufacturer.

14.9.6 The work of acrylic painting shall be executed under the supervision of authorised application/rep of original manufacturer. The quantity of acrylic painting consumed in the work shall be as per the standard instructions of manufacturer and this shall be personally ensured by the contractor and verified by the Engineer-in-charge. Any discrepancy in this regard shall be the responsibility of contractor as well as Engineer-in-Charge, RAR shall be paid only after the verification of purchase Vouchers/ paid Invoices of acrylic paint used in the work by Engineer-in-Charge.

14.9.7 The weather proof acrylic emulsion paint shall be manufactured by any firm mentioned in list of manufacturers as attached her in after :-

14.9.8 The make & manufacturer shall be approved by the Accepting Officer.

**14.9.9 GUARANTEE**

14.9.9.1 Contractor shall produce guarantee for 05 (Five) years from the date of completion of work for the efficiency of the treatment (painting) done by him.

14.9.9.2 A sum equal to 2% of the completion cost of items for Acrylic Emulsion weather proof paint, Anti fungal paint shall be retained from the final bill amount towards Guarantee for Acrylic Emulsion weather proof paint which will be released after satisfactory expiry of 05 (Five) years of Guarantee period. If contractor fails to rectify the defects and contractor shall have not claim whatsoever on this account. The contractor may submit Bank Guarantee Bond or Fixed Deposit Receipt from any Nationalised Bank pledged in favour of GARRISON ENGINEER FORT KOCHI for the said sum valid for the period of 05 (Five) years, in which event no further amount will be recovered from the final bill on this account. Defect liability period under condition 46 under General Conditions of contract IAFW-2249 shall be deemed to be amended to the extent mentioned above for Acrylic emulsion weather proof paint.

**15.0 OIL BOUND DISTEMPERING**

15.1 Surface to be distempered shall be prepared all as specified in clause 15.14.2.1 of MES Schedule Part I.

15.2 Primer and distemper shall be of same manufacture.

15.3 Distempering shall be carried out all as specified in cl 15.14 of MES Schedule Part I.

15.4 Tint of the distemper shall be as decided by GE.

15.5 Distemper shall be as specified

**16.0 ACRYLIC POLYMER MODIFIED CEMENTITIOUS FLEXIBLE WATER PROOF COATING**: These shall be all as described in "BOQ" and shall be as directed by Engineer-in-Charge.

**17.0 SANITARY AND TOILET FITTINGS****17.1 General**

17.1.1 All sanitary appliances shall be of vitreous china (light coloured) and shall be comply to IS requirement. General requirements and the specific requirements mentioned in clause 18.32 to 18.39 of MES Schedule (Part I) shall be complied with. Unit rate quoted against each items of BoQ is inclusive of cost of cutting and making good to match the surrounding surfaces etc. after fixing of fittings. All sanitary ware shall be 1st quality of the respective brand/make.

**17.2 LOW LEVEL FLUSHING CISTERN.**

17.2.1 Ten liter capacity PVC low level flushing cistern bearing IS 774-1984 and valve float bearing IS 9762 fixed with standard cast iron brackets. 32 mm dia. polythene flush pipe of required length with suitable plastic coupling, nuts and other accessories all as specified in Para 18.87 of MES Schedule Part I

**17.3 HEALTH FAUCET**

**PARTICULAR SPECIFICATION (Contd.....)**

17.3.1 Health faucet shall be provided in WC and shall be of brass CP assembly with 1.5 m long flexible hose 15 mm dia. of make as approved by GE

17.4 WASH HAND BASIN. Wash hand basin shall be flat back pattern of size as shown in BoQ with waste union and perforated grating (both fittings of brass chromium plated) incl a pair of MS powder coated brackets of appropriate size.

17.5 MIRROR. Mirror shall be polished float glass as described in Sch 'A'(BOQ). These shall be of 1st class quality of size 600 X 450 mm. Mirror shall be fixed to wall with brass screws.

17.6 TOWEL RAIL :Towel rail shall be of SS of 20mm dia., 600mm long fixed with brackets & shall be fixed to walls with rawl plugs and screws.

17.7 NAHANI/ FLOOR TRAPS:Nahani/Floor traps shall be provided in situations as directed. These shall be of PVC(SWR) and conforming to relevant IS. Floor traps shall be provided with CI grating.

17.8 KITCHEN SINK: Stainless steel kitchen sinks with draining board shall conform to SSR clause No 18.100 . It shall be manufactured from Austenitic stainless steel of grade designation 304 conforming to IS 5522. Nominal thickness of sheet shall not be less than 1mm . The overall size of the sink shall be 915 mm x 460 mm, bowl size 410 mm x 330 mm x 160 mm , Type C, single bowl single drainer right or left hand with 40 mm dia CP waste coupling with grating and connected with 32 mm dia PVC waste pipe . The stainless steel sink and draining board shall be supported (counter sunk) on RCC platform having suitable cut for the sink. The Stainless steel sink withdraining board shall be from one of the manufacturer from the list.

17.9. SOAP DISH

17.9.1 Toilet paper holder / Soap dish shall be of CP brass or vitreous china as specified and of size / design as approved by the Engineer-in-Charge. It shall be fixed in position by means of CP brass screws and rawl plugs embedded in the wall.

17.10 BIB TAPS, PILLAR TAPS,WALL MIXTURE,BALL VALVE AND STOP/ ANGLE COCKS: Bib taps, pillar taps and stop/angle cocks shall be as specified in the schedule conforming to relevant IS.

17.11 VITREOUS CHINA SANITARY APPLIANCES: All Sanitary fittings (except flushing cistern) shall be of vitreous china, first quality conforming to IS 2556 (Part I)-1994 and shall be ISI marked. The samples of sanitary fittings, fixing accessories shall be approved by the GE before procurement for incorporation in the work. Sanitary fittings shall be of one of the manufacturers as specified in List of Manufacturers, conforming to the catalogue numbers where referred to in these tender documents. ISI marked fittings of these brands shall be provided instead of those without ISI marking.

17.12 The contractor shall employ qualified & licensed plumber for supervision of installation & testing of the sanitary fitting & plumbing.

**18.0 PVC (SWR) PIPES & FITTINGS**

18.1 These pipes & fittings shall be PVC (SWR), as specified in clause 18.27 of MES Sch Part I and be of make approved by GE.

18.2 PVC pipes and fittings shall be jointed with rubber ring joints as specified in clause 18.52.3 of MES Schedule Part I.

18.3 Pipes shall be laid all as specified in clause 18.69 of MES Sch Part I.

18.4 Bedding and haunching of pipes shall be as specified in cl 18.68 of MES Sch Part I.

18.5 PVC (SWR) pipes and fittings shall be UPVC (SWR) and conform to IS 13592 – 1992 as under:

Type „A“ – For use in ventilation pipe work and rain water application.

Type „B“ – For use in soil and waste discharge systems.

**19.0 ANTI-TERMITE**

**PARTICULAR SPECIFICATION (Contd.....)**

19.1 Anti-termite treatment shall be carried out shall as specified in BOQ and MES Schedule Part I .Anti-termite treatment shall be got done through approved specialist agency which is a member of Indian Pest Control Association having valid license as per clause 13 of Insecticides act 1968. Person employed to do the anti-termite treatment shall be qualified as per Rule 10 of the rules framed under the Inspection Rules 1971. The specialist agency may be any one from the list who is located and active in the area with prior approval of GE. Anti-termite treatment shall be carried out with emulsion of the chemical CHLOROPHYROPHOS 20 EC conforming to IS-8944 or IMIDACLOPRID-30.50 SE conforming to IS-16131 provided they are having BIS approved CML No. allotted to the product purchased from the manufacturers or his authorized agents. Purchase vouchers shall be produced before the GE for verification and defaced against this contract. Contractors will not be allowed to use the chemical "Aldrin, heptachlor, lindane and chlordane" in view of ban imposed by the Government. The chemical used for anti termite treatment shall be treated as proprietary item and he quantity procured in sealed containers shall be recorded in Measurement book indicating make and paid voucher duly singed by the Engineer-in-Charge and Contractor.The chemical shall be procured only from manufacturer's authorized agent/dealers.Chemical brought to site in sealed containers bearing ISI certification marks shall only be permitted to be used. The contractor shall furnish a security deposit towards the guarantee of anti termite treatment for a period of 10 years. This amount will be calculated as per the scales laid down by MES for calculating individual security on the amount of anti termite treatment at contract rates. The contractor may be furnished fixed deposits in the name of GE from any banks and this FDR will be released only after successful completion of guarantee period.

20.0 **ALUMINIUM SNAP GRID FRAME WORK** All Aluminium snap grid frame works shall be carried out all as specified in clause 10.38 of SSR 2009 Part-I specification

21.0 **PRECAST INTERLOCKING PAVER BLOCKS**

21.1 Precast concrete Paver blocks shall conform to IS 15658:2006, Specification for Precast concrete blocks for paving. Paver blocks shall be sound and free from cracks or other visual defects. The tolerance on length or breadth of paver blocks shall be +2mm and tolerance on thickness of tiles shall be +3mm. Water absorption shall not be more than 6 percent by mass. Shapes shall be triangular, Zigzag, Hexagon or other shape as directed by GE. Colour of paver blocks shall be as decided by GE. Thickness and grade of concrete of paver blocks is as indicated in Schedule of works

**22.0 WATER PROOFING TREATMENT**

22.1 WATER PROOFING TREATMENT TO RCC ROOF SLAB

22.2. Water proofing treatment to RCC roof slabs shall be carried out all as specified in Sch 'A' and directed by Engr-in-Charge.

**22.3 GUARANTEE:**

The contractor shall furnish a guarantee for a period of 10 years for the effectiveness of all water proofing treatment carried out as specified here in before for the buildings catered under Sch 'A' Part I before completion of work and the same shall be reflected in the

completion certificate. The contractor shall furnish a guarantee in favour of GE for the efficiency of the water proofing treatment during the guarantee period . Security deposit towards the guarantee for all water proofing treatment work executed under this contract shall be retained from the payment due to contractor. Amount of Security deposit towards the guarantee , shall be calculated as per the scales laid down by MES for calculating individual Security Deposit on the amount of water proofing treatment at contract rates for the buildings described under Sch 'A' Part I. This amount shall be released after successful expiry of the guarantee period. The contractor may, however, furnish a fixed deposit receipt in lieu, from a Scheduled Bank pledged in favour of GE.

22.0 **ACCEPTANCE OF MATERIALS:-** The order of precedence for acceptance of materials to be incorporated in this work shall be as under :-

(a) Materials with ISI marking.

**PARTICULAR SPECIFICATION (Contd.....)**

(b) In case of non-manufacture of ISI marked materials conforming to relevant IS (latest edition).

(c) In case of non-availability of materials of (a) & (b) above, the best available Materials in the market as defined in Clause No.1.6 of SSR 2009 Part I and approved by AGE(I)/GE.

**23 DEMOLITION/DISMANTLING.**

23.1 Contractor particular attention is drawn to MES Schedule Part I Section 21 and General condition of contract IAFW-2249, condition 47.

23.2 Every precaution shall be taken by the contractor to prevent damage to any adjacent structures which are to be left intact. Any damage caused to the structures due to contractor's carelessness and negligence shall be made good by him at his own expense.

He shall also take precautions, if necessary to keep clear dust nuisance etc, while carrying out demolition. The rubbish is to be sprinkled with water to prevent dust arising and proper screens and protection provided to the satisfaction of the Engineer-in-Charge if so desired by the Engineer-in-Charge.

23.3 The contractor is advised to visit the building to which addition/alteration to be carried out and get himself acquainted with the nature and scope of work before submission of his tender. He shall deemed to have full knowledge of all relevant details of building/structures, the size and conditions of materials existing in the building/structures etc whether he was informed or not. No claim whatsoever will be entertained at a later stage in this account.

23.4 Before submitting completion report for each work, it is the responsibility of the contractor to remove the serviceable demolished/dismantled materials to MES store yard and unserviceable demolition/dismantled materials disposed off at site as directed by the Engineer-in-Charge.

24.0 Site plan. Site plan is not attached alongwith the tender documents. However the same shall be referred by the Contractor at GE Fort Kochi during office hours.

**25.0 RECORD OF MATERIALS**

25.1 Original Voucher/invoices of all materials required for execution of work shall be produced by the contractor before claiming cost of materials lying at site in the RAR payment.

25.2 The Vouchers/invoices shall be from the manufacturers and/or from their authorised agents for full quantity of respective items required for the work under this contract. These Vouchers shall be defaced, dated and initialed by the Engineer-in-Charge giving the Contract Number and Name of Work and certified true copy of each such vouchers signed both by the Engineer-in-Charge and Contractor shall also be kept on MES record.

Signature of Contractor  
Dated:

AGE (Contracts)  
For Accepting Officer



PARTICULAR SPECIFICATION (CONTD.....)

LIST OF MANUFACTURERS

1. The maker of various items of materials are as under. The contractor shall ensure that the items of these makes only are incorporated in the work. The items required for this work shall only be considered and the balance shall be treated as cancelled.

Sl No	Description of item	Name of manufacturer
1	2	3
1.	PCC / Plain or Chequered terrazzo tiles / Interlocking Paver Blocks	Nitco / Southern Mosaic Flooring, Perumbavoor / Delux Mosaic Flooring, Mulanthuruthy / Mehtab Tiles / Ultra Tiles,Planet green.
2.	Cement concrete tiles / PCC Cable Cover	Eurocon / Sirex / Scorpio / Ultra Tiles / Mehtab Tiles / Vaishnavi Developers
3.	Ceramic tiles (Non Skid / Glazed)	Regency / HR Johnson / Spartek / Somani / Nitco / Diamond / Kajaria / Bell
4.	Vitrified Tiles	HR Johnson / Kajaria / Nitco / Murdeshwar
5.	Paints and polish	Asian Paint / Shalimar Jenson and Nicholson / Goodlass Nerolac/ Berger Paints
6.	Plastic emulsion paint	Asian/ Shalimar / Jenson and Nicholson / Goodlass Nerolac / Berger Paints
7.	Distemper oil emulsion	Asian paints / Shalimar/ Jenson & Nicholson / Goddlass Nerolac / Berger paints.
8.	Cement Based Paints	Kilick Nixon / Asian paints/ Shalimar / Snowcem India Ltd / Berger / ICI
9.	Oil Bound distemper	Asian Paints/Shalimar/Jenson and Nicholson/Berger
10.	Acrylic emulsion paint (Antifungal)	Snowcem Paint / Asian Paints / ICI /Berger
11.	Sanitary Fittings and fixtures	Parryware / Hindware / Neycer / Cera / Jaquar
12.	Stainless steel sink and draining board	Pheonix / Nirali / Diamond / Blue Star sanitary Industries Pvt Ltd
13.	PVC Flushing Cistern	Parryware / Commander / Hindware / Precision Products
14.	Plastic WC Seat Cover	Commander / Supreme / Parryware / Cera
15.	Mirrors	Atul / Koohinoor / Gold Fish / Modiguard / Saint Gobian / Swastik
16.	Particle Board / Pre laminated particle board	Novopan/Kitply /Green Ply / Ecoboard / Archidlam
17.	Plywood / Veneered plywood	Indian Plywood (Anchor) / Kit Ply / Century
18.	MDF Board	Nuwud / Duratuff/ Bajaj / Green Ply Industries Ltd
19.	Gypsum Board	India Gypsum

**PARTICULAR SPECIFICATION (CONTD.....)**

Sl No	Description of item	Name of manufacturer
20.	Perforated ceiling board	Indian Plywood Co (Anchor) / Minwool Rock Fibres Ltd
21	Aluminium sheet	Jindal / Hindalco / Indalco
22.	Laminated Sheet	Fomica / Green Lam / Marino
23.	Water proofing compound	Impermo / CICO / Accoproof / Fosroc / Pidilite / Scott No 1
24.	Builders Hardware	Crown / Jyothi / Argent / Ajith
25.	Wood primer pink	Asian Paint/ Shalimar/Jenson & Nicholson Goodlass Nerolac
26.	PTMT Fittings / PVC Bip Tap / Pillar Tap / Angle valve / Stop Valve / PVC Float Valve	Prayog / Shakti Enterprises / Precision Products
27.	Control Film	Garware / Modi / Surya
28.	Lime	Suryacem / Birla White / Metro
29.	Hydraulic Door Closure	Dyna / Everite
30.	Red oxide primer	Asian paints (Structural Steel Primer) Jenson & Nicholson (pink wood primer) Goodlass Nerolac (Nerolac zinc chromate primer British paints.
31.	Plain or Corrugated steel sheets	Tata / Jindal / Sail / Nippon / Dindo / Llyod
32.	AC sheets	Charminar / Everest / Eternit Everest Ltd / UP Asbestos Ltd, Lucknow / Ramco
33.	Pre-painted Galvalume sheet	Lloyd / Multicolor / Japan Metal Building system / New life steel structure/ Jindal /TATA Blue scape
34.	Steel Window / Ventilator (As per IS 1038-1983)	M/s AGEW steel Manufacturing Pvt Ltd, Ahemdabad / M/s Deccan Structural System, Banglore / M/s Cozy Homes, Banglore / M/s Madhu Industries, Banglore / M/s Mangati Brothers Guindy, Chennai / M/s Bharat Industries, Mumbai / M/s Deko Ind Works, Mumbai / M/s Dohia Steel Works, Mumbai / M/s Mohata Engg and Const Co, Bikaner
35.	Factory Made Panel / Flush door Shutters	M/s International Timber Corporation, Valsad / M/s Barar Timber Industries Pvt Ltd, Mumbai / M/s Prince Timber, Jamnagar / M/s Standard Doors Pvt Ltd, Hyderabad / M/s Aditi Wood Industries Baroda / M/s Munkua Timber Industries, Bhuj / M/s Indian Wood & Wood Product, Mangalore / M/s Swastik Brand / M/s Mysore Wood Products / M/s Northern doors Pvt Ltd / M/s Parshatam Kokul Das Plywood Co, Kannanore (Kerala) / M/s Western India Plywoods Ltd, Kannanore (Kerala) / M/s Kuty Flush Door Co Pvt Ltd, Madras / M/s Standard Door Secunderabad / M/s Shankara RamchandraBro, Pune / Indian Timber Products Pvt Ltd.

Contd...../-

PARTICULAR SPECIFICATION (CONTD.....)

SI No	Description of item	Name of manufacturer
36.	Factory made shutters	Kitply flush doors and Furniture Co Madras / India wood & wood products, Mangalore / Wood Industries, Hyderabad. Standard Doors Hyderabad / Timber Technics Hyderabad / M/s Kutty flush door and furniture Madras / Indian Timber Products Pvt Ltd.
37.	FRP Door	Festel Tanks Pvt Ltd / Rogins Fibre Glass /Poly cast Industries Ltd / Fenesta Building Systems / Quality Décor
38.	PVC Door / ceiling / Partition Board	Rajshri / Sintex / Duroplast / M/s Madhu Industries
39.	MP roof tiles / ridge tiles	M/s Common Wealth Trust India Ltd / M/s Regal Tiles / M/s Thomas Stephen / M/s Cherupushpam / M/S Kalyanam Tiles Co, Pudukkad, Trichur / M/s Sacred Heart Tile works, Trichur / M/s ST Joseph Clay Works, Kalady
40.	HDPE Water tank	Sintex/ Aquatech / Infra Plastic
41.	PVC pipe / CPCV pipe / PPRC pipe	Supreme / Finolex / prince / SFMC
42	Cast Iron Soil / waste / vent pipe (Sand cast)	Neco/Electro steel/Keshoram
43	RCC class NP2 Pipe, Hume pipe / Septic tanks	Aswathy Spun pipes/Thuluvananickal
44	Pressed Steel frames for doors	Deccan structural Pvt Ltd Bangalore / TI Engineering Madras / Nagarjuna Door pressed steel Ltd Hyderabad / Rola Door Amalgamated, Madras / Madhu Industries
45	Road reflectors	SARDE/ GANM (I) IMPEX/ PRIMO SAFETY SOLUTIONS/ ACE POLYMERS
46	Metallic floor Hardner	Fosroc / Pidilite / Ironite

Signature of Contractor  
Date :

AGE (Contracts)  
for Accepting officer

**Appendix ‘D’**

(On Stamp Paper of value for Rs 100/-)

**FORM OF GUARANTEE**  
**CERTIFICATE**

CA No :  
Name of Work :  
Date of commencement :  
Date of completion :

We, the M/S\_\_\_\_\_ do here by undertake that the external treatment of antifungal paint carried out to the buildings included in the above Contract is guaranteed for a period of FIVE years from the certified date of completion of the work. If during this guarantee period of FIVE years, any defect is noticed in the work carried out by us, the same will be rectified by us without any extra cost to the department to the entire satisfaction of the Garrison Engineer Fort Kochi at our own risk and cost.

Date:\_\_\_\_\_

M/S\_\_\_\_\_

Appendix‘E’

FORM OF GUARANTEE CERTIFICATE

CA No :  
Name of Work :  
Date of commencement :  
Date of completion :

We, the M/S\_\_\_\_\_ do hereby undertake that the anti-termite treatment carried out to the buildings included in the above contract is guaranteed for a period of ten years from the certified date of completion of the work. If during this guarantee period of ten years, any defect is noticed in the work carried out by us, the same will be rectified by us without any extra cost to the department to the entire satisfaction of the Garrison Engineer Fort Kochi at our own risk and cost.

Date:\_\_\_ M/S\_\_\_

RECOVERY CHARGES FOR TESTING OF MATERIALS

Legend :- A-Site Lab		B-Zonal Lab		C- National Test House/SEMT/ Govt Approved lab /Engg College			Annexure 'A'	
Sel No	Materials	Test	Method of Testing	Frequencies of Test		Level of Test	Rate in Rs.	Remarks
1	2	3	4	5		6	7	8
1	Bricks			As per IS 5454 as given under		Perissible % of defective Bricks		Check for visual and dimensional characteristic shall also be allowed out as per IS 5454
				Lot Size	Sample Size	0		
				1001 to 10000	5	0		
				10001 to 35000	10	1		
				35001 to 50000	15			
		(i) Compressive Strength	IS - 3495 (Part -I)			A	200.00	
		(ii) Water Absorption	IS - 3495 (Part -I)			A	200.00	
		(iii) Efflorescence	- do - (Part-II)			B	200.00	

RECOVERY CHARGES FOR TESTING OF MATERIALS(Contd/...)							
2	Coarse Aggregate	(i) Sieve Analysis	IS-2386 (Part-I)	One Test for every 15 cum of Aggregate or part thereof	A	600.00	
		(ii) Flakiness /indices	- do -	One Test for every 15 cum of Aggregate or part thereof	A	400.00	
		(iii) Estimation of deleterious materials	- do -	One test for every 100 cum of Aggregate or part thereof	A	120.00	
		(iv) Organic Impurities	- do -	One Test per source of supply	C	400.00	
		(v) Moisture Content	IS-2386 (Part-II)	One Test per source of supply	B	350.00	
		(vi) Specific Gravity	- do - (Part-III)	One Test per source of supply	B	600.00	
		(vii) Elangation index	- do - (Part-III)	One Test per source of supply	B	400.00	
		(viii) Abrasion Value	- do - (Part-III)	One Test per source of supply	B	600.00	
		(ix) Crushing Value	- do - (Part-III)	One Test per source of supply	B	400.00	
		(x) Water absorption test	- do - (Part-III)	One Test per source of supply	B	400.00	
3	Fine Aggregate	(i) Sieve Analysis	(IS-2386) (Part-I)	(I) One Test for every 15 cum of FA or part when brought to site	A	600.00	
		(ii) Test for clay silt impurities	- do -	(I) One Test for every 15 cum of FA or part when brought to site	A	400.00	
		(iii) Specific Gravity	- do -	One for each source of supply	B	600.00	
		(iv) Moisture Content	- do - (Part-III)	Regularly as required subject to 2 tests/day when being used	A	300.00	
		(v) Test for Organic Impurities	- do - (Part-III)	One Test per source of supply	C	400.00	
		(vi) Water absorption	- do - (Part-III)	One Test per source of supply	B	225.00	

Contd/.....

RECOVERY CHARGES FOR TESTING OF MATERIALS(Contd/...)

Sel No	Materials	Test	Method of Testing	Frequencies of Test		Level of Test	Rate in Rs.	Remarks
1	2	3	4	5		6	7.00	8
4	Cement	(i) Setting Time	IS-4031 (Latest Edition)	Once for each Consignment		B	500.00	
		(ii) Soundness	IS-4031 (Latest Edition)	Once for each Consignment		B	500.00	
		(iii) Compressive Strength	IS-4031 (Latest Edition)	Once for each Consignment		B	1000.00	
		(iv) Fineness	IS-4031 (Latest Edition)	Once for each Consignment		B	500.00	
5	Structural Concrete (M - 15 and above)	(i) Slump Test or Compacting Factor Test of Vee Bee Time	IS-1199	The minimum frequency of sampling of concrete of each grade shall be as under		A	180.00	(i) Random sampling shall be carried out to cover all mixing units
				<u>Qty of Concrete in the work</u>	<u>No of samples</u>			
				1-5 Cum	1			
				6-15 Cum	2			
								(ii) Refer IS-456-2000, Clause 1 & 2 for frequency of test
				16-30 Cum	3			
				31-50 Cum	4			
				51 and above	4+1for each additional 50 Cum or part thereof			
		(ii) Compressive Strength	IS-516			B	450.00	



		RECOVERY CHARGES FOR TESTING OF MATERIALS(Contd/...)						
6	Steel	(i) Tensile test				B	1800.00*	* Test for 01 Set of 03 Nos piece
		(ii) Bend test				B	1500.00*	* Test for 01 Set of 03 Nos piece
7	(a) PCC Block for walling (Hollow block)	(i) Compressive Strength	IS-2185 (Appx 'B')	8 Block out of total of 20		A	60.00	* Sample: 20 Blocks from consignemnt of every 5000 blocks or part thereof. Balance 03 blocks after test (i) to (v) shall be kept for retesting of drying shrinkage, if need arise.
		(ii) Water Absorption	- do -	3 Block out of total of 20		B	200.00	
		(iii) Density	- do - (Appa 'A')	3 Block out of total of 20		B	180.00	
		(iv) Drying shrinkage	- do -	3 Block out of total of 20		C	120.00	
		(v) Moisture movement	- do -	Block used for drying shrinkage test shall be used for this test		C	120.00	

Sel No	Materials	Test	Method of Testing	Frequencies of Test		Level of Test	Rate in Rs.	Remarks
1	2	3	4	5		6	7.00	8
	(b) PCC Solid block for walling *	(i) Compressive Strength	IS-2185 (Appa 'A')	8 Block out of total of 20		A	60.00	* Sample: 20 Blocks from consignment of every 5000 blocks or part thereof. Balance 03 blocks after test (i) to (v) shall be kept for retesting of drying shrinkage, if need arise.
		(ii) Water Absorption	- do -	3 Blocks out of total 20		B	200.00	These blocks to be checked for dimension and weight.
		(iii) Density	- do -	3 Blocks out of total 20		B	180.00	
		(iv) Drying shrinkage	- do -	3 Blocks out of total 20		C	120.00	
		(v) Moisture movement	- do -	Block used for drying shrinkage test shall be used for this test.		C	120.00	
8	Cement flooring tiles / terrazzo tiles	(i) Water Absorption	IS-1237 1980 (Appx 'D')	6 tiles out of total of 18		B	180.00	
		(ii) Wet transverse strength	- do - (Appx 'E')	6 tiles out of total of 18		B	144.00	
		(iii) Resistance to wear	-do - (Appx 'F')	6 tiles out of total of 18		C	540.00	Sample 18 tiles from each source of supply selected at random
9	Mangalore pattern roofing tiles	(i) Water Absorption	IS-654 (Appx 'A')	6 tiles out of total 32		B	216.00	Sample: 32 tiles from each consignemnt of ever 3000 tiles or part thereof. Thewse tiles shall be checked for dimension & weight.
		(ii) Breaking load	IS-654 (Appx 'C')	- do -		B	180.00	

RECOVERY CHARGES FOR TESTING OF MATERIALS(Contd/...)								
10	Timber	(i) Specific Gravity and weight	IS-1708-1960	Minimum 3 samples from a lot of 4 cubic meters or 250 pieces of seasoned timber.		B	200.00	
		(ii) Moisture content	IS-1708- 1960			B	250.00	
11	Water for construction purpose	(i) Test for acidity	IS-456 & 3025	Once at the stage of approval		B	240.00	Also refer Clause 4.3 of IS-456 & its subsequent sub clauses regarding suitability of water.
		(ii) Test for alkalinity	IS-456 & 3025			B	240.00	
		(iii) Test for Solid contents	IS-456 & 3025			C	300.00	

CA NO:- GE/FK/ 15 OF 2021-22				RECOVERY CHARGES FOR TESTING OF MATERIALS(Contd/...)			SI Page No :132	
Sel No	Materials	Test	Method of Testing	Frequencies of Test		Level of Test	Rate in Rs.	Remarks
1	2	3	4	5		6	7.00	8
12	Welding of Steel work	Visual Inspection Test	IS-822-1970 Clause 7.1	100 % by visual inspection		C	360.00	Specialised tests their method and frequency to be decided on consideration of their importance by the Accepting Officer
13	Timber panelled and glazed door (wooden shutters) (Including factory made shutters)			Frequency of sampling from each lot shall be as under:-				
				<u>Lot Size</u>	<u>Sample</u>			
				20 to 50	05			
				51 to 100	08			
				101 to 150	13			
				151 to 300	20			
				301 to 500	32			
				501 to 1000	50			
				1001 and above	80			
		(a) Dimensions, size, workmanship and finish	IS-1003-1977 (Part-I)			A	180.00	
		(b) Strength test		From each lot 5 % of the factory made shutters shall be tested for strength test.		Manufacturer		
		(i) Slamming	IS-1303-1990					
		(ii) Impact Indication	- do -					
		(iii) Shock resistance	- do -					
		(iv) Edge loading	- do -					

RECOVERY CHARGES FOR TESTING OF MATERIALS(Contd/...)								
14	Ply Wood	(a) Moisture Contents	IS-1734 (Part-VI)	6 Test pieces from each of the board selected		B	240.00	
		(b) Water resistance	IS-1734 (Part-I)	As per Table-I shall be subjected to tests.		C	350.00	
15	Wood particles board (medium density ) IS-3087-1988	(a) Density	IS-2380-1977	Three test specimen each sample (size-150mmx75mm)		A	60.00	Sampling shall be as per IS-7838 1983 Clause 2 with moisture method.
		(b) Moisture Content	- do -	- do -		With Moisture Meter A & B	60.00	
		(c) Water absorption	- do - (Part 16)	- do - (size-300mmx300mm)		A	60.00	
		(d) Swelling to surface absorption	- do - (Part 17)	- do - (size-125mmx100mm)		A	60.00	
		(e) Swelling in water	- do -	- do - (size-200mmx100mm)		A	60.00	
		(f) Modulus of rupture	- do - (Part 4)	Three test specimen as per IS-2380		B	90.00	
		(h) Modulus of rupture	- do - (Part 14)	- do - as per IS-2380		C	120.00	

\_\_\_\_\_  
Signature of the Contractor

AGE ( Contracts)  
for Accepting Officer

