

MILITARY ENGINEER SERVICES
COMMANDER WORKS ENGINEER
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NAME OF WORK: PROVN OF FENCING OF GRAZING GROUND WITH ENTRANCE GATE FOR ANIMALS BETWEEN MULE LINE OF 883 AT BN ASC AND OFFICERS COLONY BW LINES UNDER GE (EAST) BAREILLY

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* These documents are not attached with the tender and can be seen in the office of CWE Bareilly and GE (E) Bareilly during working hours on any working day.

Signature of contractor
Dated.....

(Hitesh Kumar)
DCWE (Contracts)
for Accepting Officer

Contd.....

Tele Mily: 6044

Registered

Head quarters
Commander Works Engineers
Military Engineer Services
Station Road,
Bareilly Cantt.-243001

8200/B/ 552/ /E8

May 2018

Shri/ S'Shri.....

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TENDER FOR ITEM RATE CONTRACT FOR PROVN OF FENCING OF GRAZING GROUND WITH ENTRANCE GATE FOR ANIMALS BETWEEN MULE LINE OF 883 AT BN ASC AND OFFICERS COLONY BW LINES UNDER GE (EAST) BAREILLY

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. Bids will be received online by ACCEPTING OFFICER upto 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 due date and time fixed for opening in the presence of tenderers/bidders or their authorized representatives, who have uploaded their quotation bid and who wish to be present at the time of opening the bids.

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 piece meal points and forward your points duly consolidated before due date viz Bid Submission Start Date .

5. Unenlisted contracts 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 **CWE BAREILLY** within 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. (a) Contractor having not executed standing security bond and standing security deposit in any MES formation shall uploaded 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 and time fixed for this purpose. In case of failure to abide by any of these two requirements, the finance bid will not be opened.

(b) Contractor having not executed standing security bond and standing security deposit in any MES formation would be required to deposit individual security deposit on acceptance of tender which will be calculated with reference to the tender cost as per scales laid down by MES for calculation of "EARNEST MONEY" enhanced by 25 % subject to maximum of Rs. 1875000/- (Rupees Eighteen Lakhs seventy five thousand only).

Contd.....

7. Enlisted contractors in 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 **CWE BAREILLY** before date and time fixed for this purpose.

8. The contractor must ensure that the tender/bid on the proper form is uploaded in time as the Accepting Officer will take no cognizance of any quotations/ offer received in any other electronic or physical form like email/fax/by hand/through post from tenderer/bidder even if they are received in time.

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.

10. General Conditions of Contracts (IAFW-2249) (1989 Print) and errata and amendments thereto, Schedule of minimum fair wages and MES SSR (Part-I & II) are not enclosed with these documents. These are available for perusal in this office.

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

Yours faithfully

DCWE (Contracts)
For Accepting officer

Signature of contractor
Dated: -----

Encls:- Tender documents and instructions to tenderer

Contd.....

INSTRUCTIONS FOR COMPLETION OF TENDER DOCUMENTS TO BE COMPLIED WITH BY THE TENDERER(S)

1. **Earnest Money:-** Contractors 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 the Notice of Tender in one of the following forms, along with their tender:-

(i)	Deposit at Call Receipt from a Scheduled Bank in favour of GE(E) BAREILLY
(ii)	Receipted Treasury Challan , the amount being credited to the Revenue Deposit of GE(E) BAREILLY

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 tenderer/ bidder want 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 **GE(E) BAREILLY**.

NOTES:- Earnest Money Deposit (EMD) in the form of Cheque / Bank Guarantee etc, will not be accepted. NON SUBMISSION OF EARNEST MONEY (EMD) (Scanned copy alongwith Technical bid & Hard copy before the date and time fixed for opening of BoQ) will render the bid disqualified for opening of cover-II (finance bid).

2. **SECURITY DEPOSIT:-** In case the tender submitted by such contractor is accepted , the contractor will be required to lodge with the Accepting Officer, "ISD (Individual Security Deposit)" calculated with reference to a maximum of Rs. **18,75,000.00(See condition 22 of IAFW-2249)**.

3. **CONTRACTORS ENLISTED WITH CECC AND WHO HAVE EXECUTED SSB AND DEPOSITED SSD BUT OF A LOWER CLASS.**

In case the tender/bid is accepted, the amount of 'Additional Security Deposit' will be as notified by the Accepting Officer. This amount shall be the difference between the individual security deposit calculated with reference to the 'TENDERED COST' and The 'Standing Security Deposit' lodged. The amount is required to be lodged within 30 (Thirty) days of the receipt by the contractor of notification of acceptance of tender/bid, failing which the sum shall be recovered from the 1st RAR payment or from the Final Bill. (Refer condition 22 of IAFW-2249).

4. **CONTRACTORS ENLISTED IN MES FORMATIONS OTHER THAN CECC AND CWE BAREILLY:-**Any Contractor, borne on the approved list of contractors of any MES formation and who has executed a Standing Security Bond, may be permitted to tender for works under any other MES formation, without furnishing Earnest Money alongwith his tender. If the tender submitted by such a Contractor is proposed to be accepted, the Contractor will be required to lodge with the Principal Controller or Controller of Defence Accounts concerned, the amount of "Individual Security Deposit", calculated as per scale laid down hereinabove within 30 days of receipt by him of notification of acceptance of his tender failing which this sums shall be recovered from the first RAR payment or from the first final bill. In the case of Term/Running Contracts if the amount from the first final bill is not adequate, the remaining sum shall be recovered from the subsequent bill (s) of the Contractor in full. However, in cases, where any payment is made to the Contractor within thirty days of the receipt by him of notification of acceptance of tender, the amount of Security Deposit shall be recovered from such payment.

The amount of "Individual Security Deposit " for the work, in case the tender is accepted indicate that the "ISD" would be the amount, calculated with reference to the Tendered Cost, as per the scale laid down for calculation of Earnest Money enhanced by 25 % subject to a maximum of Rs. **1875000.00**.

5. **GENERAL INSTRUCTIONS FOR COMPLIANCE:**

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

5.2 Bids shall be uploaded on '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.

Contd.....

INSTRUCTIONS FOR COMPLETION OF TENDER DOCUMENTS TO BE COMPLIED WITH BY THE TENDERER(S) (Contd..)

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 tenderer/ 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 the 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 of the documents confirming of such authority shall be attached with the tender/bid in 'pdf' form, If not submitted earlier. The person uploading the bid on behalf of another partner(s) or on behalf of the firm or company using his DSC shall upload with the tender/bid 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 and 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 partner (s) 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 and 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 and time fixed for the same.

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 and 25 of IAFW-2249 (General conditions of contracts).

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

5.13 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 defproc.gov.in site only before the bid closing time and date.

INSTRUCTIONS FOR COMPLETION OF TENDER DOCUMENTS TO BE COMPLIED WITH BY THE TENDERER(S) (Contd..)**6. REVOKATION/REVISION OF OFFER UPWARD/ OFFERING VOLUNTARY REDUCTION, AFTER CLOSING OF BID SUBMISSION DATE & TIME**

In the event of lowest tenderer/bidder revoking his offer or revising his rates upward/offering voluntary reduction, after closing of bid submission date and 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/bidder 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 tender/bidder 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 in the market which the tenderer/bidder may make use of.

7.3 The tenderer's bidder's attention is drawn to special condition of the tender regarding preparation of the detailed network analysis and time schedule for the work and his liability for employing sufficient resources to adhere to this schedule. Any inability on the part of the tenderer/bidder in using the technique will be taken as his technical inefficiency and will affect his class of enlistment and future prospect/ invitation to tenders for future works.

7.4 Department may issue amendments/errata 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 all the errata/amendments/corrigendum, if any, issued by the department.

8. These instructions shall form part of the contract documents.

Signature of contractor
Dated

DCWE (Contracts)
For Accepting Officer

Contd.....

MILITARY ENGINEER SERVICES
NOTICE OF TENDER
Applicable for measurement contracts

1. A tender is invited for the work as mentioned in Appendix 'A' to this NOTICE INVITING TENDER (NIT)
2. The work is estimated to cost as indicated in aforesaid Appendix 'A'. This estimate, however, is not a guarantee and is merely given as a rough guide and if the work cost more or less, a tenderer/bidder will have no claim on that account. The tender shall be based on as mentioned as aforesaid Appendix 'A'.
3. The work is to be completed within the period as indicated in aforesaid Appendix 'A' in accordance with the phasing, if any, indicated in the tender from the date of handing over site, which will be on or about two weeks after the date of acceptance of tender.
4. Normally contractors whose names are on the MES approved list for the area in which the work lies, and within whose financial category the estimated amount would fall, may tender/bid but in case of term contracts, contractors of categories SS to E may tender/bid. In case, where the tender amount is in excess of the financial limit of the contractor and the Accepting officer decides to accept the tender/bid, in which event the tenderer/bidder would be required to lodge additional security deposit as notified by the Accepting Officer in term of conditions of contract. Contractors whose names are on the MES approved list of any MES formation and who have deposited standing security and have executed standing security bond may also tender/bid without depositing Earnest money alongwith the tender.bid and if the tender/bid submitted by such a tenderer/bidder is accepted, the contractor will be required to lodge with the Controller of Defense Accounts concerned the amount of 'Individual security deposit' within thirty days of the receipt by him of notification of acceptance of his tender/bid, failing which this sum will be recovered from 1st RAR payment or from the first final bill. In the case of term/running contracts, remaining sum shall be recovered from subsequent bill (s) of the contractor. Not more than one tender/bid shall be submitted /uploaded by one contractor or one firm of contractors. Under no circumstances will a father and his son (s) or other close relations who have business dealing with one another be allowed to tender/bid for the same contract as separate competitors. A breach of this condition will render the tenders/bids of both the parties liable for rejections.
5. The office of **COMMANDER WORKS ENGINEER BAREILLY** will be the Accepting Officer here in after referred to as such for purpose of the contract.
6. The Technical Bid and Financial Bid (Cover-I and Cover-2) shall be uploaded by the tenderer/bidder on or before the date and time mentioned in NIT. A scanned copy of DD with enlistment details/documents shall be uploaded as packet 1/cover-1 ('T' bid) of the tender/bid on e-tendering portal. DD is refundable in case T bid is not accepted resulting in non-opening of 'Q' bid. The applicant contractor shall bear the cost of bank charges for procuring and encasing the DD and shall not have any claim from Government whatsoever on this account.
 - 6.1 Tender form and conditions of contract and other necessary documents shall be available on defproc.gov.in/ eprocure.gov.in site for download and shall form part of contract agreement in case the tender/bid accepted.
 - 6.2 In case of contractor who has not executed the Standing Security Bond, the Cover-I shall be accompanied with by Earnest Money of amount as mentioned in Appendix 'A' in the form of deposit at call receipt in favour of **GE (Concerned)** by a scheduled bank or in receipted treasury Challan the amount being credited to the revenue deposit of the **GE (Concerned)** .

MILITARY ENGINEER SERVICES
NOTICE OF TENDER (Contd....)
Applicable for measurement contracts

6.3 A Contractor who is not enlisted for the area in which the work lies by whose name is in the MES approved list of any MES formation and who has deposited standing security and executed standing security Bond may bid without depositing earnest money alongwith the tender, but if the Accepting officer accepts the tender/bid, the contractor will be required to lodge with the Controller of Defence Account concerned the amount of 'Individual security deposit' within thirty days of the receipt by him of notification of acceptance of his tender/bid, failing which this sum will be recovered from 1st RAR payment or from the first final bill. In the case of term/ running contracts, remaining sum shall be recovered from subsequent bill (s) of the contractor.

6.4 A contractor who has executed standing security bond but not corresponding to the appropriate class as mentioned above, shall lodge with the Accepting Officer, Additional Security Deposit as notified by the Accepting Officer within thirty days of the receipt of his notification of acceptance of his tender/bid, failing which this sum will be recovered from the first RAR payment or from the first final bill. In the case of term/running contracts, remaining sum shall be recovered from subsequent bill (s) of the contractor. However, in case where any payment is made to the contractor within thirty days of the receipt by him of notification of acceptance of tender/bid. The amount of additional security deposit shall be recovered from such payment.

6.5 The **GE(Concerned)** will return the Earnest Money wherever applicable to all unsuccessful tenderers/bidders by endorsing an authority on the deposit-at-call receipt for its refund, on production by the tenderer, bidder a certificate of the Accepting Officer that a bonafide tender/bid was received and all documents were returned.

6.6 The **GE(Concerned)** will either return the Earnest money to the successful tenderer/bidder by endorsing an authority on the deposit-at-call receipt for its refund on receipt of an appropriate amount of Security Deposit or will retain the same in part or full on account of security deposit if such a transaction is feasible.

6.7 Copies of the drawings and other document pertaining to the work signed for the purpose of identification by the Accepting Officer or his accredited representative, sample of materials and stores to be supplied by the contractor will also be available for inspection by the tenderer/bidder at the office of Accepting Officer and **GE(Concerned)**

7. The tenderers/bidders are advised to visit the site of work by making prior appointment with **GE(Concerned)** who is also executing Agency of the work. The tenderers/ bidders are deemed to have full knowledge of all relevant documents, samples, site etc., whether they have inspected them or not.

8. Any tender/bid which proposes any alteration to any of the conditions laid down or which proposes any other condition or prescription whatsoever, is liable to be rejected.

9. The uploading of bid implies that bidders has read this notice and the Conditions of Contract and has made himself aware of the scope and specification of work to be done and the conditions and rates at which stores, tools and plants etc will be issued to him and local conditions and other factors having bearing on the execution of the work.

10. Tenderers/bidders must be in possession of a copy of the MES Standard Schedule of Rates including amendments and errata thereto.

MILITARY ENGINEER SERVICES**NOTICE OF TENDER (Contd....)****Applicable for measurement contracts**

11. Invitation for e-tender does not constitute any guarantee for validation of 'T' bid and subsequent opening of finance bid of any applicant/bidder, even of enlisted contractors of appropriate class, merely by virtue of enclosing DD. Accepting Officer reserves the right to reject the 'T' bid and not open the finance bid of any applicant/bidder. 'T' bid validation shall be decided by the Accepting Officer based on, inter alia, capability of the firm as per criteria given in Appx 'A' to this NIT. The applicant contractor/ bidder will be informed regarding non-validation of his 'T' bid assigning reasons thereof through the defproc website. The applicant contractor/bidder if he so desires may appeal to the next higher Engineer authority vix HQ Chief Engineer Bareilly Zone on email id **cezb2-mes@nic.in** with copy of the Accepting Officer on email before the scheduled date of opening of Finance Bid. The decision of the Next Higher Engineer Authority (NHEA) shall be final and binding. The contractor/bidder shall not be entitled for any compensation whatsoever for rejection of his bid.
12. The Accepting Officer reserves the right to accept a tender submitted by a Public Undertaking, giving a price preference over other Tender (s)/bids which may be lower, as are admissible under the Government Policy. No claim for any compensation or otherwise shall be admissible from such tenderer/bidder whose tender/bid is rejected.
13. Accepting Officer does not bind himself to accept the lowest or any tender/bid or to give any reason for not doing so.
14. This **Notice Inviting Tender (NIT)** including Appendix 'A' shall form part of the contract.

Contd.....

In lieu of IAFW-1779-A

(Revised 1958)

(TO BE USED IN CONJUNCTION WITH GENERAL CONDITIONS OF CONTRACTS I.A.F.W. 2249)**MILITARY ENGINEER SERVICES**

Tele Mily: 6044

Head quarters
Commander Works Engineers
Military Engineer Services
Station Road,
Bareilly Cantt.-243001

8200/B/552/ /E8

May 2018

TENDER FOR ITEM RATE CONTRACT FOR PROVN OF FENCING OF GRAZING GROUND WITH ENTRANCE GATE FOR ANIMALS BETWEEN MULE LINE OF 883 AT BN ASC AND OFFICERS COLONY BW LINES UNDER GE (EAST) BAREILLY

Messers/

Mr.....of.....are
/is hereby authorized to tender for the above work.

The technical bid of subject tender is to be delivered through E- tender on our website www.defproc.gov.in. for inviting electronic bids through NIC e- procurement solution only. E-tender will be will be received on date as given in website through and all connecting documents such as request application alongwith cost of tender will be addressed to commander Works Engineers and marked **CA NO. CWE BLY/GE (E)/15 of 2018-2019** on the subject of application

All required documents must be reached before bid opening date and time physically, otherwise technical bid as well as financial bid shall not be opened and no claim whatsoever on this account will be tenable by the department.

Any correspondence concerning this tender should be addressed as indicated at top of this sheet, quoting the reference.

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

Signature of the officer issuing the Documents.

Appointment: DCWE (Contracts)

Date:

Contd.....

SCHEDULE "A" NOTES(contd....)
LIST OF WORKS AND PRICES (Contd....)

Notes:-

1. (a) **Scope of work:** - The work in this Contract is to be carried out as per Schedule 'A' under GE (E) Bareilly for the job No. BLY/LBW/56/2017-18.

 (b) **Make of various items covered in BOQ shall be of Group-II as listed in Appendix 'B' of tender documents. In case the make of any item is specifically mentioned in the description of item in BOQ, it will take the precedence over the make of the said item in Appendix 'B'.**
2. The quantities shown in **column 4** are approximate and are inserted as a guide only. These shall, however not be varied beyond the limits laid down in condition 7 of IAFW-2249, General conditions of Contract. This contract comprises full, final and entire completion of the works given in Schedule 'A', specifications, special conditions and other items required for satisfactory completion of works.
3. **Unit Rates:-**
 - (a) The contractor shall calculate his own details and insert unit rates **in column 6** hereinafter and extend **the amount in column 7** against each items of Schedule "A". The aforesaid unit rates shall be based on description of items in Schedule 'A', drawings (where mentioned in Schedule 'A' or specifications), specifications and other general specifications attached herewith. It is an express condition of the contract that the rates quoted by the Contractor for various items in Schedule 'A' shall be inclusive of all labour and material required for completion of work specified hereinafter in particular specifications/special conditions/requirements detailed in particular specifications and full and final completion thereto, irrespective of whether these are mentioned in the description of Schedule 'A' or not and the contractor will not be paid any extra for the same. The Govt. shall not entertain any claim whatsoever on account of inaccuracies, misunderstanding, if any, in the aforesaid unit rates.
 - (b) Tendered rates shall be deemed to include for the provision of all material , processes, operations and special requirements detailed in the particular specification irrespective of whether these appear as specific items or not and the contractor will not be paid extra for the same.
 - (c) Unless specifically mentioned otherwise such as labour only/fixing only, the unit rates for all items of works shall be deemed to be including cost of all materials, labour, tools and plants, testing and commissioning work in position complete as required for entire completion of work.
 - (d) Special conditions given in SSR Part-II 2010 and preambles to items given in MES Schedule Part-II under respective trades/items shall be applicable. If any provisions in the description of Schedule 'A' and/or in particular specifications is/are at variance with the provisions of special conditions in MES SSR Part II 2010 and preambles to SSR items, the provisions in description of Schedule 'A' items and provisions in particular specifications shall taken precedence there over.
 - (e) Method of measurements for all items listed in Schedule 'A' shall be as given in MES Standard Schedule of Rates Part II 2010 unless specifically stated otherwise here-in-after for any particular item(s) of work.
 - (f) All materials as required for incorporation in work should be of reputed makes as given in these documents. In case of makes not mentioned in the contract agreement the item shall be ISI marked as approved by GE.
4. The amount in column 7 is not firm but will be treated as the "CONTRACT SUM" referred in IAFW-2249.
5. The rates shall be filled by the tenderer in figures and words in column 6.
6. **PERIOD OF COMPLETION:-** The entire work under the contract shall be completed within **06 Months** from the date of handing over of the site as per WO No 1.

Contd.....

SCHEDULE "A" NOTES(Contd....)
LIST OF WORKS AND PRICES (Contd....)

7. Site for execution of entire work will be made available on the date of commencement of work as per W.O. No. 01. In case, however, it is not possible for the department to make the entire site available on the date of commencement of work, the contractor will have to arrange his working programme accordingly. No claim whatsoever, for not handing over the entire site on the date of commencement of the work & handing over balance site for execution gradually will be tenable.
8. Unit RM, Cum or CUM, Sqm or SQM, 10 SQM and Quintal or Qtl, kg or KG wherever mentioned in the tender documents denotes the unit, Running metre, cubic metre, square metre, ten square metre, Quintal and Kilogram respectively.
9. **DISMANTLING/DEMOLITION/TAKING DOWN**
 - 9.1. An inventory of all the items to be demolished/ dismantled/ taken down / shall be prepared by the Engineer-in-charge before handing over of site to the contractor for demolition/ dismantling of items/materials/pipe lines etc indicating all the fittings / fixtures / assets etc and shall obtained receipt of contractor on ibid inventory in token of his acceptance.
 - 9.2. The contractor shall take down/demolish/dismantle the work to the extent all as mentioned in Schedule 'A' and as specifically ordered by GE.
 - 9.3. Dismantled/Demolished material indicated in schedule of credit shall become the property of the contractor and contractor shall give credit for it at the rates mentioned in Schedule of credit. The rates given for credit are fixed and no variation on this amount shall be admissible on account of quality /conditions of the materials obtained from dismantling/demolition. The contractor at his own expense shall carry out transportation of old materials. Materials retrieved from dismantling/demolition shall not be used in the new work.
 - 9.4. All retrieved materials obtained from demolition/ dismantling which are not mentioned in schedule of credit shall become Govt. property and contractor shall deposit the same in MES store yard of GE. Such materials shall be stacked properly by contractor at his own arrangements and own cost at MES store all as directed and the same shall be recorded in MB for record purpose only duly signed by GE, Engineer-in-Charge and contractor and necessary RV thereof shall be obtained by the contractor from Engineer-in Charge.
 - 9.5. Contractor is advised to 'visit' the site with Engineer-in-Charge/ GE before quoting the lump sum prices against credit Sch .
 - 9.6. The Govt does not guarantee for the value of the materials that will naturally accure to the contractor. The contractor shall be deemed to have visited the site of work and have made himself conversant with present state of materials before tendering for the purpose of assessing their quality, condition and money value of materials that would be obtained from dismantling/demolition etc. and no extra cost whatsoever shall be entertained on this account.
 - 9.7. Refer condition 10,47 and 48 of IAFW-2249, General Conditions of Contracts and Para 21.1 to 21.3 stipulated on page 21-1 to 21-3 of MES SSR' 2009 Part I, . All materials shall be sorted out, stacked at site for joint measurements and recorded in the measurement book. Both parties will sign entries. Govt property shall be removed and handed over to Engineer-in-Charge through proper receipt in proper manner as described above at the MES store yard. Site shall be cleaned off rubbish/waste materials etc. to the entire satisfaction of Engineer-in-Charge.
 - 9.8. Any damages caused to the existing structure and fitting/fixtures, due to the negligence and carelessness of the contractor or his workmen, shall be made good by the contractor at his own expense to the entire satisfaction of Engineer-in-Charge. Extent of materials/items damaged due to negligence and carelessness of the contractor or his workman due to bad workmanship will be assessed by the GE, whose assessment in writing shall be final and binding on the contractor and in case of contractor's failure in making good the damages inspite of GE's notice, cost thereof assessed by GE shall be recovered from the contractor's payment due to him and decision of GE in this respect shall be final & binding.
 - 9.9. The contractor shall be responsible for the safe custody of materials until handed over to MES which are Govt. property or are to be incorporated in the work and receipt obtained for the same.

Contd.....

SCHEDULE "A" NOTES(Contd....)
LIST OF WORKS AND PRICES (Contd....)

- 9.10 For the purpose of calculating compensation in terms of condition 50 of IAFW-2249, deductions at source towards GST/Income tax etc. the amount of Credit for Old materials becoming contractor's property shall not be taken into account.
10. The work under this contract lies in **UNRESTRICTED AREA**.
11. The rates quoted by the Contractor shall include all taxes/duties i.e. sales tax, Sales Tax on works contracts, Excise duty, Custom duty, Octroi duty, cess, labour cess, Service tax and any other taxes/duties as applicable. Form 3D, 31 & 32 or any other form shall not be issued by MES. This is an express condition of this contract that no claim of the contractor shall be entertained by MES on this account.
12. With the implementation of **GST (Goods and Service Tax)**, the effect of the same shall be deemed to be included in the quoted rates and no reimbursement/refund on this account shall be admissible.

Signature of contractor
Dated

DCWE (Contracts)
For Accepting Officer

Contd.....

SCHEDULE OF CREDIT FOR OLD DEMOLISHED / DISMANTLED / TAKING DOWN MATERIALS					
Ser No	Description of old unserviceable materials	Unit	Approx Nos of Units	Rate per Unit (Rs)	Amount (Rs)
1	2	3	4	5	6
1	Old fencing posts of any description obtained from Item No 2	RM	100	10.00	1000.00
2	Old US fencing wire mesh including horizontal stiffeners of any size and description obtained from Item No 3	Sqm	192	30.00	5760.00
TOTAL				Rs	6760.00

Note : -

- The material obtained from dismantling / demolition / taking down listed in this schedule of credit shall become the contractor's property.
- Tenderers are advised to physically verify the materials listed in this schedule with regard to their quality and serviceability etc before quoting the tender. Contractor shall be deemed to have inspected the material whether or not they actually inspect. No claim what so ever shall be entertained on account of condition, quality and serviceability of materials. However the quantities and amount mentioned under column 4 & 6 respectively of this schedule is tentative and as a guide only and will vary as per actual work. The quantities actually obtained at site shall be recorded in MB duly signed by the contractor and Engineer-in-Charge.
- Credit on account of old retrieved materials listed in this schedule shall be recovered from advance payments to the contractor as and when dismantling / demolition / taking down is carried out irrespective of whether or not the contractor has actually removed those from site of work.
- In case of material other listed in Schedule of Credit which obtained during dismantling, the same shall becomes the property of the department and to be removed to MES store yard of GE (W) Bareilly for which no additional payment shall be paid. The contractor shall be fully responsible to safe guard these materials against losses/theft/deterioration etc, till the same and returned by him in MES store yard or reused in wrok and such material shall be notified/listed specifically by the EIC.
- In case, materials to be returned to MES store yard or to be re-used in the work are lost or damaged while in the custody of contractor, the Govt shall recover the cost there of at double of market rates as prevailing on the date of detection of such loss of damage of old/new materials
- The materials shall be removed from site only after written permission of the Engineer-in-Charge.

Signature of Contractor (s)

DCWE (Contracts)
For Accepting Officer

SCHEDULE 'B'
LIST OF MATERIALS TO BE ISSUED BY THE DEPARTMENT
(SEE CONDITION 10 OF IAFW-2249)

Srl No	Description of item	Unit	Rate	Place of issue by name	Remarks
1	2	3	4	5	6

----- NIL -----

 (Signature of Contractor)
 Dated : _____

DCWE(Contracts)
 for Accepting Officer

SCHEDULE 'C'
LIST OF TOOLS AND PLANTS (OTHER THAN TRANSPORT) WHICH
WILL BE HIRED TO THE CONTRACTOR
(SEE CONDITION 15, 34 & 35 OF IAFW-2249)

Srl. No.	Particulars	Details of MES Crew supplied	Hire Charges per unit per day	Stand by charges per unit per off day	Place of issue by name	Remarks
1	2	3	4	5	6	7

----- NIL -----

 (Signature of Contractor)
 Dated : _____

DCWE(Contracts)
 for Accepting Officer

SCHEDULE 'D'
(TRANSPORT TO BE HIRED TO THE CONTRACTOR)
(SEE CONDITION 16 AND 35 OF IAFW- 2249)

Srl No.	Quantity	Particulars	Rate per unit per working day	Place of issued by name	Remarks
1	2	3	4	5	6

----- NIL -----

 (Signature of Contractor)
 Dated : _____

DCWE(Contracts)
 for Accepting Officer

TENDER

TO

THE PRESIDENT OF INDIA

Having examined and perused the following documents:-

1. Specifications signed by DCWE (Contracts)
2. Drawings detailed in the particular specifications.
3. Schedule 'A', 'B', 'C', 'D' attached thereto.
4. MES Standard Schedule of Rates Part I (2009) and (Part II 2010) together with Errata / amendments Nos 1 to 59 FOR Part II as applicable to above Schedule (hereinafter and in I.A.F.W.- 2249 referred to as the MES Schedule)
5. General conditions of contracts, I.A.F.W.-2249(1989 Print) together with errata 1 to 20 and amendments 1 to 40.
6. **Water**-condition 31 of I.A.F.W-2249 General conditions of contracts.
Water will be supplied by the M.E.S AND SHALL BE PAID FOR BY THE CONTRACTOR @ Rupees 3.75 (Rupees three and paise seventy five only) per Rs 1000/- worth of work done priced at contract rates.
7. Should this tender be accepted I/WE AGREE:-

(a) *That the sum of Rs.....(Rupees.....) forwarded as earnest money shall either be retained as a part of Security Deposit or be refunded by the Government on receipt of appropriate amount of Security Deposit within the time specified in condition 22 of I.A.F.W – 2249.

(b) To execute all 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 rates as may be fixed under the provision of condition 62 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 the” Sole arbitration of an serving officer, having degree in engineering or equivalent or having passed final/ direct final examination of sub-division II of Institution of Surveyor (India) recognized by the Govt. of India to be appointed by the Chief Engineer, Bareilly Zone Bareilly Cantt or in his absence the officer officiating as Chief Engineer, Bareilly Zone Bareilly Cantt whose decision shall be final , conclusive and binding.

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

Witness.....

Dated.....

Address.....

Postal address.....

Telegraphic address.....

Telephone No.....

ACCEPTANCE

.....alteration(s) has/have been made in these documents and as evidence that this/these alteration(s) was/were made before the execution of the Contract agreement, they has/ have been initialed by the contractor **and Hitesh Kumar DCWE (Contracts) . The said officer is hereby authorized to sign and initial the documents, forming part of the contract, on my behalf.**

The above tender is accepted by me on behalf of the President of India items rates contained in Schedule 'A'.

Signature.....dated this.....day of.....2018.

Appointment
Cdr Wks Engr Bareilly Cantt.
(FOR AND ON BEHALF OF THE
PRESIDENT OF INDIA.)

SCHEDULE OF MINIMUM WAGES

It is hereby, agreed that the 'Schedule of Minimum wages' as published by Government of India/state Govt./Govt. local authorities whichever is highest and which specified minimum rates of wages for various categories of workmen as applicable on the last due date of receipt of this tender shall form part of these tender documents.

My/our signature here under amounts to my/our having signed the aforesaid documents forming part of this tender.

DCWE (Contracts)
For Accepting Officer

Signature of contractor

*** Delete whichever is not applicable.**

GENERAL CONDITIONS OF CONTRACTS
(IAFW-2249.....1989 PRINTS)
FOR
*** MEASUREMENT CONTRACT- 1779-A**

1. A copy of General Conditions of Contracts (IAFW-2249 - 1989 Print) with errata 1 to 20 and amendments No. 1 to 17 has been supplied to me/ us* and is in my/our* possession. I/We* have read and understood the provisions contained in the aforesaid General Conditions of contracts before submission of this tender and I/We* agree that I/We* shall abide by the terms and conditions therefore, as modified , if any, elsewhere in these tender documents.

2. It is hereby further agreed and declared by me/us*, that the General Conditions of Contracts (IAFW-2249-1989 Print) including Condition 70 thereof pertaining to settlement of disputes by arbitration, containing 33 pages (Serial Page Nos 25 to 58), with errata 1 to 20 and amendments Nos 1 to 40 (Serial Page Nos 59 to 74) form part of these tender documents.

DCWE (Contracts)
For Accepting Officer

Signature of contractor

* Delete whichever is not applicable.

SPECIAL CONDITIONS

1. **GENERAL:-** The following Special Conditions shall be read in conjunction with the General Conditions of Contracts, IAFW-2249 and IAFW-1779-A including Errata/amendments thereto. If any provision in these Special Conditions is at variance with that of the aforesaid documents, the former shall be deemed to take precedence there over. The term 'General specification' used in any of the documents forming part of the contract refers to the specification contained in the MES Standard Schedule of Rates.

2. **EMPLOYMENT OF PERSONNEL :-**

2.1. Contractor shall employ only Indian Nationals as his representatives, servants and workmen after verifying their antecedents and loyalty. He shall ensure that no person of doubtful antecedents and nationality is in any way, associated with the work. If for the reasons of technical collaboration or other considerations the employment of foreign national(s) is unavoidable, the contractor shall furnish full particulars to these effects to the Accepting officer at the time of submission of the tender. As a proof that the contractor has employed only Indian Nationals, he shall render a certificate to **GE** within one month from the date of acceptance of tender to this effect. In case the **GE** desires contractor will have the police verification done of personnel employed by him.

Verification of antecedents of Contractor's representatives/ labour deployed at site in connection with execution of work under the contract, as per security requirement of user unit/ installation shall be the responsibility of the contractor and all expenses in connection with verification of antecedents by Police Authority/ Security Agency shall be borne by the Contractor.

2.2. The **GE** shall have full powers and without giving any reason to order the contractor immediately to cease to employ, in connection with his contract, any agent, servant or employee whose continued employment is, in his opinion, undesirable. The contractor shall not be allowed any compensation on this account.

2.3. The contractor's attention is also drawn to condition **25 of IAFW-2249** in this connection.

3. **APPROVAL OF SAMPLE OF WORKMANSHIP IN BUILDING:-**

3.1. To determine the acceptable standard of workmanship, one quarter (In case Schedule 'A' does not specify for sample **quarter/ Portion** is to be decided by **GE** shall be completed by the contractor well in advance as directed by **GE** under close supervision of the Engineer-in-Charge and shall be got approved from the **GE** . The workmanship of various trades and finished of this quarter shall serve as guiding samples for the work in the remaining quarter/ buildings.

3.2. However, the sample **quarters/portion** shall be completed in all respects as per time of completion specified in Schedule 'A'(In case Schedule 'A' specify for sample quarter) and if otherwise one **quarter/portion** shall be completed in advance as directed by **GE** .

4. **WATER (WHERE WATER IS TO BE SUPPLIED BY MES):-**

4.1. Refer to condition 31 of IAFW-2249.

4.2. The contractor may buy water from MES and the water Points shown on site plan for piped system and shall be paid by the contractor @ Rs. **3.75 per Rs. 1000/-** worth of work done priced at contract rates. The contractor shall arrange at his own expense for storage of water and lifting pumping, carrying or conveying water to the site of work as required. In case water points are not marked on the site plan, the water shall be supplied at one point at decided by **GE**.

4.3. The supply of water may not be continuous. The contractor shall be deemed to have ascertained the hours of availability of water before submitting his tender. The MES do not guarantee the continuity of water supply and no compensation shall be allowed for intermittent or inadequate water supply and break down in the system. If the supply is not sufficient the contractor shall make his own arrangement to supplement the water supply at his own cost. For the purpose the contractor shall be allowed to install hand pumps at the site of work at places as directed by the engineer-in-Charge without any charges from the contractor on this account. The contractor shall remove the hand pumps as and when asked to do so by Engineer-in-Charge or **GE** and in any case on completion of work. NO compensation whatsoever shall be admissible to the contractor if the **GE** requires him to remove the pumps before completion of work. However, recovery of water shall be made as per special condition 4.2 here above.

5. TESTING OF MATERIALS :-**5.1. Level of Tests :-****5.1.1.1. 'A' LEVEL TESTS FOR WORKS COSTING UPTO 100 LAKHS**

:- The Contractor may set up site laboratory at his option for works upto 100 lakhs. The other stipulations will be same as specified in preceding para. However in case the contractor has not set up the site laboratory and tests are carried out in Zonal or any other laboratory approved/ setup by GE, the recovery shall be made at rates applicable i.e. as given in **APPENDIX 'D'**.

5.1.2. "B" & "C" Level Tests :- For tests of 'B' and 'C' level as indicated in **APPENDIX 'D'**, the contractor shall provide all facilities for testing of materials at Zonal laboratory/ Government approved laboratories or test house/Engineering Colleges at his own cost. The lump sum / rates quoted by the contractor shall be deemed to be inclusive of these tests. The rates of various tests conducted in laboratory of MES are indicated in **APPENDIX 'D'**. The contractor shall bear the actual charges of "C" level tests (to be done in labs other than MES labs) irrespective of rates indicated in APPENDIX 'D'. Wherever it is convenient to get 'B' level test done at approved test house/ Engineering College, the same can be done at the cost of the contractor and no separate recoveries will be made by the Department for the same.

5.2. The recoveries on account of testing charges wherever applicable shall be effected from the running account payments due to the contractor payable after completion of the respective tests or whenever the test is due whichever is earlier.

6. INSPECTION OF SITE BY THE TENDERER :-

6.1. The tenderer is advised to contact the Garrison Engineer for the purpose of inspection of site(s) and relevant documents other than those sent herewith, who will give reasonable facilities for the purpose. The tenderer shall also make themselves familiar with the working conditions, accessibility of site(s), availability of materials and other cogent conditions, which may effect the entire completion of work under this contract.

6.2. The tenderer shall be deemed to have inspected the site(s) and made themselves familiar with the working conditions, whether they have inspected the site(s) or not.

7. CONDITIONS FOR WORKING IN UNRESTRICTED AREA :-

7.1. All works lie in unrestricted areas as mentioned in forwarding letter. The restrictions for entry to work site and conditions of working in unrestricted area shall be as under:-

7.1.1. The work lies in unrestricted areas. However, the contractor, his agents, servants, workmen and vehicles may pass through the unit lines, in which case, the Engineer-in-Charge at his discretion has the right to issue the passes, control their admission to the site of work or any part thereof. The contractor on demand by the Engineer-in-Charge shall submit a list of personnel etc. concerned and any other information called for by the Engineer-in-Charge and shall satisfy the Engineer-in-Charge as the bonafide of such people. Passes shall be returned at any time on demand by Engineer-in-Charge and in any case on completion of work.

7.1.2. The contractor and his work people shall observe all the rules promulgated from time to time by authority controlling the area where the work is to be carried out e.g. prohibition of smoking etc. Any person found violating the security rules laid down by the authority shall be immediately expelled from the area without assigning any reasons whatsoever and the contractor shall have no claim on this account. Nothing shall be admissible for any man hours lost on this account.

8. **APPROACHES**: - The Contractors shall make arrangements for and provide at his own cost all temporary approaches, if required to the site(s), after obtaining approval in writing of the **GE** to the layout of such approaches.

9. **CO-ORDINATION WITH OTHER AGENCIES**: - The Contractor shall permit free access and afford normal facilities and usual convenience to other agencies or departmental workmen to carryout connected works of services under separate arrangements. The Contractor will not be allowed any extra payment on this account.

10. RECORD OF MATERIALS AND PURCHASE VOUCHERS:-

10.1. The quantities of materials such as cement, steel, paints, water proofing compound, chemicals for antitermite treatment and the like, as directed by the Engineer-in-Charge (the quantities of which cannot be checked after incorporation in the works), shall be recorded in measurement books and signed by the contractor and the Engineer-in-Charge as a check to ensure that the required quantity has been brought to site for incorporation in the work.

10.2. Materials brought to site shall be stored as directed by the Engineer-in-Charge and those already recorded in Measurement Book shall be suitably marked for identification.

10.3. Contractor shall produce vouchers /invoices from the manufacturers and/ or their authorized agents for the full quantity of the following materials, as applicable as a pre-requisite before submitting claims for payment for advances on account of the work done and/ or materials collected in accordance with Condition 64 of General Conditions of Contracts IAFW-2249.

- (a) Poles
- (b) Transformers
- (c) ACSR Conductor
- (d) Cables
- (e) Factory made panelled shutters
- (f) Factory made pressed steel door frame
- (g) Factory made steel windows and ventilators
- (h) Sanitary, toilet fittings and appliances
- (j) All other equipments/accessories and fittings included in Schedule 'A'
- (k) Structural and reinforcement Steel

10.4. The contractor shall, on demand, produce to the GE, original receipted vouchers//invoices in respect of the materials other than as stated in sub Para hereinabove. Vouchers/ invoices so produced and verified shall be stamped by Engineer-in-Charge indicating contract number. The contractor shall ensure that the materials are brought to site, in original sealed containers/ packing, bearing manufacturer's marking except in the case of the requirement of material(s) being less than smallest packing.

10.5. The vouchers/ invoices will clearly indicate the Contract Number and the IS No., specific alternative to which the material confirms in case of various alternative in IS.

11. **WATCH / LIGHTING:-** The contractor shall at his own cost take all possible precautions to ensure safety of life and property by providing necessary fencing, barrier, light, watchmen, etc., during the progress of work and as directed by the Engineer-in-Charge.

12. **CLEANING DOWN:-** Refer condition 49 of IAFW-2249. The contractor shall clean all floors, remove cement, lime or paint drops, clean joinery, glass panels etc., Touch up all paint work and carryout all necessary items of work in connection therewith and have the whole premises clean and tidy to the entire satisfaction of Engineer-in-Charge before handing over the items/ works. No extra payment shall be admissible to the contractor for this operation.

13. MINIMUM WAGES PAYABLE :-

13.1. Refer condition 58 of IAFW-2249. The contractor shall not pay wages lower than minimum wages for Labour as fixed by the Government of India/ State Government/ Union Territory, whichever is higher.

13.2. The Contractor's attention is also drawn, amongst other things to the 'explanations' to the schedule of minimum wages referred to above.

13.3. The fair wages referred to in condition 58 of IAFW-2249 will be deemed to be the same as the minimum wages, referred to above as up to date from time to time.

13.4. Schedule of minimum wages are not enclosed along with tender documents. However contractor shall be deemed to have verified fair wages payable as on the last due date of receipt of tender.

- 13.5. The contractor shall have no claim whatsoever, if on account of local factor and or regulations, he is required to pay the wages in excess of minimum wages as described above, during the execution of work.

14. **MATERIALS AND SAMPLES:-**

- 14.1. Refer condition 10 of IAFW-2249.

- 14.2. The materials and articles which have been specified from certain makes/ manufacturers (**Refer Appendix 'B' or Elsewhere In Tender**) shall be of makes/ manufacturers as specified. If the manufacturers specified in tender documents make (produce) both ISI marked and conforming to ISI, the materials/ articles shall be ISI Marked.

- 14.3. The materials and articles, which have not been specified in tender document by makes/ manufacturers (**Refer – Appendix 'B'**) , shall be as under:-

14.3.1. If ISI marked materials are being manufactured, the same shall be ISI marked. For list of ISI marked manufacturers refer website of BIS i.e. www.bis.org.in

14.3.2. If ISI materials are not being manufactured the same shall be conforming to IS specifications.

- 14.4. Materials of Local Origin shall be as specified and conforming to samples kept in **GE's** office. The tenderer is advised to inspect sample of materials which are displayed in the office of **GE**, before submitting his tender. The tenderer shall be deemed to have inspected the samples and satisfied himself as to the nature and quality of materials, he is required to incorporate in the work irrespective of whether he has actually inspected them or not. However, for guidance of contractor's suggested sources of materials of Local Origin are listed in **APPENDIX 'C'**

- 14.5. . The definition of 'Local' shall be deemed amended accordingly.

- 14.6. The contractor shall not procure materials and articles unless the samples are first got approved by the **GE** .

15. **HANDING OVER OF SITE**: - Site for execution of work will be available as soon as the work is awarded. In case it is not possible to make the entire site available on the award of work, the contractor will have to arrange his working programme accordingly. No claim whatsoever, for not giving entire site on award of work and for giving site gradually, will be tenable.

16. **SECURITY OF CLASSIFIED DOCUMENTS**: - Contractor's special attention is drawn to conditions 2-A and 3 of IAFW-2249 (General Conditions of Contracts). The contractor shall not communicate any classified information regarding the works either to sub contractors or others without prior approval of the Engineer-in-Charge. The contractor shall not make copies of the design/drawings and other documents furnished to him in respect of the works and he shall return all documents on completion of the works or on earlier determination of the contract. The contractor shall along with the final bill attach a receipt from the Engineer-in-Charge in respect of his having returned the classified documents as per condition 3 of IAFW-2249(General Conditions of Contracts).

17. **PERIOD FOR KEEPING THE TENDER OPEN:-** The tender shall remain open for acceptance for a period of 60 (SIXTY) days from the date specified for its submission .

18. **CRITICAL PATH METHOD /NET WORK ANALYSIS:-**

- 18.1. The time and progress chart to be prepared as per condition 11 of General Conditions of Contracts (IAFW-2249) shall consist of detailed net work analysis and a time Schedule. The critical path network will be drawn jointly by the **GE** and the contractor soon after acceptance of tender. The time scheduling of the activities will be done by the Contractor so as to finish the work with in the stipulated time. On completion of the time Schedule, a firm calendar date Schedule will be prepared and submitted by the contractor to the **GE** who will approve it after due scrutiny. The Schedule will be submitted in four copies within two weeks from the date of handing over of site.

18.2. During the currency of the work, the Contractor is expected to adhere to the time Schedule and this adherence will be a part of contractor's performance under the contract. During the execution of the work the contractor is expected to participate in the reviews and updating of the network undertaken by the **GE**. These reviews may be undertaken at the discretion of **GE** either as a periodic appraisal measure or when the quantum of work ordered on the contractor is substantially changed through deviation orders or amendments. Any revision of the Schedule as a result of the review will be submitted by the contractor to the **GE** within a week he will approve it after due scrutiny. The contractor shall adhere to the revised Schedule thereafter. In case of contractor disagreeing with revised Schedule, the same will be referred to the Accepting Officer, whose decision will be final, conclusive and binding. **GE**'s approval to the revised Schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount 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.

18.3. Contractor shall mobilize and employ sufficient resources to achieve the detailed schedule within the broad framework of the accepted method of working and safety.

18.4. No additional payment will be made to contractor for any multiple shift work or other intensive methods contemplated by him in his work Schedule, even though the time schedule is approved by the department.

19. ELECTRIC SUPPLY:-

19.1. In case the contractor desires to buy electricity from the MES, he shall be charged for the electric energy consumed at the following rates:-

19.1.1. AT Rupees Four and paise sixty five only per unit for lighting and power.

19.2. Electric supply required for the work up to a maximum **5 KW** single phase/three phase shall be made available by the MES at the incoming terminal of the main switch marked on site plan. The main switch and KWH meters to register to electric energy supplied shall be provided and installed by the MES. The Contractor shall provide all necessary cables, fittings etc., from the main switch in order to ensure a proper and suitable supply of electricity for the execution of work.

19.3. MES do not guarantee continuity of supply and no compensation whatsoever shall be allowed for supply becoming intermittent or for break down in the system.

19.4. **GE** or his representative shall be free to inspect all the power consuming devices or any electric lines provided by the contractor. Any device or electric lines provided by the contractor, which is not to the satisfaction of the **GE**, shall be discontinued from the supply, if so directed by him.

20. ALLOTMENT OF LAND AND/OR ALLOTMENT OF QUARRIES SITUATED ON DEFENCE LAND:-

20.1. **_ROYALTIES:-**Refer condition 14 of General Condition of Contracts (IAFW-2249). Quarries on defence land are not available.

21. LAND FOR STORAGE OF MATERIALS (INCLUDING SHEDS), LAND FOR ACCOMMODATION OF LABOUR , CANTEENS, FABRICATING WORKSHOP , SITE LAB ETC.

21.1. Delete the following from lines 5 to 9 of sub Para 1 of condition 24 of IAFW-2249 reading "in the event of area of land..... land allotted to him" and insert "Separate land will not be allotted to the contractor for the storage of materials, accommodation for Labour, Canteen, site lab, temporary workshop and offices. Contractor shall arrange the land for these purposes and the lump sum cost/ item rates (as applicable) quoted in the tender shall deem to be included for the same. However, the contractor may use the A-1 land adjoining the proposed works as marked in site plan for these purposes

22. ADMISSION TO SITE BY CONTRACTOR AND RESPONSIBILITY TO ASCERTAIN HIS OWN INFORMATION.

22.1. The tenderer shall contact the **GE** concerned for the purpose of inspection of site (s) and relevant documents other than those sent herewith, who will give reasonable facilities for this purpose. The tenderer shall also make themselves familiar with working conditions, accessibility of site(s), availability of materials and other cogent conditions, which may affect the entire completion of work under this contract.

22.2. The tenderer shall be deemed to have visited the site(s) before quoting rates and made themselves familiar with the working conditions, whether they actually inspect the site(s) or not.

23. **Indemnity:** - The contractor shall indemnify the Govt. from loss caused to him by the conduct of the contractor, or by the conduct of any other person.

24. **QUALIFIED TRADESMEN: (APPLICABLE FOR WORKS COSTING RUPEES ONE CRORE OR MORE)**:- In compliance with the Condition 26 of IAFW-2249 (General conditions of Contracts), the contractor shall employ skilled/ semi skilled tradesmen who are qualified and possessing certificate in particular trade from Industrial Training Institute (ITI) /National Institute of Construction Management and Research (NICMAR)/National Academy of Construction (NAC) Hyderabad, similar reputed and recognized –Institutes by State/Central Government, to execute the works of their respective trade. The number of such qualified tradesmen shall not be less than 25 % of total skilled/semiskilled tradesmen required in each trade. The contractor shall submit the list of such tradesmen along with requisite certificates to Garrison Engineer for verification and approval. Notwithstanding the approval of such tradesmen by **GE** , if the tradesmen are found to have inadequate skill to execute the work of their trades, leading to unsatisfactory workmanship, the contractor shall remove such tradesmen within a week after written notice to this effect by the **GE** and shall engage other qualified tradesmen after prior approval of **GE**. **GE**'s decision whether a particular tradesman possesses requisite qualification, skill and expertise commensurate with nature of work, shall be final and binding. No compensation whatsoever on this account shall be admissible.

25. **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 **GST**/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 **GST**/Sales Tax/ VAT 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 tenders shall be refunded by the contractor to the Govt./ deducted by the Govt. from any payments due to the contractor. Similarly imposition of any new "taxes directly related to Contract value" after the last due date of receipt of tenders shall be reimbursed to the Contractor and abolition of any "taxes directly related to Contract value" prevailing on last due date for receipt of tenders shall be refunded by the Contractor to the Govt/ deducted by the Govt from the 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 there to which he may be in a position to supply. The Contractors shall submit the other 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 Govt. 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.

(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."

26. **WORK ON HOLIDAY:-**The contractor shall not carryout any work on gazetted holidays except when he is specially authorized in writing to do so by GE . The GE may at his sole discretion declare any day as holiday or non-working day without assigning any reason for such declaration.

27. **RECORD OF CONSUMPTION OF CEMENT:-**

27.1. The contractor shall maintain a pucca bound register with serially numbered pages with all pages initialed by Engineer-in-Charge against numbering showing quantities of cement received, used in the work and balance at the end of each day. The form of record shall be as approved by Engineer-in-Charge.

27.2. The register shall be signed daily by the representatives of MES and the contractor in token of verification of its correctness and will be checked by Engineer-in-Charge, at least once a week.

27.3. The register shall be kept at site in safe custody of the contractor's representative during the progress of the work and shall on demand, be produced for verification to the inspecting officer(s).

27.4. On completion of the work the contractor shall deposit the cement register with the Engineer-in-Charge for record in writing and take a receipt for the same.

28. **OFFICIAL SECRETS ACT:** - The contractor shall be bound by the Official Secrets Act -1923.

29. **RELEASE OF ADDITIONAL SECURITY DEPOSIT:-**

29.1. Refer conditions 22 and 68 of IAFW-2249.

29.2. The contractor, in case he has to deposit additional security for the contract, is advised to deposit additional security in two equal parts so as to facilitate its release in accordance with condition 68 of IAFW-2249.

30. **SAFETY PRECAUTION**

30.1. The contractor shall take every precaution to control traffic on road keeping danger boards, necessary lighting arrangements, fencing and watchman to avoid any damage. In case due to excavation or others the road is to be blocked the contractor shall, without any extra cost to the Govt, provide separate by pass so that normal traffic is not disturbed.

30.2. Any damage to the existing road/building etc, shall be made good by the contractor with the same specifications as per existing work, without any extra cost to the Govt. In the event of contractor not fully complying with the above provisions to the satisfaction of the GE, the GE may provide the same for which the expenses incurred will be recovered from the contractor.

31. **ADVANCES ON ACCOUNT**

31.1. Refer condition 64 of IAFW-2249 (General Conditions of Contract).

32. **OUTPUT OF ROAD ROLLER (REFER CONDITION 15 OF IAFW-2249)**

32.1 Where road rollers are hired by the Department to contractors, a log book for each road roller shall be maintained by the Department for recording hours of working of the road roller. However, when the contractor procures road rollers from sources other than the Department a log book for each road roller shall be maintained by him for recording hours of working of the road roller. Entries in the log book shall be signed by the contractor or his authorised representative and by the EIC.

32.2 To ensure proper consolidation roller must work for at least the number of days assessed, on the basis of output given hereinafter. If the roller has not worked for the number of days so assessed, recovery shall be effected from the contractor for the number of days falling short of the days assessed on the basis of output stipulated, the recovery shall be affected as under :-

- (a) Where road roller is hired out only by the department to the contractor at rates given in Schedule 'C'.
- (b) Where road roller is hired by the contractor only from sources other than the department, Rs 1400/- per working day of hours for 8 to 12 ton roller.
- (c) Where road roller is hired by the contractor from the department and also from sources other than the department at higher of the two rates given in Schedule 'C' of contract and para 27.2 (b) above.

32.3 The above provision shall not however, absolve the contractor of his responsibility of properly consolidating surfaces as required under the provisions of the contract.

32.4 Output of Road Roller per day of Eight hours.

(i)	Consolidation of formation. Surfaces/Sub grade	:	1850	Sqm
(ii)	Consolidation of stone soling 23 cm thick with 8 to 10 tonne roller.	:	518	Sqm
(iii)	-do- but 15 cm thick.	:	800	Sqm
(iv)	Consolidation of water bound macadam(stone metal) 10 cm compacted thickness including spreading and consolidation with binding material.	:	248	Sqm
(v)	-do- but 7.5 cm –do-	:	372	Sqm
(vi)	Consolidation of 2 cm thick premixed carpet including seal coat	:	744	Sqm
(vii)	Consolidation of 2.5 cm thick premixed carpet including seal coat.	:	600	Sqm
(viii)	Consolidation of 3.0 cm thick closed graded premixed surfacing/ mix seal surfacing (MSS)	:	456	Sqm

33 Octroi and other duties: - The tendered rates shall be deemed to include all duties and taxes as referred to in condition 10 of IAFW-2249.

34. **Quality Control Plan :** To ensure consolidated information in respect of work, Contractor shall submit Quality Control Plan within 30 days of commencement of work as per format as in Annexure 'I' given below :-

Annexure 'I'FORMAT FOR QUALITY CONTROL PLAN**PART-I**

01. Contract Agreement Reference No. :
02. CPM network prepared and approved by GE :
03. Resource scheduling done based on CPM :
04. Site Laboratory (with equipments) set up as per Contract Agreement (CA) :
05. Concrete mix design submitted and approved :
06. Preliminary works completed to standard engineering practice :
07. Arrangements for water made (including testing of water). :
08. Arrangement for electric supply made :
09. 1.1.1 Materials :

Srl No.	Item	Source as per CA	Contractor's plan of sourcing	Refer to testing clause	Agency for testing	Responsibility for testing

10. List of all T&P, make and numbers that the contractor would deploy at site of work.
11. Name of person nominated by contractor for exercising quality control. :
12. Qualifications/Experience of person at Serial No. 11 above. :
13. Names of supervisors with their qualifications/ experience employed by contractor. :
14. Confirmation that contract requirements relating to quality of all materials and quality standards of workmanship and finishes and acceptance criteria are explained and understood by all. :
15. Confirmation that requirement of tests to be conducted on materials before approval of sample and during execution, tests on workmanship, tests before acceptance including the testing procedure, sampling techniques, frequency and agencies responsible for testing are understood and shall be complied with. :
16. Method to be adopted for maintaining records of test result. :
17. Certificate that contractor shall maintain a log of all materials received at site as per the following format :-

Srl No.	Date	Material	Quantity received	Source	Whether as per approved sample or not	Tests carried out by supplier	Tests to be carried out before incorporation

18. General remarks by contractor of his plan of actions to ensure that quality standards

Dated : _____

(Signature of Contractor)

PART-II

(To be completed by GE before forwarding for approval by CWE)

01. Verification of Serial No. 02 to 08 of Part-I :
02. Verification of Serial No. 09 to 18 of Part-I :
03. Confirmation that Stage passing Register laying down the stages and authority responsible for approving the same has been prepared, shown to contractor and kept at site. :
04. Confirmation that all sites as required by contract had been handed over to contractor on the date fixed in Work Order No. 01. :
05. Confirmation that arrangements for Govt. liability in supply of water and electricity has been made and no hold up on this account is expected. :

Dated : _____

(Signature of GE)

Approved by CWE

Signature of contractor
Dated

(Hitesh Kumar)
DCWE (Contracts)
For Accepting Officer

**PARTICULARS SPECIFICATIONS (CONTD...)
(MATERIALS AND WORKMANSHIP)**

1. GENERAL

- 1.1 The work under this contract shall be carried out in accordance with the description in Schedule 'A'(BOQ). Particular specifications, drawings (if any), general specifications and other provisions in the MES Standard Schedule of Rates shall be read in conjunction with each other.
- 1.2 The term general specifications referred to in clause 1.1 above and in IAFW-2249 shall mean the specifications contained in the MES Schedule 2009 Part-I and 2010 Part-II including errata's and amendments thereto, ISS and any other standard Engineering Books.
- 1.3 General rules, specifications, special conditions, method of measurements, preambles and all other provisions in the MES Schedule shall be deemed to apply to the works under this contract unless other wise mentioned in these tenders documents.
- 1.4 Particulars specifications given hereinafter shall be applicable to all the works covered in Schedule 'A' and they are in brief and emphasise the specifications given in MES Schedule which are not repeated here.
- 1.5 Where specifications/provisions given in these specifications are at variance with the specifications provisions given in the MES schedule, the specification/provisions given in these particular specifications shall be followed.
- 1.6 In the absence of any reference in particular specifications with regard to the item mentioned in Schedule 'A', the work shall be executed to the specification given in the MES Schedule in preference to the local trade practice.
- 1.7 Where specifications for any item of work are not given in MES Schedule or in these particular specifications, the specifications given in relevant Indian Standard specifications or code of practice shall be followed. Specification given for the items not included in this tender shall be deemed to have been deleted for the purpose of this tender.

2.0 SCOPE OF WORK

- 2.1 The Contract includes for the full, final and entire completion of the work described in Schedule 'A' specified in these particular specification of this tender.
- 2.2 Probable sources of materials are given in Appendix 'A' to particular specifications and contractor may bring material conforming to the specifications from other sources without any price adjustment. If the contractor proposed to use material from such sources these shall be approved in writing by the GE before procurement in bulk and incorporation in the work.
- 2.3 The work described in Schedule 'A' shall be carried out in the buildings as directed by the Engineer-in-Charge. The order preference of the buildings shall be ordered by the Engineer-in-Charge.

3.0 MATERIALS TO BE SUPPLIED BY CONTRACTOR

- 3.1 Refer condition 10 of IAFW-2249 (General Conditions of Contracts).
- 3.2 The tenderer is advised to inspect materials which are displayed in the office of GE MES, before submitting his tender. The tenderer shall be deemed to have inspected the samples and satisfied himself as to the nature and quality of materials, he is required to incorporate in the work irrespective of whether, he has actually inspected them or not. The materials to be incorporated in the work by the contractor shall conform to or shall be superior in quality samples displayed and shall comply with the specifications given here-in-before/after and shall comply with the specifications given here-in-before/after
- 3.3 All materials shall be ISI marked. Where ISI marked materials/products are not available, these shall conform to relevant IS. Specifications or to BS Specifications, where IS is not existing. In absence of any IS/BS specifications, these shall be as approved by GE.
- 3.4 Sample of all materials, fittings & fixture, accessories etc to be supplied by the contractor shall be submitted to Engineer-in-Charge for approval of GE. The contractor shall not commence the work until the samples are approved in writing by GE. The contractor shall ensure that all the materials as incorporated in the work are identical in all respects. Samples approved and samples destroyed in testing shall be returned to the contractor after completion of contract. No payment shall be made for samples destroyed in testing.
- 3.5 All manufactured articles required for incorporation in the work shall be brought to site in the manufacturer's original packing with seal intact.
- 3.6 Approved names/brands of products to be incorporated in works are given in appendix 'A' to these particulars specifications. The product shall be any of the makes, subject to approval of the GE.

4.0 MAKING GOOD

- 4.1 The contractor shall cut, leave or form holes, recesses, chases etc, in concrete, brick work, walls, ceiling, floors and in any other situations as required or as directed by the Engineer-in-Charge and finish to match the adjoining surfaces.

5.0 EXCAVATION AND EARTH WORK

- 5.1 The Contractor shall excavate to the specified depths and as directed by the Engineer-in-Charge. Excavation made to depth more than the required depth shall be made good by the Contractor at his own expense with lean 1:5:10 cement concrete No extra payment shall be made for extra depth excavated and filled by the Contractor. The Contractor shall familiarize himself with the site and the cost of any shoring/benching and dewatering shall be deemed to included in the cost of excavation and no extra payment shall be made

5.2 EXCAVATION IN GENERAL

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(MATERIALS AND WORKMANSHIP)**

- 5.2.1 Excavation and earthwork has been priced at the rate for soft / loose soil (without the use of timbering). Cost of all excavation and earthwork shall be deemed included items listed in Schedule 'A'. In case during excavation hard soil or soft/hard rock is met with, the hard soil or rock portion of foundation as the case may be, shall be ordered through deviation order.
- 5.2.2 In case hard rock is met with, the contractor shall immediately notify the same to GE under intimation to Accepting Officer and prior approval of Accepting Officer shall be obtained by the GE before ordering work of excavation in hard rock on the contractor. Where hard rock is met with during the excavation, foundation design is likely to be changed which may entail delay in finalisation of drawings. The contractor shall mobilise his resources accordingly in consultation with GE and have no claims of what so ever nature for delay in finalisation of revised details shall be entertained. CE's decision in this regard will be final and binding.
- 5.2.3 Hard rock met during excavation shall be entered in the measurement book duly signed by the GE and the contractor and the same shall become the property of contractor for which recovery at the rate rubble stone from approved quarries for hand packing (Item 561 of MES SSR Part-II) shall be made subject to applicable percentage over SSR from contractor's advance on account payment.
- 5.2.4 The hard rock so obtained may be allowed to be used in the work by the GE provided it meets the specified requirements; location(s) etc where it is to be used shall also be as decided by the GE. If hard rock obtained from excavation is not fit to use in the work the contractor shall remove the same outside MD land without any extra cost to the Government
- 5.3 EXCAVATION IN TRENCHES AND OVER AREAS**
- 5.3.1 Excavation in trenches and over area shall be carried out as described in clause 3.13 of MES SSR Part-I. Bailing and pumping of water, if required will be done as described in clause 3.17 of MES SSR Part-I. No extra payment shall be admissible for the above-mentioned operation. If however, an inflow of water in to excavation is caused by powerful springs or river seepage, broken water mains or drains and the like (other than those broken through the contractor's negligence) the contractor shall inform the GE. If in the opinion of the GE the inflow is due to any of these causes, he shall issue instructions in writing as to the method to be employed in clearing the excavation of water and additional payment shall be allowed as deviation order
- 5.4 DISPOSAL OF SURPLUS SPOIL & RUBBISH ETC OBTAINED FROM DISMANTLING /DEMOLITION**
- 5.4.1 All the surplus spoil, each, rubbish etc obtained from excavation/dismantling/ demolition shall be disposed off to outside Ministry of Defence land at any distance at Contractor's cost otherwise specifically not mentioned in Sch 'A'. Serviceable material if any obtained shall be deposited to MES store yard of Engineer-in-Charge.
- 5.5 HARD CORE**
- 5.5.1 Hard core shall be of hard burnt broken bricks / broken stone aggregate etc not exceeding 63mm gauge and shall be provided all as per specification laid down in para 3.27 of MES Sch part-I. Thickness of hard core shall be as directed and shall be measured after consolidation. Hard core shall be blended with finer material of hard burnt broken brick aggregate. It shall be well watered and consolidated by hand ramming. Where thickness of hard core is not indicated, it shall be of 100mm consolidated thickness.
- 5.6 MOORUM OR RED BAJRI**
- 5.6.1 Moorum or Red Bajri shall be all as specified in schedule 'A' and para 3.21, 3.2.1.1 of MES SSR Part-I
- 5.7 RETURNING FILLING**
- 5.7.1 Refilling of earth in trenches shall be done in 25cm thick layers with excavated soil approved by the Engineer-in-Charge in a manner as to ensure greatest compactness and solidity. Each layer shall be well rammed. Surplus soil removed as provided in Schedule "A".
- 6.0 BRICK WORK: -**
- 6.1 MATERIALS: -**
- 6.1.1 **Cement: -** Refer Para 7.1 of SSR Part -I.
- 6.1.2 **Sand for masonry mortar:-** Refer Para 5.4 of SSR Part I. It shall be natural conforming to IS- 2116. Sea sand shall not be used in any case.
- 6.1.3 **Common Burnt clay building Bricks:-** Refer Para 5.6 of SSR Part I. The compressive strength of bricks shall be not less than 100 Kg/Sq cm for class A and 75 Kg/Sq cm for Class B. The rates given in SSR shall be deemed for the same. These shall be well burnt old size bricks. The nominal size of bricks shall be 230x113x75 mm. The tolerance shall be not more than +/- 8%. Water absorption shall not exceed 20 %.
- 6.1.4 **Bituminous Bonding Materials:-** Refer Para 5.16 of SSR Part-I. Blown bitumen shall be conforming to IS-712.
- 6.1.5 **Bitumen Primer: -** Refer Para 5.17 of SSR Part I. It shall be conforming to IS-3384.
- 6.2 WORKMANSHIP :-**Refer Para 5.19 to 5.56 of SSR part I.
- 6.2.1 **Proportioning: -** Refer Para 5.19.1 of SSR Part I.
- 6.2.2 **Preparation of cement Mortar:-** Refer Para 5.19.2 of SSR Part I. unless specified otherwise cement mortar shall be of mixes not leaner than 1:6. Mixing shall be done in mechanical mixer.
- 6.2.3 **Laying of bricks:-** Refer Para 5.23 of SSR Part I. Top courses of all plinths, Parapets, steps and top of walls below roof/ floor slab shall be laid with brick on edge. Bearing of floors, roofs etc.: - Refer Para 5.34.14. Of SSR Part I. Tops of walls bearing, the edges of RCC floors, roof slabs, beams or lintels shall be finished with 15 mm thick rendering of cement and sand mortar 1:4 mix.

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- 6.2.4 **Half brick thick walls:-** Refer Para 5.37 of SSR part I. Mix of mortar for half brick thick walls shall be 1:4 and shall be reinforced with 2 No 8 mm dia. Deformed bars at every 4th course, securely embedded in adjoining structure.
- 6.2.5 In the event of deviations, brick work as specified above, shall be priced at the applicable rates in MES schedule (Part-II) for M&L with sub class 'B' bricks, subject to concrete percentage, as applicable irrespective of strength of bricks specified.
- 6.2.6 Width of concrete lintels beams cills columns and the like coming in contact/connection with brick walls / pillars shall be kept to the actual width of brick work of that places unless of sets have been specifically shown, in which case, the width as shown on drawings shall be maintained.
- 6.2.7 **FLY ASH BRICKS :** Fly ash bricks shall be of Class A and designation 7.5. The specification approved manufactures or can be produced at work site with prior approval of accepting officer. The old size bricks shall be used. Fly ash bricks shall be conforming to IS 12894 – 2002 with technical specifications as under :-
- 6.2.8 **Compressive Strength:-** The minimum average wet compressive strength of any individual brick shall not fall below the minimum average wet compressive strength specified for the corresponding class of bricks by more than 20 percent as mentioned in table 1 in IS 12894 when tested as described in IS 3495 (Part I).
- 6.2.9 **Drying Shrinkage:-** The average drying shrinkage of the bricks when tested by the method described in IS-4139, being the average of three units, shall not exceed 0.15 percent.
- 6.2.10 **Efflorescence Test:-** The bricks when tested in accordance with the procedure laid down in IS 3495 (Part 3) shall have the rating of efflorescence not more than 'moderate' upto class 12.5 and slight for higher classes.
- 6.2.11 **Water absorption:-** The bricks when tested in accordance with the procedure laid down in IS 3495 (Part 2) after immersion in cold water for 24 hour, shall have average water absorption not more than 20 percent by mass upto class 12.5 and 15 percent by mass for higher classes.
- 6.2.12 **Cement:-** Refer Annexure I to Appendix 'B' to Particular specifications (List of manufacturers).
- 6.2.13 Fly ash bricks shall be procured from the following Make/Sources.
- (a) M/s Aditi Infra works/resources Bareilly.
 - (b) Power bricks corporation, Ghaziabad.
 - (c) Any other make approved by Accepting Officer.
- 6.2.14 **SAND FOR MASONRY MORTAR :-** Refer Para 5.4 of SSR Part I. It shall be natural conforming to IS-2116. Sea sand shall not be used in any case.
- 6.2.15 **TESTING OF BRICKS:-** The contractor shall make all arrangements for testing of bricks as per IS and shall bear all costs including transportation of bricks to Govt approved Lab and get it tested in the presence of his representative and the EIC. The results shall be recorded by the EIC and signed by both the parties.
- 7. CONCRETE WORK**
- 7.1 CEMENT**
- 7.1.1 **GENERAL:** Cement required for the entire work under the concrete 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 drawings, MES Schedules, IS specification as amended and particular specifications given here-in-after.
- 7.1.2 Type of cement for the subject work shall Ordinary Portland cement of Grade 43 (Forty Three) in accordance with IS-8112 of 1989 or Portland Pozzolana Cement (IS: 1489-1991) as mentioned in notes of Structural drawings. Mixing of OPC & PPC shall not be allowed in the work.
- 7.1.3 While using the PPC, following requirement shall be met by the contractor:-
- (a) PPC shall meet the strength criteria of 43 Grade OPC as laid down in IS : 1489-1991.
 - (b) The minimum period before striking formwork given in clause 11.3.1 of IS : 456 of 2000 shall be increased at site by 03 days. The contractor shall not claim anything extra on this account.
 - (c) Wet curing shall be done for a period of 14 days, wet curing of columns shall be done through Hessians cloth wrapped on the columns.
 - (d) The contractor shall submit the following certificates from the manufacturer of the cement for every batch of cement :-
 - (i) The quality of fly ash is strictly as per IS : 1489 (Part-I)-2002.
 - (ii) Fly ash is inter-ground with clinker and not mixed with clinker.
 - (iii) Dry fly ash is transported in closed containers and stored in silos. Only pneumatic pumping has been used.

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(iv) The fly ash received from thermal power plant using high temperature combustion above 1000°C has only been used.

(e) The compressive strength of cement at 03 days, 07 days and 28 days shall not be less than 23 Mpa, 33 Mpa and 43 Mpa respectively. Each lot of cement brought at site shall be tested for compliance by the GE before acceptance.

(f) In cold climate regions, where temperature is lower than 15°C, OPC shall be used (However during working seasons in cold climate regions, where OPC is not available use of PPC may be permitted provided it shall be ensured that while using PPC, atmospheric temperature should be more than 15°C).

(g) Mixing of OPC and PPC shall not be allowed in a work. However with the strict control of the ground executives, different buildings can have different types of cement.

7.1.4

SOURCES OF PROCUREMENT

(a) Cement shall be procured by the contractor directly from any of the following main producers of cement (for OPC & PPC) as given below :-

(i)	The Associated Cement Companies Ltd.	For OPC & PPC	(ii)	Grasim Industries Ltd.	For OPC & PPC
(iii)	Ultra Tech Cement	For OPC, PPC & PSC	(iv)	The India Cement	For OPC & PPC
(v)	Dalmia Cement	For OPC & PPC	(vi)	Andhra Cement Ltd.	For OPC & PPC
(vii)	Century Cements	For OPC & PPC	(viii)	Saurashtra Cement	For OPC & PPC
(ix)	Binani Cement	For OPC & PPC	(x)	Madras Cement	For OPC & PPC
(xi)	Mangalam Cement	For OPC & PPC	(xii)	Birla Corp Ltd.	For OPC & PPC
(xiii)	Orient Cement	For OPC & PPC	(xiv)	Lafarge Cement	For OPC & PPC
(xv)	Shree Cement	For OPC & PPC	(xvi)	J K Cement	For OPC & PPC
(xvii)	Jaypee Cement	For OPC & PPC	(xviii)	Ambuja Cement	For OPC & PPC
(xix)	Lakshmi cement	For OPC & PPC	(xx)	Prism cement	For OPC & PPC
(xxi)	M/s Cement mfg company Ltd.	For OPC & PPC	(xxi)	Ultra tech cement	For OPC & PPC
(xxii)	M/s OCL India Ltd	For OPC & PPC	(xxiii)	M/s Chettinad Cement Corpn Ltd	For OPC , PPC & PSC
(xxiv)	M/s Heidelberg Cement Corpn Ltd	For PPC only	(xxv)	M/s My Home Industries Ltd	For PSC only
(xxvi)	M/s Parasakti Cements Ltd	For OPC & PPC	(xxvi)	M/s Zuari Cement Ltd	For OPC & PPC
(xxvi)	M/s Toshali Cement PVT Ltd	For OPC, PPC & PSC	(xxvii)	M/s Saifco Cement Pvt Ltd	For OPC only
(xxviii)	M/s Shri Guru Kripa Cement Pvt Ltd	For OPC & PPC	(xxix)	M/s Barak Valley Ltd	For OPC only
(xxx)	M/s Dhrub Industrial Company Ltd	For OPC only	(xxxi)	M/s Sanghi Industries Ltd	For OPC 53 grade & PPC

(xxxii) Any other make approved by E-in-C's Branch including subsequent to receipt of tender after approval from Accepting Officer.

(b) However, where the quantity of cement required is less than 1200 bags, same may be procured from authorised distributors/dealers of approved manufacturer's, if so, permitted by GE in writing. Testing of cement shall in variably be got done before incorporation in work. The contractor shall submit test certificate for each batch of cement issued by the manufacturer.

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(c) The contractor shall furnish the particulars of the manufacturer of cement along with the date of manufacture to the GE for every lot of cement separately. The cement so brought shall be fresh and in no case older than 90 days from the date of manufacture. The GE shall verify the document in support of the purchase of cement. Before placing 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 requirements 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 IS 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 50 Kg only subject to tolerance given in Clause 9.2.1.1 and Annexure 'B' of IS-8112 and Clause 10.2.1.1 and Annexure 'B' of IS – 1489 for OPC and PPC respectively.

7.1.5 TESTING OF CEMENT

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

- (i) Method of sampling hydraulic cement as per IS : 3535-1986.
- (ii) Method of physical test of hydraulic cement as per IS-4031.
- (iii) Method of chemical analysis of hydraulic cement as per IS-4032-1985.

(b) The test certificate and test sheet shall be furnished with each batch of cement. The Engineer-in-Charge shall record these details in cement acceptance register to be maintained by him which will be signed by JE (Civil), Engineer-in-Charge, GE and the Contractors as given in the format here-in-after for verification.

(c) 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 is 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 days 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.

(d) The random samples as per relevant IS shall be selected by GE before carrying out testing. 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.

(e) 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.

(f) The contractor shall be required to set up adequate testing facilities at site to the entire satisfaction of GE for conducting setting time test and compressive strength test as per IS codes referred to here-in-before for the samples collected from the lot brought at site. These tests shall be carried out within 07 days of receipt of cement at site. The tests can alternatively be carried out at the Zonal laboratory, or any other recognized laboratory so designated by GE.

(g) The GE shall carryout independent testing as per the tests mentioned in the 'CEMENT SUPPLY AND ACCEPTANCE REGISTER' (as per **Annexure 'I'**) of random samples of cement drawn from various lots, if sample fails in 7 days compressive strength. The testing shall be carried out through National Test House, SEMT, CME, Regional Research Laboratories, Govt. approved Laboratories, Zonal laboratories/ IIT's as per IS : 3535-1986, (method of sampling hydraulic cement), IS-4031 (Method of physical test for hydraulic cement) and IS-4032-1985 (Method of chemical analysis of hydraulic cement) referred to above. The decision as to where the testing of cement is to be done shall be taken by GE. 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 test shall be borne by the contractor irrespective of the results of testing.

(h) The contractor shall submit original purchase vouchers for the total quantity of cement supplied under each consignment to be incorporated in the work. All consignment received at the work site shall be inspected by the GE alongwith the relevant documents to ensure the requirements as mentioned here-in-before, 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 GE 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.

(j) The Accepting Officer may order a board of officers for random check of cement and verification of connected documents during the currency of contract.

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7.1.6 STORAGE/ACCOUNTING/PRESERVATION OF CEMENT

(a) Cement shall be stored in covered godown over dry platform at least 20 cm high in such a manner as to prevent deterioration due to moisture or intrusion of foreign matter. In case of store room the stack should be at least 20 cm away from floors and 60 cm from 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.

(b) Stacking of cement shall be done as per relevant IS and as under :-

- (i) Each cement consignment shall be stacked separately and removal shall be made on the basis of First in First out.
- (ii) Adequate top cover will be provided.
- (iii) Stacks in no case shall be higher than 12 bags. The maximum width of each stack shall be 3.0 m. If the stack is more than 07 or 08 bags high, the bags shall be arranged in header and stretcher fashion, i.e. alternatively lengthwise and crosswise so as to pile together and avoid topping over.
- (iv) Adequate space shall be kept between two stacks.

(c) Cement godown shall be provided with two locks on each door. The key of one lock at each door shall remain with Engineer-in-Charge or his representative and that of the other lock with the contractor's authorized agent at site of works so that cement is removed from the godown only according to daily requirement with the knowledge of both the parties. During the period of storage, if any cement bag (s) is found to be in damaged condition due to whatsoever reason, the same shall be removed from the cement godown on written orders of the GE and suitable replacement for the cement bag (s) so removed shall be made and no claim whatsoever shall be admissible on this account.

(d) In case more than one type of cement is used in the work i.e. Ordinary Portland cement or Portland Pozzolona Cement, both type of cement shall be stored separately as directed by the Engineer-in-Charge to avoid mixing of these type of cement. Separate record shall be maintained including the location/ items where this type of cement is used.

(e) Cement shall be removed from the store only according to daily requirement with the knowledge of both the parties and the Engineer-in-Charge and the contractor shall record daily consumption of cement in cement consumption register, which shall be signed. Cement constants given in Appendix 'A' to E-in-C's branch letter No. 19280/E8 dated 03 May 1976 shall form the basis of consumption of cement for various items of works unless specifically indicated otherwise.

(f) 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.

7.1.7 SCHEDULE OF SUPPLY

The Contractor shall procure the cement timely as required in accordance with CPM chart agreed between GE and the contractor. The contractor will forfeit his right to demand extension of time if the supply of cement got delayed due to his failure in placing order in time to the manufacturer.

7.1.8 MEASUREMENTS AND PAYMENT OF CEMENT

(a) 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.

(b) The payment shall only be allowed after production of original purchase voucher, certified copies of test certificates from manufacturer for each consignment and results of testing carried out in laboratory on receipt of cement (07 days compressive test) are found satisfactory as per condition 64 of IAFW-2249. Rate of payment given in SSR shall be applicable for cement irrespective of type and grade of cement specified for use in the work.

**PARTICULARS SPECIFICATIONS (CONTD...)
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Annexure 'I'**CEMENT SUPPLY AND ACCEPTANCE REGISTER**

01. CA No. & Name of work :
02. Control No.* :
03. Name of Manufacturer/Brand Name/Grade of Cement :-
 (a) Manufacturer :
 (b) Brand :
 (c) Grade :
04. Qty of cement & Lot No./Week No. (in Bags) :-
 (a) Quantity :
 (b) Lot No./Week No. :
05. Manufacturer's test Certificates No. :
06. Random Test Details :-
 (a) Physical test report from _____ vide their letter No. _____
 (Name of approved Lab/Engineering College)
 (b) Chemical test report from _____ vide their letter No. _____
 (Name of approved Lab/Engineering College)

07. Details of Physical & Chemical properties :-

	Physical Requirements (as per IS-4031)									Chemical Requirements (As per IS-4032)								
	Specific Surface Area (Sqm/Kg)	Soundness by Le Chatelier	Soundness by Auto Clave	Initial Setting Time (Minutes)	Final Setting Time (Minutes)	Compressive Strengths (Mpa)			Temp during testing °C	Standard Consistency (%)	Lime Saturation Factor (Ratio)	Alumina Iron Ratio (Ratio)	Insoluble Residue (%)	Magnesium (%)	Sulphuric Anhydride (%)	Loss on Ignition (%)	Alkalies (%)	Chlorides (%)
						03 Days	07 Days	28 Days										
As per relevant IS																		
As per manufacturer's test certificate																		
As per random test certificate																		

Remarks with Signature

ContractorJunior EngineerEngineer-in-ChargeAccepted / RejectedGarrison Engineer

Remarks of BOO / Inspecting Officer / CWE

* To be allotted serially by GE consignment wise

- 7.2 **Fine Aggregate:-** Fine aggregate for concrete work shall conform to material specifications and grading within the limits of Grading Zones II to III all as specified in clause 4.4 of MES Schedule 2009 Part-I.
- 7.3 **Coarse Aggregate:-** Refer Clause 4.4 of MES Schedule Part I. Coarse aggregate for all plain cement concrete shall be graded crushed stone at contractor's options. For all RCC work, the coarse aggregate shall be graded crushed stone.
- 7.3.1 **Grading of Coarse Aggregate:-** Graded Aggregate of nominal sizes given herein under shall be used, unless specified otherwise hereinafter : -

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(a) Plain or reinforced cement concrete except in foundation of Brick or stone Walls/Pillars, Floors and Sub base to Floors.

(i) For structural elements of depth/thickness more than 50 mm - 20 mm.

(ii) For structural elements of depth/thickness less than 50 mm - 12.5 mm.

(b) Plain Cement concrete in Foundation of Brick/stone Walls, Pillars, Floors and Sub Base to Floors

(i) Under 30 mm thickness : 12.5 mm

(ii) 30 to 80 mm thickness : 20 mm

(iii) Exceeding 80 mm thickness : 40 mm

7.4 **Water:-** Water shall conform to the requirement stipulated in IS 456 and as per clause 4.9 of MES Schedule Part I.

7.5 **Form Work**

7.5.1 Form work shall comply with requirements of clause 4.11.6, 4.11.6.1 to 4.11.6.5 and 7.15 of MES Schedule part-I.

7.5.2 Form work shall be of steel or plywood of adequate strength at the option of the Contractor. However deformed steel sheet shall not be permitted for use as form work. In case of any deviation involving form work to surfaces exposed to view the pricing shall be done at the rates of timber form work for fair finish.

7.6 **FINISHING TO EXPOSED SURFACE OF CONCRETE**

Refer to clause 4.11.16.1 4.11.16.2(a) to (e) and 4.11.16.3 of MES Schedule Part-I. If thickness of plaster in cement mortar (1:3) as specified in clause 4.11.16.2(b) of MES Schedule Part-I, is required to be increased in excess of 5mm to achieve fair and even surface it shall be provided by the Contractor without any price adjustment.

7.7 **Curing and protection of cement concrete surfaces: -** All cement concrete surfaces shall be cured and protected as specified in clause 4.11.13 and 4.11.14 of SSR Part I.

8.0 **DEMOLITION/DISMANTLING/TAKING DOWN AND MAKING GOOD**

8.1 Dismantling/demolition/taking down to the extent as specified shall be carried out all as specified in section 21 of MES Schedule. Particular precaution shall be taken to prevent damage to the part of structures to be left intact and adjacent structure. If any damage caused to the structures due to carelessness and negligence on the part of the contractor shall be made good by the contractor at his own expense.

8.2 Rubbish shall be disposed off to a distance not exc 100 meter as directed by the Engineer-in-Charge.

8.3 All works in any trade dismantled/demolished/taking down in excess of the requirements given in contract due to mistake/carelessness of contractor or his workman or any case whatsoever shall be made good by the contractor to the original specifications at his own cost.

9.0 **STEEL AND IRON WORK**

9.1 **TYPE OF STEEL**

All steel to be incorporated in the work shall be procured & supplied by the Contractor under his own arrangements and at his own cost. Steel for various types of work shall be of following quality / grade: -

(A) **REINFORCEMENT STEEL**

High strength deformed steel bars produced by Thermo Mechanical Treatment Process (TMT steel bars of grade Fe-500 D) meeting all other requirements of IS-1786.

(B) **STRUCTURAL STEEL**

(i) Standard Quality - Conforming to IS-2062.

(ii) Ordinary Quality - Conforming to IS-1977.

(C) **GALVANISED STEEL SHEETS** (Plain and corrugated) -Conforming to IS-277.

(D) **FABRIC REINFORCEMENT FOR CONCRETE -** Conforming to IS-1566.

9.2 **SOURCE OF PROCUREMENT OF STEEL**

(A) **REINFORCEMENT STEEL**

TMT steel bars shall be procured directly from the main producers of TMT bars. List of approved Primary Steel Manufacturers for TMT are as given below :-

1.	Rashtriya Ispat nigam Ltd Brand- RINL	For all types & dia of TMT bars
2	Tata Iron & steel Co.(TISCO or Tata Steel) Brand-TATA	For all types & dia of TMT bars
3	Steel Authority India Ltd Brand- SAIL	For all types & dia of TMT bars
4	Jindal steel and Power Ltd Brand- JINDAL	For Fe 500, Fe 500D&, Fe 550, Fe550D TMT Bars
5	Shyam steel Industries Ltd Brand- SHYAM TMT	Fe 500 & Fe 500D, TMT rebars
6	Jai Balaji Industries Brand- JAI BALAJI	Fe 500 & Fe 500D TMT bars

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7	SPS Steel rolling Mills Ltd Brand- ELEGANT TMT	Fe 500, Fe 550D, Fe 500D CRS
8	SRMB Srijan Ltd Brand- SRMB	For Fe 500, Fe 500D, 550, 550D (8mm to 32mm)
9	M/s Steel Exchange India Ltd Brand- SIMHADRI TMT	Fe 500 & Fe 500D HSCRM
10	M/s Concast steel & Power Ltd Brand- CONCAST MAXX	Fe 500, 500D 8mm to 32mm
11	M/s Electrosteel steels ltd Brand- ELECTROSTEEL	Fe 500D 8mm to 36mm
12	M/s JSW steel Ltd, Brand- JSW TMT PLUS	Fe 500, 500D & CRS steel (8mm to 40mm)
13	M/s Adhunik Metaliks Brand- ADHUNIK MET+	Fe 500 & Fe 500D (8mm to 32mm)
14	M/s Bajrang power and Ispat Ltd Brand- GOEL TMT	Fe 500, Fe 500D (8mm to 32mm)
15	M/S Kamachi Sponge & Power corporation Ltd Brand- KAMACHI	Fe 500 & Fe 500D, Fe 550, fe 550D HCRM (8mm to 40mm)
16	M/s Shyam Metaliks & Energy Ltd, Odisha Brand- SEL	Fe 500, (8mm to 32mm)
17	M/S BDG Metal & Power Ltd, Kolkata Brand- BDG6	Fe 500, Fe 500D, Fe 550D (8mm to 32mm)
18	M/S Rashmi Metaliks Ltd, WB Brand- RASHMI TMT	Fe 500 (8mm TO 32mm), Fe 500D & Fe 550D (8mm to 25mm)
19	Any other make approved by E-in-C's Branch	

(B) STRUCTURAL STEEL

Structural steel shall also be procured directly from the main producers of structural steel viz. SAIL / RINL / TISCO / IISCO. In case of non availability with main producers, the structural steel can be procured from approved secondary producers with a reduction of 5% (Five Percent) of the accepted rate of structural steel. In case the desired section of structural steel is not rolled / manufactured by the main producers, there shall be no price adjustment in use of structural steel procured from approved secondary producers.

LIST OF APPROVED SECONDARY PRODUCERS FOR STRUCTURAL STEEL**List of secondary producers :-**

- (i) M/s Kashi Vishwanth Steel Ltd. Narain Nagar, Bazpur Road, Kashipur - 244 713, Distt : U.S. Nagar (Uttaranchal) (Ph: 05947-262109, 262138, Fax: 05947-262103)
E-mail: kvs_ksi@datainfosys.net, kvscorporate@kvsl.com
Visit us at : www.kvsl.com
- (ii) M/S K L Steel Pvt Ltd Post Box No. 61, Lal Kuan, Bulandshahar Road, Ghaziabad (UP), Tele : 0120 – 2867911, 2867915 Fax : 0120 – 2867917
- (iii) M/S Shri Badrinarain Alloys & Steels Ltd, 95, Stephen House, 4 B B D Bag
Kolkata 700001 Tele : 033 2220 5381 / 2248 1601 FAX : 033 2248 8664
- (iv) M/S Pushpak Steel Industries Pvt Ltd, Gate No. 119, Alandi Markai Road,
Dhanore, Tah Khed, Pune, Tele – Fax 020-26444700 / 070
- (v) M/s Amba Shakti Ispat Ltd. Plot No. 06, Phase-II Industrial Area,
Kala Amb, Distt – Sirmour (HP) Tele : 01734-309983, 309986
- (vi) M/s Shree Parashnath Re-Rolling Mills Ltd.
4C, Maharshi Devendre Road 3rd floor
Kolkata – 700 007 Phone : 033-2274 0045/4475, Fax : 033-2274 0039
- (vii) M/S Tata Steel Industries, Tata Steel – Tube Division
Jeevan Tara Building, 1st floor, 5, Sansad Marg, New Delhi – 110001
Tele : 99111 2334, 264601734, 309983, 309986
- (viii) M/S K L Concast Pvt Ltd
Z-18, Naraina, New Delhi
- (ix) M/S Karam Steel Corp, Nasrali, Road, PO Box No. 56,
Mandi Gobind Garh – 147301

FABRIC REINFORCEMENT FOR CONCRETE

(C) These shall be procured directly from primary producers as approved by E-in-C's Branch and shall be ISI marked.

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(D) Steel sections for railings, gates, fencing, guard bars, grills, steel chowkhat, holdfasts etc., which do not constitute structural members, can be procured from main producers / secondary producers / BIS marked manufacturers or their authorised dealers at the option of Contractor without any minus price adjustment. Tests will not be insisted upon for such steel sections.

NOTES

(i) All finished steel shall be well and clearly rolled to the dimensions, sections and weights specified. The finished materials shall be reasonably free from cracks, surface flaws, laminations, rough, jagged and imperfect edges and any other harmful defects and shall be finished in a proper manner. Tolerance on size and weight of reinforcement bars shall not be more than that specified in clause No. 10.17.4 and 10.17.5 of SSR Part-I and as specified in IS-1786 and other relevant IS Codes.

(ii) TMT bars shall have embossing / engraved marking of trade name of producer at regular intervals.

(iii) Reinforcement Steel, Structural steel and Galvanized Steel Sheets and Fabric reinforcement for concrete may be permitted from authorized dealers of main producers in case the total requirement of steel is less than 5 tonnes.

9.3.1

TESTING OF STEEL

The manufacturer is to carry out inspections and testing of steel in accordance with the relevant BIS provisions. The Contractor shall submit the manufacturer's test certificate in original along with the test sheet giving the results of each mechanical test as applicable and the chemical composition of the steel or authenticated copy thereof duly signed by the manufacturer with each consignment. The Engineer-in-Charge shall record these details in "**STEEL ACCEPTANCE REGISTER**" as given in **Annexure 'II'** hereinafter, after due verification.

Independent testing of reinforcement and structural steel to be carried out by the GE, shall be optional at the discretion of GE, in case of procurement of steel from main producers and testing charges shall be borne in accordance with condition 10 of IAFW-2249 i.e. testing charges shall be borne by the department if the test results are found in order, otherwise these shall be borne by the contractor.

Independent testing of structural steel to be carried out by the GE shall be mandatory, in case of procurement of structural steel made from the secondary producers and testing charges shall be borne by the contractor irrespective of the outcome of test results. In both the cases the contractor at his own cost shall provide all facilities required for the testing and cost of material consumed in tests, which shall be borne by the contractor.

Independent testing of reinforcement and structural steel shall also be carried out by the GE / CWE for random samples of steel drawn from various lots from National Test House, SEMT Wing CME, Regional Research Labs, NABL approved labs, Govt. Engineering college, Zonal labs etc. as per the recommended minimum frequency shown in table at Annexure 'III'.

Sample from each lot shall be tested for quality and elongation. The elongation shall not be less than 18%. Cost of samples, transportation and testing shall be borne by the contractor. The records of such checks shall be maintained in steel test register.

	<u>ANNEXURE 'III'</u>		
	FREQUENCY FOR NORMAL MASS, TENSILE, BEND AND RE-BEND TESTS OF STEEL		
	S. No.	NOMINAL SIZE	QUANTITY
	REINFORCEMENT STEEL		
	1.	Bar size less than 10 mm	1 Sample (3 specimens) for each test for every 25 Tonnes or part thereof.
	2.	Bar size 10 mm To 16 mm	1 Sample (3 specimens) for each test for every 35 tonnes or part thereof.
	3.	Bar size over 16 mm	1 Sample (3 specimens) for each test for every 45 tonnes or part thereof.
	STRUCTURAL STEEL		
	4.	Tensile Test	1 Test for every 25 tonnes of steel or part thereof.
	5.	Bend Test	1 Test for every 10 tonnes of steel or part thereof

NOTES

(i) For various tests, acceptance criteria, tolerance etc, refer to Annexure 'II' and relevant BIS Codes.

(ii) In case of procurement of structural steel from secondary producers, testing to be carried out by GE as per above frequency is mandatory. In such case, no payment shall be released to the Contractor for any consignment or part thereof and steel shall not be incorporated in the work unless satisfactory test results are obtained and the consignment is passed by GE. Schedule of procurement shall be prepared keeping in view the time lost in activities related to testing. Any items of steel, not meeting the requirements, shall be rejected

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and the particular consignment removed from the site by the Contractor at his own cost. The Contractor will have no claim on this account.

(iii) Three samples 3.00 m long of each section of each consignment shall be retained at the project site till completion of the work. These samples shall be suitably marked and properly preserved.

(iv) In addition to above tests, the TMT steel received at site will be tested by GE / CWE in person before incorporation in the works by simple field tests and records shall be maintained. Simple field test may involve sand papering the section of the TMT bar and dipping the same in chemical solution to give a clearly defined annular ring of tempered steel.

(v) The Contractor at his own cost shall arrange the facilities for such tests as mentioned in above two Paras and cost of sampling, transportation and testing shall be borne by the Contractor.

ANNEXURE 'II'**STEEL SUPPLY AND ACCEPTANCE REGISTER**

1. CA No. and Name of Work : _____
2. Contract No. : _____
3. Name of Manufacturer's TC No. : _____
4. Manufacturer : _____
5. RANDOM TEST DETAILS
 - (a) Physical test report from _____ vide their letter No. _____
(Name of NABL approved Lab / Govt. Engg. College)
 - (b) Chemical test report from _____ vide their letter No. _____
(Name of NABL approved Lab / Govt. Engg. College)
6. TYPES OF STEEL, DIA & QUANTITY
 - (a) Type : TMT / CRS
 - (b) Dia : mm
 - (c) Actual Weight : MT
 - (d) Conversion Weight : MT

	CHEMICAL TEST							MECHANICAL TEST					
	Carbon (%)	Sulphur (%)	Phosphorous (%)	Sulphur + Phosphorous (%)	Manganese (%)	Silicon (%)	Corrosion resistant element	Weight per metre	Yield Stress (N / Sqmm)	Tensile strength (N / Sqmm)	Percentage Elongation (Minimum 18%)	Bend Test	Rebend Test
As per IS 1786													
As per manufacturer's test certificate													
As per independent test													

Remarks with Signature

Accepted / Rejected

**CONTRACTOR
ENGINEER****JUNIOR ENGINEER****ENGINEER-IN-CHARGE****GARRISON****REMARKS OF BOO / INSPECTING OFFICER / CWE.****CONTD ...**

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9.3.2 DOCUMENTATION:-

- (a) The Contractor shall submit original machine numbered purchase vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be incorporated in the work. All consignment received at the work site shall be inspected by the GE alongwith relevant documents before acceptance. The original vouchers and test certificates shall be defaced by the Engineer-in-Charge duly indicating the CA No. and particulars of work for which used and shall be kept on record in the office of GE duly authenticated and with cross reference to the control number recorded in Steel Acceptance Register. Two separate files may be maintained in GE office duly serially numbered for maintaining original vouchers and manufacturer's test certificates in original alongwith test sheets in original or an authenticated copy thereof.
- (b) The Steel Acceptance Register will be signed by JE, Engineer-in-Charge, GE and Contractor and shall be maintained by GE.
- (c) A Steel Test Register containing results of independent and additional testing done by GE, field testing done by GE /CWE etc shall be maintained by GE.
- (d) The Accepting Officer may also order a Board of Officers for random check of steel and verification of connected documents. Hence a register containing records of surprise checks and checks done by Board of Officers shall also be maintained by GE.
- (e) The entire quantity of steel items 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 Engineer-in-Charge and the Contractor duly checked by GE.
- (f) Certified true copies of vouchers and test certificates including test sheets shall also be maintained by Engineer-in-Charge after defacing, with cross reference to the control No. recorded in the Steel Acceptance Register.

9.3.3 (a) STORAGE:

- (i) Steel of different grades and sizes shall be stacked separately. For each class of steel separate areas shall be earmarked. Steel shall be marked with distinct painting marks for easy identification and it shall be always stacked at least 15 cm above the GL.
- (ii) Steel shall be stored in a manner so as to prevent distortion and corrosion. Any section that has deteriorated and corroded or if considered defective for any other reason, the same shall be removed from site by Contractor at his own cost.
- (iii) Steel sections which are not likely to be used before onset of monsoon shall be given cement slurry wash so as to ensure scale and rust free steel. Also steel sections which are procured during monsoon and are not likely to be used within a week from the date of procurement shall be given cement slurry wash immediately.

(b) SAFETY OF STEEL

It shall be the responsibility of Contractor to make sure that all possible arrangements are made for safe custody of the steel. In case of any loss of steel, the Contractor only will be responsible and the loss shall be made good by him without any delay and no claim whatsoever would be entertained on this account.

9.3.4 SCHEDULING AND SUPPLYING

Schedule of supply of steel will be finalised by GE in consultation with Contractor and the same shall be incorporated in CPM chart so that supply of steel is monitored in a way to avoid any delay in completion of work. GE shall ensure that Contractor places the demand(s)/requisition(s) of steel with adequate time lead. The schedule of supply of steel shall be vetted by CWE from time to time.

9.3.5 PROCEDURE FOR MAKING PAYMENTS FOR STEEL INCLUDING MEASUREMENTS, CONVERSION WEIGHT ETC.

- (a) The requirement of steel shall be worked out section wise and shall be recorded in a separate Register jointly maintained by Contractor and Engineer-in-Charge. Day to day record shall also be signed by the Contractor as well as Engineer-in-Charge. The register should contain different sheets for each steel section indicating reference to drawing number, location, number of bars, sketch of each length of bar with dimensions, length of waste and off cuts and the quantity thereof by multiplying the length of bars with the conversion factors given in MES schedule Part-II. For sections not listed in MES schedule, the I.S. conversion table shall be followed. The contractor shall not have any claim in case the actual weight of steel items works out to be more than the weight obtained by standard conversion factor. For making adjustment, arising out of reinforcement bars, the length of each bar for the purpose of calculation of laps shall be taken as 10 meters.
- (b) On completion of work, the Register will be in the custody of the Engineer-in-Charge and Contractor may keep a copy for his record, if he so desires.
- (c) Payment for the steel brought by the Contractor shall be released by GE only after following actions are taken by GE and Engineer-in-Charge:-

- (i) Physical verification of steel to confirm the actual quantity of steel as well as to verify the aspects brought out in clause 7.3 above.
- (ii) Receipt of original machine numbered purchase vouchers of manufacturer(s) from Contractor.

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(iii) Receipt of manufacturer's test certificates (in original) alongwith test sheet giving result of each mechanical test and chemical composition of steel or authenticated copy thereof duly signed by manufacturer.

(iv) Receipt of satisfactory test results for independent testing on random samples of steel in terms of clause 7.3.1 above.

(v) Satisfactory test result in case of field testing done by GE/CWE in case of TMT steel manufactured by secondary producers.

9.3.6 **ACCEPTANCE/REJECTION OF STEEL:** The Contractor shall keep a separate stack of steel brought at site for inspection, away from the accepted stack of steel. In case, the consignment does not meet any of the requirements of the relevant IS codes, the steel shall be rejected by the GE, and it shall be removed from the site within 24 hours at the cost of the Contractor.

9.4 **WELDING:-**

(a) Refer clause 10.15 of MES Schedule Part I and shall be carried out by metal arc process all as per IS-816 and IS-823.

(b) Unless, otherwise specified here-in-after or shown on drgs welding shall be 6 mm thick continuous fillet weld and shall cover the joint.

11.0 **CHAIN LINK FENCING**

10.1 Chain link fencing shall be all as specified under Para 10.34 of SSR Part I and shall conform to IS: 2712 – 2003. The mesh wire and line wire of the fabric shall be manufactured from galvanized steel wire conforming to IS 280: 2006 having zinc coating of type heavy as laid down in IS 4826. Tensile strength of wires shall be within 400 to 500 MPa. Zinc coating shall be smooth, even and bright. Chain link in fencing shall be fixed to the fencing posts as indicated.

11.0 **PLASTERING AND POINTING:-**

11.1 **Materials:-**

11.1.1 **Sand:-** Refer Para 14.5 of SSR Part I. It shall be conforming to IS-1542.

11.1.2 Mix of mortar and thickness of plastering/ pointing shall be as per respective Schedule "A" item.

11.2 **Workmanship:-**

11.2.1 **Rendering:-** Refer Para 14.12, 14.14 and 14.16 of SSR Part I. Unless specified otherwise in Schedule "A", mix of mortar for rendering shall be 1:6, single coat, top surfaces finished fair and even all as directed.

11.2.2 **The rates of SI-2051 and 2052 or SI-2057 and SI-2058** shall be payable proportionally in cases where the plaster thickness is less than "10mm" and '12 mm' respectively subject to contractor's percentage. This clause is applicable for measurable contracts (except item rate contracts)

11.2.3 **Repairs to Plastered surfaces:-** Refer Para 14.12, 14.16, 14.14 and 14.28 of SSR Part I. Unless otherwise specified in Schedule "A" mix of mortar shall be 1:6, single coat work, top surfaces finished fair and even.

12.0 **WHITE WASHING/COLOUR WASHING:-**

12.1 **MATERIALS:-**

12.1.1 **Lime:-** Refer Para 15.2 of SSR Part I. It shall be conforming to IS-712.

12.1.2 **Yellow and red Ochre:-** Refer Para 15.3 of SSR Part I.

12.1.4 **Dry distemper:-** Refer Para 15.5 of SSR Part I. It shall be of first quality, any of the make specified hereinafter.

12.1.5 **Oil Emulsion distemper:-** Refer Para 15.6 of SSR Part I. It shall be of first quality and shall be one of the brands specified hereinafter.

12.1.6 **Cement base paint:-** Refer Para 15.7 of SSR Part I. It shall be of make as specified hereinafter.

12.2 **Workmanship:-**

12.2.1 **General:-** Refer Para 15.10 and 15.11 of SSR Part I.

12.3.2 **Cement Painting:-** Refer Para 15.15 of SSR Part I. To prevent algae growth and moss growth and efflorescence, silicon base water repellent compound shall invariably be added as directed by EIC. Unless otherwise specified in Schedule "A", new surfaces shall be applied with two coats of cement base paint over one coat of cement base primer whereas old surfaces shall be applied with one or more coats as indicated in Schedule "A". 1st coat on old distempered surfaces shall be treated as "**Subsequent coat**" for the purpose of payment under the contract.

12.3.3 **Cement wash:-** Refer para 15.17 of SSR Part I. Cement for cement wash shall be white and mixed with 1 Kg of NaCl per 160 litres of slurry.

13.0 **PAINTING:-**

13.1 **Materials:-** Refer Para 17.2 of SSR Part I.

13.1.1 **Plastic emulsion Paints:-** It shall be conforming to IS 5411, Out of one of the makes /brand specified hereinafter.

13.1.2 **Synthetic Enamel Paint:-** It shall be conforming to IS-2932 and shall be one of the make specified hereinafter.

13.1.3 **Red oxide Zinc Chrome Primer:-** It shall be conforming to IS-2074. It shall be one of the makes/ brands specified hereinafter. It shall be of the same make as that of finishing / under coat.

CONTD ...

**PARTICULARS SPECIFICATIONS (CONTD...)
(MATERIALS AND WORKMANSHIP)**

- 13.1.4 **Coal tar Black:** - It shall be of grade "A" conforming to IS 290 and shall be one of the make specified hereinafter.
- 13.2 **Workmanship:-**
- 13.2.1 **Painting Generally:-** Refer Para 17.3 to 17.5 of SSR Part I. Unless specified otherwise new surfaces of wood/wood based materials /steel shall be applied with two coats of synthetic enameled paint over one coat of primer.
- 13.2.2 **Painting to wood work:-** Refer Para 17.6 of SSR Part I.
- 13.2.3 **Painting steel and iron work:-**Refer Para 17.8 of SSR Part I. Mordant solution made with composition of 64 parts of water and copper chloride, copper nitrate, aluminium chloride and HCL acid, each one part all by weight, shall be applied to GI surfaces @ 5 litres /100 sqm before application of red oxide etc. where GI surfaces ordered to be painted. All steel surfaces unless specified otherwise in Schedule "A" shall be applied with two coats of synthetic enameled paint over one coat of primer. However old surfaces shall be applied with one or more coats as indicated
- 13.2.4 **Tarring or Painting with coal tar:-** Refer Para 17.12 of SSR Part I. Tarring shall be done with coal tar black paint type "A" conforming to IS 290 of make as approved.
- 14.0 GUARANTEE**
- 14.1 The contractor shall give one year guarantee after completion of work. If any defects are noticed during this period, the same shall be rectified by the contractor at his own cost under own arrangement.

GENERAL

If any of the specifications are not given above, the materials used shall either bear ISI marking or conforming to ISS (If ISI marked not manufactured) and workmanship shall be all as per MES Schedule 2009. Part-I.

Note : Para Numbers/clause Nos SSR part I wherever written wrongly shall be read as respective correct clause/paras of SSR Part I (2009) only.

SIGNATURE OF CONTRACTOR
DATED : _____

DCWE (Contracts)
for Accepting Officer

**PARTICULARS SPECIFICATIONS (CONTD...)
(MATERIALS AND WORKMANSHIP)**

Appendix 'A'

**LISTS OF ISI/BIS/CERTIFIED (MARKED) PRODUCTS
TO BE INCORPORATED IN WORKS**

Sl No.	Material	IS No.
1	Concrete	
	(a) Integral water proofing compounds	IS:2645
	(b) Cement Ordinary Portland	IS:8112
2	Joinery	
	(a) Wooden flush door shutters, solid core type	IS:2202 Part 1
3	Builders Hardware	
	(a) Steel Butt Hinges	IS:1341
	(b) Non ferrous butt Hinges	IS:205-1978
	(c) Ferrous Tower/ Barrel Bolts	IS:204 Part I
	(d) Non- Ferrous Tower/ Barrel Bolts	IS:204 Part II
	(e) Door Handles (Non Ferrous)	IS:208
	(f) Parliament Hinges , Ferrous	IS:362
	(g) Hydraulically operated Door closers	IS:3564
	(h) Continuous piano hinges	IS:3818
	(j) Non Ferrous metal sliding door bolts	IS:2681
	(k) Tee and strap Hinges	IS:206
	(l) Mild steel sliding door bolts	IS:281
	(m) Hasp and staples	IS:363
4	Roof covering	
	(a) Bitumen felts of water proofing and damp proofing (Hessian felt)	IS:1322
	(b) Glass fibre base felts type 2 grade II	IS:7193
5	Ceiling and lining	
	(a) Plywood for General purposes	IS:303
	(b) Untenured particle Board	IS:3087
	(c) Fibre Hardboard	IS:1658
	(d) Medium density fibre board	IS:12406
	(e) Veneered Particle Board	IS:3097
6	Flooring	
	(a) White Portland cement	IS:8042
	(b) Cement concrete flooring tiles	IS:1237
7	Water supply, plumbing , drains and sanitary appliances	
	(a) Concrete pipes with or without reinforcement	IS:458
	(b) Salt Glazed stone ware pipes	IS:651
	(c) Centrifugal cast (spun) iron spigot and socket soil, waste and vent pipes, pipes fittings and accessories	IS:3989
	(d) UPVC soil , waste and rain water pipes	IS:4985

**PARTICULARS SPECIFICATIONS (CONTD...)
(MATERIALS AND WORKMANSHIP)**

Appendix 'A' (Contd...)

PARTICULAR SPECIFICATIONS (CONTD...)

**LISTS OF ISI/BIS/CERTIFIED (MARKED) PRODUCTS
TO BE INCORPORATED IN WORKS**

	(e) Sand cast iron Spigot and socket soil waste and ventilating pipes and fittings	IS:1729
	(f) Galvanised Mild steel tubes and fittings	IS:1239 (Part I and Part II)
	(g) Vitreous China Sanitary appliances	IS:2556
	(h) Plastic water closet seats and covers	IS:2548
	(j) Flushing cistern for water closets and urinals other than plastic	IS:774 , IS:2326 (automating flushing cistern)
	(k) Ball valves (Horizontal plunger type) including floats for water supply purposes	IS:1703
	(l) Cast copper alloy screw down bib taps and stop valves	IS:781
	(m) Pillar taps	IS:1795
8	Electrical works	
	(a) Ceiling rose	IS:371
	(b) Tumbler switches	IS:3854
	(c) Socket outlet- 3 pin plug and socket	IS:1293
	(d) Switch fuses (Main & Switch)	IS:4064
	(e) Rigid steel conduit	IS:1653
	(f) Rigid non metallic Conduit	IS:2509
	(g) Single core cable polyethylene insulated and PVC sheathed cable	IS:1596
	(h) Starter for tube light	IS:2215
	(j) Fluorescent lamps	IS:2418
	(k) Aluminium and steel cored stranded conductor	IS:398
	(l) MCB	IS:8828
	(m) PVC insulated cables	IS:694
	(n) paper insulated lead sheathed cables	IS:692

SIGNATURE OF CONTRACTOR
DATED : _____

DCWE (Contracts)
for Accepting Officer

CONTD

APPENDIX 'B' TO PARTICULAR SPECIFICATIONS
APPROVED MAKES/NAMES OF FIRMS FOR PRODUCTS
TO BE INCORPORATED IN WORK

LIST OF PRODUCTS AND THEIR MAKES						
B/R RELATED PRODUCTS						
SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
NOTE: The products have been grouped into the following categories as per clarification below: - (a) GROUP-I : Products recommended for Prestigious and Heritage Buildings (High End). (b) GROUP-II: Products recommended for important / routine use (Middle End). (a) GROUP-III: Products recommended for lower end use like sheds, garages etc. (Low End).						
1	FURNITURE					
		Modular Office Furniture System, Chair & other furniture related to office purpose in the brand name of PSL Modular	GODREJ USHA LEXUS DURIAN Euroacoustic Products Ltd	GODREJ USHA LEXUS DURIAN M/S Empire Safe Co.		
2	PVC/UPVC DOOR, WINDO & CHOWKHAT					
		PVC/UPVC Doors (Panel doors, moulded doors), Window and Chowkhat	Rajshree Plastiwood M/s H ₂ O Solutions New Delhi M/s Kumar Arch Tech Ltd M/S Sintex SUNWIN	Polyline from Polyline extrusion Pvt.Ltd Kolkata Rajshree Plastiwood M/S Sintex SUNWIN	Duroplast Extrusion Pvt Ltd. Rajshree Plastiwood M/S Sintex	
3	WOODEN DOORS & WINDOWS					
		Wooden Panel Doors & Windows	M/s Joinery Manufacturing Co Kanpur M/s Choiti Industries , Kanpur	M/S Goyal Industries Pvt Ltd, New Delhi. MP Wood Products	M/s Satish Kumar & Co. Khajuri Road Jamuna-nagar. Doorking Kolkata	
		Factory made Shutters Panelled /Skelton shutters (Fly proof /Glazed)		M/S Jain wood Industries	M/S Jain wood Industries	
		Flush Doors ISI Marked	M/s Kitply Industries Ltd , Kanpur M/s Northern Doors Pvt Ltd, Kanpur.	M/s Oriental Door, Mandhana Kanpur. M/s Century Plywood (Corbett) MP Wood Product	M/s Oriental Door, Mandhana Kanpur. M/s Shiv Hari plywood (Corbett) M/s Mysore Chip Board- Archid	
				M/S Jain wood Industries	M/S Jain wood Industries	
4	DOOR & WINDOW FITTINGS					
		ISI & Non ISI Aluminium door & window fittings	Classic, New Delhi Mepro	Classic, New Delhi M/s Elite Enterprise, Mumbai M/S Urgent Industries	Mohan Metal Ind. Shahadra. M/s Aluminium Udhog M/S Urgent Industries	
		Plain /Pin headed / Frosted Sheet Glass	Saint Gobain Modi Guard	Asahi Modi Guard	Hindustan Pilkington Glass Works Asahi	
		Putty for glazing	Gold Mohar J&N	Shalimar Hardware Berger	Rajdoot	
5	FALSE CEILING					
		PVC False ceiling	Indian Gypsum Kumar Arch Tech Pvt Ltd	Everest Industries Indian Gypsum	Everest Industries Indian Gypsum	
		Gypboard/'E' board False Ceiling	ARMSTRONG Ramco Industries	ARMSTRONG Ramco Industries	Indian Gypsum	
		Calcium silicate designer/Acoustic board		M/S Bharat Steel Rolls	M/S Bharat Steel Rolls	
		GI pre coated 'T' grid false ceiling suspension system		M/S Bharat Steel Rolls	M/S Bharat Steel Rolls	

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
6	CUPBOARDS, CABINETS, DOOR, WINDOWS & WARDROBE					
		Steel windows, ventilator (as per IS 1038 of 1983) and pressed steel door/window frames, steel lockers & cup board frame/ shutters	M/s Anoop Industries Pvt Ltd, Hanuman Chowk, Meerut Cantt.	M/s Agra Timber & Steel Products, Agra. M/s Gupta and Jain Enterprises	M/s Sen Harvic Vora Building, 1st Floor, 50 Nakhoda Street Bombay	
			M/s Ishwar Industries, 175/A, Bombay Bazar, Meerut Cantt.	M/s Anoop Industries Pvt Ltd, Hanuman Chowk, Meerut Cantt.	M/s AGEW Steel Manufactures (Pvt) Ahmedabad	
			M/s Aswini & Sons, E-15, Patel Nagar -II, Ghaziabad	M/s GS Udyog, G-11, Site III. Panki, UPSIDC Industrial Area, Kanpur.	M/s Multiwyn Industries Corpn Calcutta.	
			Poonam Enterprises, E-10, Industrial Estate, Talkatora , Lucknow.	Bajaj Steel Industries Ltd	M/s Chandni Industries Ghaziabad	
				M/s Chandni Industries Ghaziabad		
			Bajaj Steel Industries Ltd	Chabbra Steel Udhog Ltd Meerut	M/s Gupta and Jain Enterprises	
				M/S Gupta Iron Udyog	M/S Gupta Iron Udyog	
		PVC Kitchen Cup Boards/ ward robes	Kumar Arch Tech Pvt Ltd			
7	GALVANIZED SHEETS, PANELLING, PARTITIONS, HUTS & BATHROOMS					
		CGI/PGI sheet	EVEREST	SWASTIK	CHARMINAR	
			CHARMINAR	CHARMINAR	VISKA	
		Color Coated Sheet galvalume	M/S Ispat Industries Ltd	M/s Cril Colour Roof India Ltd.	M/s Lloyd	
			Tata Blue Scope Steel Ltd	Tata Blue Scope Steel Ltd	M/s Matco Roof Pvt Ltd	
			Prestart infrastructure Projects Ltd	Everest Industries Ltd	Tata Blue scope steel Ltd	
		Wooden wall Panel	ARMSTRONG	ARMSTRONG	-	
8	SANITARY WARES					
		CP Bath Fittings	Jaquar & Company Pvt Ltd	Plumber	Prayag Polymer Pvt Ltd	
			Marc	Gem	Gem	
			Zolotov.	Seiko	Seiko	
			M/S Shakti Enterprises	Blue Star -SILVER SHINE	Plastocraft Sanitary India Pvt Ltd	
				M/S Shakti Enterprises	Aluminium Udhog	
		CP Bath Fittings		M/S Status Sanitech Pvt Ltd(PLAYER)	M/S Status Sanitech Pvt Ltd(PLAYER)	
				M/S Moha Metal Industries(Brand-CORONET)	M/S Moha Metal Industries(Brand-CORONET)	
				PEARL	PEARL	
		Bib Taps & Stop Cocks (Brass)	Zolotov.	M/s Prakash & Co Mayapuri, Delhi	M/s Prakash & Co Mayapuri, Delhi	
				Zolotov.	L&K	
		Wash Basins/WCs	Jaquar & Company Pvt Ltd	Neycer Kermag (standard)	Somany	
			Hind ware	Hind ware		
			Hindustan Sanitary Ware (Hindware) (1st quality),	Hindustan Sanitary Ware (Hindware) (1st quality),	Hindustan Sanitary Ware (Hindware) (1st quality),	
			Parryware (Super fine)	Parryware (Super fine)	Cera	
			Cera (1st quality)	Cera (1st quality)		
			Johnson Pedder	Johnson Pedder		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		SS Wash Basins/WCs	Nirali	Amco	Amco	
			Blue Star -SILVER SHINE	Cobra	Anupam	
				Blue Star -SILVER SHINE		
		Designer bath Suites	Jaquar & Company Pvt Ltd			
		Stainless Steel Kitchen Sink	Prayag Polymer Pvt Ltd	Blue Star -SILVER SHINE	Anupam Industries	
			Jain Brothers Sanitation Pvt Ltd	Nirali	Nirali	
			M/S Shakti Enterprises	M/S Shakti Enterprises		
		PTMT bath fittings, bib taps, filter, push cock, grating, waste coupling, Float valves/Ballcocks, Cockroach Traps, Glass shelves	Prayag Polymer Pvt Ltd	Prayag Polymer Pvt Ltd	Prayag Polymer Pvt Ltd	
			M/S RS Industries(Poly tuff)	M/S RS Industries(Poly tuff)		
				M/S Precision Products	M/S Precision Products	
		SS Plate Rack	Prayag Polymer Pvt Ltd	Blue Star -SILVER SHINE	-	
			Jain Brothers Sanitation Pvt Ltd	Nirali	-	
		Seat cover for EWC	Parryware	Commander - Champion	Commander - Champion	
			Hind ware	Parryware	Hindustan	
			CERA	Hind ware	Blue Star -SILVER SHINE	
				Blue Star -SILVER SHINE	Blue Star -SILVER SHINE	
			M/S Precision Products	M/S Precision Products		
			M/S Shakti Enterprises	M/S Shakti Enterprises		
		PVC Flushing Cistern (IS- 774-1984)	Parryware	Parryware	Commander - Champion	
			Hind ware	Hindware	Hindustan	
			CERA	Cera	Blue Star -SILVER SHINE	
			Hindustan	Hindustan		
			M/S Precision Products	M/S Precision Products		
			M/S Shakti Enterprises	M/S Shakti Enterprises		
				Commander - Champion		
		Stainless Steel Sink Cum Draining Board /Sink	Nirali	Amco		
			Jain Brothers Sanitation Pvt Ltd	Cobra		
			Diamond	Blue Star -SILVER SHINE		
		CI (Centrifugally cast) Pipes as per IS : 3969 for sewage disposal & Rainwater pipes, CI fittings and Man hole covers	Jayaswal Neco	Jayaswal Neco		
			Corporate Ispat alloys Ltd Durgapur	Corporate Ispat alloys Ltd Durgapur		
			M/s Kapilansh Dhatu Udyog (P) Ltd	M/s Kapilansh Dhatu Udyog (P) Ltd	M/s Kapilansh Dhatu Udyog (P) Ltd	
			Ashutosh Iron factory, Nagpur	Ashutosh Iron factory, Nagpur		
				Bengal iron corporation		
				M/S Babulal Bajaj Iron	M/S Babulal Bajaj Iron	
				M/S Singhal Iron Foundary (Pvt) Ltd	M/S Singhal Iron Foundary (Pvt) Ltd	
		PVC Pipe SWR Pipes (IS-13592 for pipes & IS- 14735 for fitting	Finolex	Finolex		
			Supreme	Supreme		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
			Kisan Mouldings Pvt Ltd	Kisan Mouldings Pvt Ltd		
			Prince	Prince		
			M/S Sarovaram Industries Ltd	M/S Sarovaram Industries Ltd		
			SMFC	SMFC		
		SGSW Pipe	Gupta Refractories, Gwalior	Gupta Refractories, Gwalior		
			Devraj Anand Ghaziabad	Devraj Anand Ghaziabad		
			Perfect Jabalpur	Perfect Jabalpur		
		Looking Mirror	Saint Gobain	Atul	Asahi	
			Modi Guard	Modi Guard	Atul	
9	PAINT	Synthetic enamel Paint	ICI Paint (Dulux Gloss)	ICI Paint (Dulux Gloss)		
			Asian Paint (Apolite)	Asian Paint (Apolite)		
			Shalimar Paints (Superlac Hi Gloss)	Shalimar Paints (Superlac Hi Gloss)		
			Goodlass Nerolac Paints (Nerolac)	Goodlass Nerolac Paints (Nerolac)		
			Jenson & Nicholson Paints Ltd (Brolac)	Jenson & Nicholson Paints Ltd (Brolac)		
			Nerolac (Nerolac Full Gloss)	Nerolac (Nerolac Full Gloss)		
		Plastic emulsion Paint	Goodlass Nerolac (All Escapes)	Goodlass Nerolac (All Escapes)		
			Shalimar Paints (Hussain Collection)	Shalimar Paints (Hussain Collection)		
			Jenson & Nicholson (Special Effect)	Jenson & Nicholson (Special Effect)		
			Asian Paints (Royale) Berger Paints (Luxol Silk Splendor)	Asian Paints (Royale) Berger Paints (Luxol Silk Splendor)		
		Acrylic washable distemper/Oil emulsion distemper	Good lass Nerolac paints	Good lass Nerolac paints		
			Shalimar Paints	Shalimar Paints		
			Johnson & Nicholson	Johnson & Nicholson		
			Asian Paints Berger	Asian Paints Berger		
		White cement & Wall Care Putty	JK White	JK White		
			Birla White	Birla White		
		Cement Based Paints	Super Snowcem	Super Snowcem	Cemkote	
			Duracem	Duracem	Duracem	
			Cemplus by TATA pigments	Cemplus by TATA pigments	Cemplus by TATA pigments	
			Gutucem by Asian Pigments	Gutucem by Asian Pigments		
			Accrocem	Accrocem		
		External Weather proof paint	Berger Paints -Weather Coat smooth	Berger Paints - Weather Coat smooth		
			Asian Paints - APEX.	Asian Paints - APEX.		
			Shalimar Paint XTRA	Shalimar Paint XTRA		
			Nerolac Paint - AXCEL	Nerolac Paint - AXCEL		
		Aluminum composite Panels	M/S Alstone International, Noida (UP)	M/S Alstone International, Noida (UP)		
10	PLY BOARD/MDF & HDF BOARDS					
		Plywood for general purposes (ISI 303 Marked)	Novapan	Century plywood	Shivam for products, Mathura	
			Kitply	Bhutan Board	Bhutan Board	
			Green ply	Nepal Board	Nepal Board	

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		Plain Particle Board/Particle Board Ceiling Tiles Prelaminated Particle Board	M/S Jain wood Industries	M/S Jain wood Industries		
			Novapan	Century plywood	Bhutan Board	
			Kitply	Bhutan Board	Nepal Board	
			Green ply	Nepal Board	Shivam for products, Mathura	
		Laminated Sheets	M/S Jain wood Industries	M/S Jain wood Industries		
			Formica/ Sunmica	Decolam from Century		
			Century	Green Lam		
		Green Lam	Sunmica			
11	TILES					
		Mosaic/PCC Plain/ Chequered tiles/ Inter Locking paver blocks.	NITCO, Mumbai	Star Tiles & Industries, Rama Devi , Kanpur	M/s Mehatab Tiles 8, Rani Shopping Centre, Bhanwar, Indore.	
			Redsun Tiles & Pavers, Panchkula.	Mayur Tiles & Interlocking paves, Lucknow.		
				M/S Jain Tiles Industries	M/S Jain Tiles Industries	
				M/S Agarwal Pipe Works	M/S Agarwal Pipe Works	
			M/S DG Tech's Engineering Pvt Ltd	M/S DG Tech's Engineering Pvt Ltd		
		PVC tiles/wooden Flooring	Armstrong	Premier Viney flooring Ltd, New Delhi	Royal Cashion vinyl Products Ltd, Delhi	
			Marblex	Armstrong		
	Krishna Vinyls Ltd, New Delhi					
		Vitrified tiles	Johnson (Marbonite)	Oracle Granito (Marbito)	Somany	
			Bell Granito	Somany	RAK Ceramics	
			Kajaria	Asian Granito	Varmora Granito pvt. Ltd.	
			City Tiles Ltd	City Tiles Ltd	Crystal Ceramic Industries	
				Crystal Ceramic Industries		
		Ceramic tiles /Non skid Ceramic tiles	Kajaria	NITCO	Somany	
			Johnson	Somany	Spartek	
			Orient	Crystal Ceramic Industries	Crystal Ceramic Industries	
			City Tiles Ltd	City Tiles Ltd	City Tiles Ltd	
				Regency	Regency	
		Tile Adhesive/ Tile Grout	M/S Bal Endura, Bangalore	Fevimate	Fevimate	
			Laticrete Hyderabad			
		Glass Mosaic Tiles	Italia	Bisazza	Accura	
		Antistatic & Conductive Flooring	Armstrong	Armstrong		
				Kajaria		
12	FENCING					
		Punched tape Concertina Coils and flat wrapped weld mesh for fencing	HMB Engg. Noida.	Global Technocrats Pvt Ltd		
			Wire Products Mandi Govind Garh (PB).	HMB Engg. Noida.		
			Chandra Trading Co. Ghaziabad.	Wire Products Mandi Govind Garh (PB).		
				Chandra Trading Co. Ghaziabad.		
13	ROOFING	Corrugated, Semi Corrugated and Plain AC Sheet	M/S Ramco AC Sheet Swastik	Charminar	Visaka	
M/S Eternit Everest Ltd			Upal	RBL		
14	INTERNAL WATER SUPPLY					
		HDPE (Polyethene Water Storage Tanks (Rotational Moulded)	Sintex (Three lavedr)	Sintex (Two lavedr)	JS Polyplast	

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
			Tuff	JS Polyplast	Dhara	
				Dhara		
		Stop Valves/ Gate Valves /Float Valves	Leader,	Leader,		
			Bombay Metal & Alloy Co	Bombay Metal & Alloy Co		
			Zoloto	Zoloto		
			NMC	NMC		
			Vardhaman	Vardhaman		
15	CEMENT	Cement OPC/PPC	AS GIVEN IN CONCERNED PARTICULAR SPECIFICATION TO THIS TENDER			
16	STEEL	Reinforcement steel (TMT Bars) (Main Producers)	AS GIVEN IN CONCERNED PARTICULAR SPECIFICATION TO THIS TENDER			
		Structural steel (Main Producers)				
17	MISC	Chemical for antitermite treatment (chloropyrifos 20 %)	M/S Singhal Pesticides, Agra	M/S Singhal Pesticides, Agra		
			M/S Crop Health Products Ghaziabad	M/S Crop Health Products Ghaziabad		
			M/S Pest Control India Limited	M/S Pest Control India Limited		
			M/s Dursban	M/s Dursban		
		Integral WP Compound (Liquid)	Latex	Latex		
			Accro-1 - Accro Paints	Accro-1 - Accro Paints		
			PIDILITE	PIDILITE		
			CICO No1	Master Proof IWPI		
			FOSROC (India) Ltd	FOSROC (India) Ltd		
				CICO No 1		
				IWL India Ltd		
		Integral water proofing compound (Powder)	Water Seal from Acropaints	Water Seal from Acropaints		
			Impermo from Snowcem	Impermo from Snowcem		
			Accorproof from ACC	Accorproof from ACC		
			PIDILITE	PIDILITE		
			FOSROC (India) Ltd	FOSROC (India) Ltd		
		Construction Chemicals	Chokesy Chemicals	Chokesy Chemicals		
			Pidilite	Pidilite		
			Fosroc,	Fosroc,		
			Roof Chemicals	Roof Chemicals		
			IWL India Ltd	IWL India Ltd		
			Bal Endura	Bal Endura		
		Bituminous Product	IOC	IOC	M/s MK Petroproduct Faizabad	
			BP	BP	Bengal Bitumen Sarita Vihar New Delhi	
			HP	HP	Shivam Tar Product Mathura	
			M/s STP Limited	M/s STP Limited		
			M/s MK Petroproduct Faizabad	Bengal Bitumen Sarita Vihar New Delhi		
				Shivam Tar Product Mathura		
		Barbed wire	M/S Swastika Polysteel Pvt Ltd	M/S Swastika Polysteel Pvt Ltd		
			M/S Amar Promoters Pvt Ltd	M/S Amar Promoters Pvt Ltd		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		Ready Mixed Concrete MC	Expert Concrete Lafarge Aggregate & Concrete Indian Pvt ACC	Expert Concrete Lafarge Aggregate & Concrete Indian Pvt ACC		
		Earthing and Lightening protection system	SM Innotech- Earth Plus Dhruva Tech Pvt Ltd Protec	SM Innotech- Earth Plus Dhruva Tech Pvt Ltd Protec Kanak Earth Energies		
18	PVC, Galvanised sheet, Panelling, Partitions, huts and Bathrooms					
		Ecocell Branc Rigid Foam PVC sheets of thickness varying from 0.40 mm to 0.50 mm	Kumar Arch Tech Pvt Ltd			
		Prelaminated sheet of thickness varying from 0.40mm to 0.50mm				
		Prefabricated PVC hut and Bathrooms				
		PVC Sheets	Jain Irrigation Systems Ltd			
		Sec color Galvanised color/ powder coated steel windows doors partitions and structural Glazings	NCL Altek & sec color Ltd			
		Calcium Silicate Partitions	Ramco Industries Ltd			
1	PEB & HANGER DOORS					
		PEB & HANGER DOORS	Kirby Bldg Systems	Kirby Bldg Systems	Kirby Bldg Systems	
			Lloyd Insulations (India) Ltd	Lloyd Insulations (India) Ltd	Lloyd Insulations (India) Ltd	
			Octamac Engineering Ltd	Octamac Engineering Ltd	Octamac Engineering Ltd	
			Everest Industries Ltd	Everest Industries Ltd	Everest Industries Ltd	
			Eea Build Systems Ltd	Eea Build Systems Ltd	Eea Build Systems Ltd	
			Tiger Steel Engineering (I) Pvt Ltd	Tiger Steel Engineering (I) Pvt Ltd	Tiger Steel Engineering (I) Pvt Ltd	
			Modern Prefab Systems Pvt Limited	Modern Prefab Systems Pvt Limited	Modern Prefab Systems Pvt Limited	
			RCC Eco-Build System Ltd	RCC Eco-Build System Ltd	RCC Eco-Build System Ltd	
			Saxena Marine Tech (P) Ltd	Saxena Marine Tech (P) Ltd	Saxena Marine Tech (P) Ltd	
2	FLOORING, FLOOR PRODUCTS & CONSTRUCTION CHEMICALS					
		Cipy Brand EPU (Epoxy Polyurethane Industrial Flooring)	Cipy Polyurethane Pvt Ltd	Cipy Polyurethane Pvt Ltd	Cipy Polyurethane Pvt Ltd	
		Flooring Range (Epoxi/Polyurethane)	Pidilite Industries Ltd	Pidilite Industries Ltd	Pidilite Industries Ltd	
		<u>Chryso - Floor Hardner</u> CHRYSO Proof Acrylic, chryso Emalite RTU, CHRYSO Thermoshield Flooring - Sika Chapdur, Sika Chapdur C, Sikafloor 19 N Purcem, Sikafloor 20N PurCem, Sikafloor 21N PurCem, Sikafloor 22N PurCem, Sikafloor 29 N PurCe, Sikafloor 31 N Pur	The Structural Water Proofing Co Pvt Ltd	The Structural Water Proofing Co Pvt Ltd	The Structural Water Proofing Co Pvt Ltd	

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		Flooring - Sika Chapdur, Sika Chapdur C, Sikafloor 19 N Purcem, Sikafloor 20N PurCem, Sikafloor 21N PurCem, Sikafloor 22N PurCem, Sikafloor 29 N PurCe, Sikafloor 31 N PurCem, Sikafloor 81, EpoCem, Sikafloor 82 Epo Cem, Sikafloor 83 EpoCem, Sikafloor 89, Sikafloor 91, Sikafloor 91, SLS, Sikafloor 105, Sikafloor 161, Sikafloor 220W Conductive, Sikafloor 261 ASN, Sikafloor 264, Sikafloor 381, Sikafloor 381 ASN, Sikafloor 619, Sikafloor 2530W, Sikafloor 7530, Sikafloor Gurehard 24, Sikafloor - Level 25, Sikafloor Proseal 22, Sikagard 63, Sikagard 63/1, Sikagard 67, Sikagard CCPU, Sika Ceram, Sika Tilofix & Sika Wall Decor,	Sika India Pvt Ltd	Sika India Pvt Ltd	Sika India Pvt Ltd	
3	WATERPROOFING / COATING					
		Water Proofing/ Coating/ Seal/ Patches/ Shields/ Grouts/ Liquid applied Membranes	Pidilite Industries Ltd	Pidilite Industries Ltd	Pidilite Industries Ltd	
			Structural Water Proofing Co Pvt Ltd	Structural Water Proofing Co Pvt Ltd	Structural Water Proofing Co Pvt Ltd	
			Apar Infotech Pvt Ltd	Apar Infotech Pvt Ltd	Apar Infotech Pvt Ltd	
		HYDROSTOP Water proofing membrane, in all its permutation and combinatiuon, as also Tiki primer_ - WB & OB & Tiki Flash (Bitumen based Alum paint)	Tiki Tar Danosa India Pvt Ltd.	Tiki Tar Danosa India Pvt Ltd.	Tiki Tar Danosa India Pvt Ltd.	
4	MEMBRANE & LIQUID MEMBRANE					
		Liquid Applied Membrane. CHRYSO Armourcote 418, CHRYSO Armourcrate, CHRYSO Armourcote 525, CHRYSO Tapelastc, CHRYSO Resicrete 21, CHRYSO Struco Latex, CHRYSo Resicrete 21 LV, CHRYSO Crystalseal, CHRYSO Resicrete 2115, CHRYSO Bitcote.	The Structural Water Proofing Co Pvt Ltd	The Structural Water Proofing Co Pvt Ltd	The Structural Water Proofing Co Pvt Ltd	
5	ADMIXTURE					
		Chryso Admistures Range. (c) Preform Membrane. CHRYSO Supaplast MMF. Chryso Armourshield. Chryso Supaplast RMC 80. Chryso Armourshield Stick. Chryso Supaplast PC80-(M). Chryso Armourflex PVC. Chryso Supaplast RMC.	The Structural Water Proofing Co Pvt Ltd	The Structural Water Proofing Co Pvt Ltd	The Structural Water Proofing Co Pvt Ltd	
		(d) Protective Coatings. Chryso Supaplast HP. Chryso Aquakem. Chryso Supaplast HS, Chryso Marinecote and Chryso Fluid Premia Range/.				

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		Sika AER, Sika Ferrogard 901, Sika Rapid 1, Sika Antifreeze, Sikament 170PL4, Sikament 170 UV, Sikament 286 PC/3(VC), Sikament 280, Sikament NN, Sikament 170, Sikament HE 200, Sika Viscocrete 10, Sika Viscocrete 10H1, Sikaplast 500I, Sikaplast 600I, Sikaplast 4001, Sikaplast 3001, Sika Viscocrete 20HE, Sika Viscocrete R550 (I), Plastiment BV 40, Plastocrete Plus, Sika Noleek Power, Sika Lightcrete, Singunit L, Singunit Powder 1, Antisol A & Antisol EWP.	Sika India pvt Ltd.	Sika India pvt Ltd.	Sika India pvt Ltd.	
6	<u>REPAIR & REHABILITATION/BONDING AGENTS/GROUTS</u>					
		Krystalline, Pidicrete URP & Powercrete	Pidilite Industries Ltd	Pidilite Industries Ltd	Pidilite Industries Ltd	
		CHRYSO Fluid Optima Range, CHRYSO Excem C. <u>Chryso - Grouts</u> , CHRYSO Excem C. Optima Range, CHRYSO Excem C. CHRYSO Fluid Optima Range, CHRYSO Excem C.	The Structural Water Proofing Co Pvt Ltd	The Structural Water Proofing Co Pvt Ltd	The Structural Water Proofing Co Pvt Ltd	
		Grout-Sika Grout 104, Sioka Grout 214, Intraplast EP, Intraplast N-200, Intraplast NN, Sikadur 42, Sikadur 42 HES, Sikadur 52, Sikadur 53 UF, Rokkon 1 & Rokkon R.	Sika India pvt Ltd.	Sika India pvt Ltd.	Sika India pvt Ltd.	
7	<u>CURING COMPOUNDS</u>					
		<u>Chryso Curing</u> CHRYSO Excem GP, CHRYSO Rezicure AL, CHRYSO Excem V1 & CHRYSO Rezicure WP.	The Structural Water Proofing Co Pvt Ltd	The Structural Water Proofing Co Pvt Ltd	The Structural Water Proofing Co Pvt Ltd	
8	<u>APP MEMBRANE</u>					
		APP Membrane	Cipy Polyurethane Pvt Ltd	Cipy Polyurethane Pvt Ltd	Cipy Polyurethane Pvt Ltd	
			IWL India Limited - Hyperplas	IWL India Limited - Hyperplas	IWL India Limited - Hyperplas	
			Pidilite Industries Ltd	Pidilite Industries Ltd	Pidilite Industries Ltd	
			M/s Texsa India Ldt (Multi Plas), (Texself 1.5)	M/s Texsa India Ldt (Multi Plas), (Texself 1.5)	M/s Texsa India Ldt (Multi Plas), (Texself 1.5)	
			Tiki Tar Danosa India Pvt Ltd.	Tiki Tar Danosa India Pvt Ltd.	Tiki Tar Danosa India Pvt Ltd.	
			Torchtar Membranes & bitumen Products Pvt Ltd.	Torchtar Membranes & bitumen Products Pvt Ltd.	Torchtar Membranes & bitumen Products Pvt Ltd.	
			Modern Bitumode Pvt Ltd.	Modern Bitumode Pvt Ltd.	Modern Bitumode Pvt Ltd.	
			Shivam Tar Product	Shivam Tar Product	Shivam Tar Product	
			Bengal Bitumen	Bengal Bitumen	Bengal Bitumen	
		Floor Hardener/ Thermo shield flooring/ Flooring/ Tile fix/ wall decor	Structural Water Proofing Co Pvt Ltd	Structural Water Proofing Co Pvt Ltd	Structural Water Proofing Co Pvt Ltd	
			Sika India pvt Ltd.	Sika India pvt Ltd.	Sika India pvt Ltd.	
9	<u>JOINT SEALANT</u>					
		Polyurethane & Polysulphide sealant for all joints	Cipy Polyurethane Pvt Ltd.	Cipy Polyurethane Pvt Ltd.	Cipy Polyurethane Pvt Ltd.	

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		Rallithane 862 and Ralliprime 190 Polyurethane base sealant compound	Ameya Dyechem pvt Ltd. (ADPL)	Ameya Dyechem pvt Ltd. (ADPL)	Ameya Dyechem pvt Ltd. (ADPL)	
		Polysulphide/Polyurethane	Pidilite Industries Ltd	Pidilite Industries Ltd	Pidilite Industries Ltd	
		Joint sealant - Sikasil 728NS/SL, Sikaflex 68TF, Igas IH, Sika Polysulphide, Sikaflex Construction (J), Sikaflex PRO-3WF, Sikadur Combiflex, Sikaflex 2c SL (h), Sikaflex 11FC, Sikacryl & Sikabond T2/T8.	Sika India pvt Ltd.			
		<u>Chryso - Joint Sealants (for Building work)</u> CHRYSO Freecure, CHRYSO Polycaulk PS-Polysulphide. CHRYSO Stick SBA and CHRYSO Swellseal Strip	The Structural Water Proofing Co Pvt Ltd			
		Silicon Sealant	Alstone Internatrional			
		<u>Refurbishment.</u> Sika Wrap Glass Fibre, Sika Wrap Carbon Fibre, Sika Anchorfix 2/3 +, Sikadur 31, Sikadur 32, Sikadur 32LP, Sikadur 41, Sikladur 43, Sika Ferro Gard 903, Friazinc R, Sikagard 703W, Sikagard 550W Elastic, Sika Rep Microcrete 1/2, Sikadur 31 PBA, Sika Rep Microcrete 3 UW, Sika Rep Microcrete 4, Sika Carbo Dur, Sikadur 12 Pronto, Sika Top 77, Sika Top 122, Sika Top 122HS, Sika Top Armatec 108, Sika Top Armatec 108PC & Sika Top Armatec 110 Epo Ce.	Sika India pvt Ltd.			
10	<u>POLYMER MODIFIED BITUMEN (PMB)</u>					
		PMB 40 and 70 convorming to IRCSP 53/2002 or latest, IS 15462 : 2004 and base bitumen sourced only from any one of the PSUs of India/ Bitumen Emulsion Confirming to IS - 8887 : 2004 and ASTM D 2397	Shiva Asphaltic Products Pvt Ltd.	Shiva Asphaltic Products Pvt Ltd.	Shiva Asphaltic Products Pvt Ltd.	
			Ooms Polymer Modified Bitumen pvt Ltd.	Ooms Polymer Modified Bitumen pvt Ltd.	Ooms Polymer Modified Bitumen pvt Ltd.	
			Hindustan Colas Ltd.	Hindustan Colas Ltd.	Hindustan Colas Ltd.	
11	<u>GLASS GRID</u>					
		Glass Geo Grid/Polyster Geo Grid/ Glass reinforced Mesh/ Glass Fibre Grid	Giridhar Techfab Pvt Ltd.	Giridhar Techfab Pvt Ltd.	Giridhar Techfab Pvt Ltd.	
			Techfeb (India) Industries Ltd.	Techfeb (India) Industries Ltd.	Techfeb (India) Industries Ltd.	
			Ooms Avenhorn HoldingIndia Pvt Ltd.	Ooms Avenhorn HoldingIndia Pvt Ltd.	Ooms Avenhorn HoldingIndia Pvt Ltd.	
			Maccaferri Environmental Solutions Pvt Ltd.	Maccaferri Environmental Solutions Pvt Ltd.	Maccaferri Environmental Solutions Pvt Ltd.	
12	<u>BITUMEN EMULSION</u>					
		Bitumen Emulsion (Rapid, Medium & Slow Setting - 1&2)	Shiva Asphaltic Products Pvt Ltd.	Shiva Asphaltic Products Pvt Ltd.	Shiva Asphaltic Products Pvt Ltd.	
13	<u>SOIL STABILISER (RBI Grade 81)</u>					
		Soil Stabiliser RBI Grade 81	Alchemist Technology Ltd	Alchemist Technology Ltd	Alchemist Technology Ltd	
14	<u>ROOF SHEETS</u>					

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		Cril brand Architectural products - Hispan 975, Steelock Concealed fix sheet, stile rainbow and accessories, flushing & gutters	Colour Roof (India) Ltd.	Colour Roof (India) Ltd.	Colour Roof (India) Ltd.	
		Tala Bluescope Brand Zinalume/color bond (high tensile profile sheets for roof & wall), Smartdek 51 (structural decking galvanized sheel sheet), PEB lite (components made of premium quality steel/galvanized roll frames)	Tata Bluescope Steel Ltd.	Tata Bluescope Steel Ltd.	Tata Bluescope Steel Ltd.	
		Prestar brand colour coated Roof Sheets	Prestar infrastructure Projects Ltd.	Prestar infrastructure Projects Ltd.	Prestar infrastructure Projects Ltd.	
		Everest Roofing Products & Accessories	Everest Industries Ltd.	Everest Industries Ltd.	Everest Industries Ltd.	
		Top Guard brand Roofing/Cladding Sheets/Panels (PPGI & PPGL), Purlin & Accessories	M/S Matco Roof Pvt Ltd.	M/S Matco Roof Pvt Ltd.	M/S Matco Roof Pvt Ltd.	

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
E/M RELATED PRODUCTS						
1	WIRES & CABLES					
	COPPER WIRE FOR INTERNAL WIRING/ TELEPHONE WIRE/ FRLS WIRE	RR KABLE	HAVELLS India	LAPP		
		FINOLEX	POLYCAB	SHALABH INDIA LTD		
		RPG (ASIAN)	PLAZA	KALINGA PREMIUM		
		NICCO	ELEKTRON	DELTON		
		L&T	HPL	KEI		
			SHALABH INDIA LIMITED			
		M/S Vijay cables	M/S Vijay cables	M/S Vijay cables		
		M/S Grandlay Electricals (India)	M/S Grandlay Electricals (India)			
		LT CABLES U/G (XLPE/PVC) Heavy Duty armoured/ unarmoured upto 1100V Aluminium & copper solid/ stranded as per IS 1554 Pt I & 7098 / 1988 Pt I	FINOLEX	HAVELLS India	HPL	
			RPG(ASIAN)	POLYCAB	Richa Cables Pvt Ltd	
	RR KABLE		ELEKTRON	Eon Electric Ltd		
	UNIVERSAL		ANCHOR	KEI Industries Ltd		
	HPL India Ltd		GLOSTER	Paragon		
			PLAZA	Ralison		
				Kalinga Premium		
	M/S Asian Glaxy Pvt Ltd		M/S Asian Glaxy Pvt Ltd	M/S Asian Glaxy Pvt Ltd		
	M/S Grandlay Electricals(India)		M/S Grandlay Electricals(India)	M/S Grandlay Electricals(India)		
	PVC Insulated Cable upto 100V copper/ Aluminium sheathed / unsheathed incl cables for outdoor use and low temperature applications as per IS 694 ; 1990		HPL India Ltd	HPL India Ltd	Richa Cables Pvt Ltd	
		FINOLEX	Indo American Electricals	Indo American Electricals		
		RPG	FINOLEX			
			HAVELLS			
		M/S Vijay cables	M/S Vijay cables	M/S Vijay cables		
		M/S Grandlay Electricals(India)	M/S Grandlay Electricals(India)	M/S Grandlay Electricals(India)		
	HT XLPE CABLE upto 66 KV as per relevant IS	UNIVERSAL	HAVELLS	KEI		
		RPG (ASIAN)	POLYCAB	ICL		
		TORRENT	GLOSTER	PRIME KABLES		
		CCI LTD	PLAZA	Paramount		
		FINOLEX	KEI	Ravin Cables		
			Crystal Cable Industries Ltd			
			Ravin Cables Ltd			
			M/S Diamond Power Infrastructure Ltd	M/S Diamond Power Infrastructure Ltd		
		SUBMERSIBLE COPPER FLAT CABLE	FINOLEX	PLAZA	PLAZA	
			POLYCAB	HAVELLS	HAVELLS	
RR KABEL	KALINGA		KALINGA			
2	PIPES (CI, GI & DI PIPES)					
	CI PIPE	JINDAL	KEJRIWAL	KEJRIWAL		
		TATA	JAISWAL NECO	JAISWAL NECO		
		KESORAM	BENGAL IRON CORPORATION	BENGAL IRON CORPORA-TION		
		ELECTROSTEEL	ELECTROSTEEL			
	DI PIPE	JINDAL	JINDAL	SWASTIC		
		ELECTROSTEEL	ELECTROSTEEL	JAI BALAJEE		
		LANCO	LANCO	Rashmi Metallic Ltd		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		MS PIPE / ERW PIPES	M/S Electro Steel Casting Ltd	M/S Electro Steel Casting Ltd		
			TATA	BST		
			JINDAL	TIRUPATI		
			SAIL			
		CI FITTINGS	UPADHYAY	KEJRIWAL	BIR	
			LEADER	BENGAL IRON CORPORATION	KARTAR	
			KIRLOSKAR			
			ELECTROSTEEL	TATA		
		HDPE PIPES/UPVC PIPES and fittings	FINOLEX	RELIANCE	VECTUS	
			SUPREME INDUSTRIES	TIRUPATI	NEELKAMAL	
			DURTON	Kisan Mouldings Pvt Ltd	Kisan Mouldings Pvt Ltd	
			KAVERI	Prince		
				Rishi		
		GI PIPES	JINDAL	PRAKASH	ADVANCED	
			TATA	OSWAL	NIDHI	
			ZENITH	SWASTIK		
		PVC Pipes and Fittings	FINOLEX	FINOLEX	Kisan Mouldings Pvt Ltd	
				Supreme Industries		
			Supreme Industries	Kisan Mouldings Pvt Ltd	Jain Irrigation System Ltd	
		PPR Pipes and Fittings	-	Kisan Mouldings Pvt Ltd	Kisan Mouldings Pvt Ltd	
			-	Supreme Industries	Supreme Industries	

3	CONDUITS					
		RIGID STEEL CONDUITS /MS CONDUITS	JINDAL	KALINGA	VIKASH	
			FINOLEX	AKG	PRECISION	
			MK INDIA	BEC	STEEL KRAFT	
			ASIAN	BHARAT STEEL TUBE		
				NEW INDIA CONDUITS PVT LTD FARIDABAD		
		FLEXIBLE (PVC) CONDUIT/ SPIRAL CONDUIT/RIGID PVC CONDUIT	FINOLEX	ICL	ICL	
			ESS ESS KAY ENGINEERING	Finolex	Finolex	
				INDO AMERICAN ELECTRICALS LTD		
		CASING & CAPING	FINOLEX		SUPREME	
			MODI	PLAZA	PLAZA	
			JINDAL	PRESTO PLAST	PRESTO PLAST	
			ASIAN	AKG	AKG	
				AVON PLAST	AVON PLAST	
				HARSH	HARSH	

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
4	LIGHTS					
		T-5 LAMP/CFL LAMP FITTINGS/HPSV/HPMV/High Mast Lamps				
		T-5 Fittings/ TUBE LIGHTS/ CFL FITTINGS & ENERGY EFFICIENT TUBES & LAMPS	PHILIPS	BAJAJ	DECON	
			WIPRO	CROMPTON	KESELL	
				GE	SURYA ROSHNI LTD	
				HAVELLS		
				C&S		
			SURYA	SURYA	SURYA	
		STREET LIGHT FITTINGS	PHILIPS	BAJAJ	DECON	
			WIPRO	CROMPTON	KESELL	
				GE	Surya Roshni Ltd	
				HAVELLS	Adhunik Switch Gears Pvt Ltd	
				C&S		
			Mepro	Mepro	Mepro	
		HPSV/HPMV FITTINGS & LAMPS	PHILIPS	SURYA ROSHNI LTD	SURYA ROSHNI LTD	
			WIPRO	ADHUNIK	ADHUNIK	
			HAVELLS	HALONIX	HALONIX	
			CROMPTON			
			GE			
			BAJAJ			
			C&S			
		HIGH MAST Lights	PHILIPS	SURYA ROSHNI LTD	SURYA ROSHNI LTD	
			CROMPTON	SPACEAGE	Adhunik Switch Gears Pvt Ltd	
			BAJAJ			
		DOMESTIC LIGHT FITTINGS/ WALL FITTINGS	BAJAJ	JAMCO	DAYAL	
			CROMPTON	VIKASH	EVERSHINE	
			HAVELLS	PRAKASH	AMC	
			PHILIPS	DECON		
			WIPRO	SURYA ROSHNI LTD		
			C&S			
5	FUSE GEAR					
		MCB/ELCB/ RCCB/RCBO/ ISOLATORS	SCHENIDER	HAVELLS	STANDARD	
			LEGRAND	INDO ASIAN	BENTEC	
			L&T(LEXIC)	SHALABH INDIA LIMITED	ADHUNIK	
			GE(POWER)	BCH	SIGMA	
			C&S	HAGER	DELHI CONTROL DEVICES PVT LTD	
			ABB	HPL	NOVATEUR ELECTRICAL & DIGITAL SYSTEMS PVT LTD	
				PLAZA		
				C&S	C&S	

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		MCCB/MPCBs	SCHENIDER	HAVELLS	STANDARD	
			LEGRAND	INDO ASIAN	BENTEC ELECTRICAL AND ELECTRONICS PVT LTD	
			L&T(LEXIC)	BCH	LEADER	
			GE(POWER)	HAGER	DELHI CONTROL DEVICES PVT LTD	
			C&S	HPL	NOVATEUR ELECTRICAL & DIGITAL SYSTEMS PVT LTD	
			ABB	CROMPTON		
		VCB/OCB/SF6 CIRCUIT BREAKER/33 & 11 KV HT SWITCH GEAR PANELS	BCH	L&T LEXIC		
			ABB	C&S	MEGAWIN SWITCH GEAR LTD	
			L&T	L&T	ITE GURGOAN	
			SIEMENS	CROMPTON GREAVES	KIRLOSKAR	
			SCHENIDER	KIRLOSKAR		
				ITE GURGAON		
		ACB	ABB	HAVELLS INDIA LTD	NOVATEUR ELECTRICAL & DIGITAL SYSTEMS PVT LTD	
			L&T	C&S ELECTRIC LTD	BENTEC ELECTRICAL AND ELECTRONICS PVT LTD	
			SEIMENS	HPL		
			SCHENIDER	CROMPTON GREAVES		
			GE POWER	ITE GURGAON		
			C&S	C&S	C&S	
		GOD/DO SWITCH(AIR BREAK)	PACTIL	HARYANA ELECT INDUSTRIES		
			JAIPURIA	RASHTRIYA		
			MEI			
			BHEL			
		DISTRIBUTION BOARDS	SCHENIDER	HAGAR	ADHUNIK	
			ABB	BCH	ADHUNIK	
			L&T LEXIC	HPL	SIGMA	
			GE POWER	VINTEC	STANDARD	
			LEGRAND	PLAZA	NOVATEUR ELECTRICAL & DIGITAL SYSTEMS PVT LTD	
			INDO ASIAN	SHALABH INDIA LTD		
			C&S			
			HAVELLS INDIA			
		HT RING MAIN UNITS SF6/VCB 11KV	SCHENIDER	CROMPTON GREAVES	MEGAWIN SWITCH GEAR LTD	
			ABB	ITE GURGAON	ITE GURGOAN	
			SEIMENS	KIRLOSKAR	KIRLOSKAR	

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		HT LOAD BREAK SWITCH	L&T	MEGAWIN SWITCH GEAR LTD		
			SIEMENS	ITE GURGAON	MEGAWIN SWITCH GEAR LTD	
			SCHENIDER	KIRLOSKAR		
			ABB	CROMPTON	ITE GURGOAN	
			L&T	GREAVES	KIRLOSKAR	
		HAVELLS INDIA				
		CHANGEOVER SWITCH/ STARTER/ HRC FUSES	L&T	INDOASIAN	STANDARD	
			C&S	HAVELLS	SHALABH PVT LTD	
			SCHNEIDER	HPL	NOVATEUR ELECTRICAL & DIGITAL SYSTEMS PVT LTD	
			ABB	CROMPTON		
			SIEMENS	SHALABH PVT LTD		
6	SWITCHES PLUG & SOCKETS					
		MODULAR SWITCH /SOCKETS	ANCHOR	SSK	CLIPSAL	
			LEGRAND	CONA	NORTH WEST	
			CRABTREE (HAVELLS)	KAY	KAY	
			MK (HONEY WELL)	LEADER	NOVATEUR ELECTRICAL & DIGITAL SYSTEMS PVT LTD	
			INDO ASIAN (GLINT)	HAVELLS INDIA		
			C & S	C & S	C & S	
		ELECTRIC SWITCH /SOCKETS/ PUSH BELL	ANCHOR	KINJAL	CONA	
			LEGRAND	PLAZA	PLAZA	
			HAVELLS INDIA	SSK	SSK	
			HPL	CONA	EON ELECTRIC LTD	
			C & S	RR KABEL	RR KABEL	
7	FAN REGULATORS, LAMP HOLDERS, CEILING ROASE, ELECTRIC CALL BELLS					
		FAN REGULATORS (ELECTRONIC)	USHA	PLAZA	PENTA	
			CROMPTON	LEADER	MOSAIC	
			BAJAJ	KHAITAN		
			HAVELLS	ALMONARD		
			ANCHOR			
		LAMP HOLDERS/ CEILING ROSE	ANCHOR	ESS ESS KAY	ESS ESS KAY	
			CRAB TREE	PLAZA	PLAZA	
		ELECTRIC CALL BELLS	ANCHOR	CONA	CONA	
			LEGRAND	PLAZA	PLAZA	
			HAVELLS INDIA	ANCHOR		
			WIPRO	LEGRAND		
BAJAJ						
8	TIME SWITCHES					
		TIME SWITCHES	LEGRAND	HPL		
			HAGER	INDO ASIAN		
			ABB	BCH		
			SCHENIDER	HAVELLS		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
			L&T	NOVATEUR ELECTRIC & DIGITAL SYSTEMS PVT LTD		
			GE			
			C&S ELECTRIC LTD			
9	SUB STATION TRANSFORMER, POWER TRANSFORMERS					
		COMPACT SUBSTATION/UNITISED SUB STN	SIEMENS	ITE GURGAON	M/S MEGA ENERGY SOLUTIONS PUNE	
			SCHENIDER	KIRLOSKAR	ITE GURGOAN	
			ABB	CROMPTON GREAVES		
			L&T			
		TRANSFORMERS UPTO 500KVA	ABB	MAHENDRA ENGG LTD		
			SCHNEIDER	INTERNATIONAL TRANSFORMER LTD		
			CROMPTON GREAVES	INDOTECH		
			RAJASTHAN TRANSFORMERS			
			ITE GURGAON			
			GE POWER			
			INDOTECH			
		TRANSFORMERS ABOVE 500KVA	ABB	KIRLOSKAR	KIRLOSKAR	
			CROMPTON GREAVES	RAJASTHAN TRANSFORMERS	RAJASTHAN TRANSFORMERS	
			SIEMENS	INDOTECH	INDOTECH	
			SCHENIDER			
			ITE GURGAON			
			GE POWER			
		TRANSFORMER 33 KV STEP DOWN/ TRANSFORMER 33/0.433 KV STEP DOWN	ABB	KIRLOSKAR	KIRLOSKAR	
			CROMPTON GREAVES	RAJASTHAN TRANSFORMERS	RAJASTHAN TRANSFORMERS	
			SIEMENS	INDOTECH	INDOTECH	
			SCHENIDER			
			ITE GURGAON			
			GE POWER			
			VOLTAM LTD			
10	VOLTAGE STABILIZERS, CTs AND PTs, SUB STN EQPT					
		VOLTAGE STABILIZER UPTO 5 KVA	V-GUARD	BLUE BIRD	BLUE BIRD	
			AE	M/S SAI ELECTRICALS	M/S SAI ELECTRICALS	
			APLAB	ITE GURGAON	ITE GURGAON	
			SINETRAC	PREMIER		
			MICROTECH	SAR		
			ZENITH	VOLINA		
			ITE GURGAON			
		SERVO VOLTAGE STABILIZER	APLAB	VINITEC	BLUE BIRD	
			BRENTFORD	ITE GURGAON	ITE GURGAON	
			SINETRAC	M/S SAI ELECTRICALS	M/S SAI ELECTRICALS	
			AE	POWERWARE		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		HT VOLTAGE STABILIZER	KIRLOSKAR	ELECTROTEKNIC		
			BRENTFORD	KIRLOSKAR		
			ANDREW YULE	BRENTFORD		
			AE			
		CURRENT & POTENTIAL TRANSFORMERS CT'S (LT)	KAPPA	CROMPTON GREAVES	CROMPTON GREAVES	
			AE	C&S	C&S	
			SIEMENS	PRAYAG	PRAYAG	
			PACTIL			
			PRAGATI			
			ABB			
			SCHNEIDER			
		CAPACITOR BANKS HT & LT	ABB	CROMPTON GREAVES	MINIMEX	
			SCHNEIDER	HAVELLS	M/S SAI ELECTRICALS	
			L&T	C&S	UNISTAR	
			SIEMENS	BCH	APCOS	
		PUSH BUTTON/ SELECTOR SWITCH/INDICATING LAMP	L&T	HPL	ALTOS	
			LEGRAND	KAYCEE	GEPC	
			SIEMENS	BGH		
			C&S			
			ABB			
		MEASURING INSTRUMENTS/ RELAYS/ AMMETERS/ VOLTMETERS/ POWER FACTOR METERS & FREQUENCY METER	AE	HAVELLS		
			L&T	CROMPTON GREAVES		
			SCHNEIDER	JYOTI		
			ABB	BHARAT BIJLEE		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		ENERGY METERS (KWH) TAMPER PROOF DIGITAL/ ANALOG METERS	L&T	ANCHOR		
			HAVELLS	DATAPRO		
			HPL	BHARAT BIJLEE		
			INDO ASIAN	BENTEC ELECTRICAL & ELECTRONICS PVT LTD		
			SECURE	DELHI CONTROL DEVICES PVT LTD		
			LEGRAND			
		SWITCH FUSE/ MAIN SWITCH/ FEEDER PILLAR BOX AND LT DISTR PANELS/ POWER FACTOR COMPENSATOR, HARMONIC FILTER/ AUTOMATIC POWER FACTOR CONTROLLER (APFC)	L&T	UNILAC	ASIAN	
			SCHNEIDER	TRICOLITE	POWER CARE JABALPUR	
			ABB	ADLEC		
			SIEMENS	ITE GURGAON		
			LEGRAND	HPL		
			HAVELLS	SHALABH INDIA LTD		
			C&S	UNIVERSAL SWITCHGEAR CONTROL		
				L&T		
		M/S Powertech Switchgears	M/S Powertech Switchgears	M/S Powertech Switchgears		
11	<u>WATER HEATERS</u>					
		GEYSERS KITCHEN/ BATHROOMS	BAJAJ	BAJAJ	VENUS	
			USHA LEXUS	USHA LEXUS	CROMPTON	
			RACOLD	RACOLD	EON ELECTRIC LTD	
			HAVELLS	HAVELLS	ORISON	
			JAGUAR & CO PVT LTD	EON ELECTRIC LTD		
12	<u>FANS</u>					
		CEILING, EXHAUST, CABIN FANS	USHA	USHA	POLAR	
			CROMPTON	CROMPTON	MIE	
			BAJAJ	BAJAJ		
			ALMONARD	ALMONARD		
			HAVELLS	HAVELLS		
			KHAITAN	KHAITAN		
		EXHAUST FANS PVC BODY	ORIENT	ORIENT		
			KHAITAN	KHAITAN	POLAR	
			HAVELLS	HAVELLS	ORIENT	
			CROMPTON	CROMPTON		
			USHA	USHA		
			BAJAJ	BAJAJ		
				ORIENT		
				POLAR		
		AIR CIRCULATOR /TURBO VENTILATOR /WALL MOUNTED FAN	BAJAJ	BAJAJ	CROMPTON	
			ALMONARD	ALMONARD	BHARAT BIJLEE	
			HAVELLS	HAVELLS		
			KHAITAN	KHAITAN		
			USHA	USHA		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		CAPACITORS	HAVELLS INDIA	HAVELLS INDIA	HAVELLS INDIA	
			BAJAJ	BAJAJ	BAJAJ	
			CROMPTON	CROMPTON	CROMPTON	
13	JUNCTION BOXES					
		FLUSH MOUNTING PVC BOX	NAITHANI PLASTIC MOULDING WORK	ANY ISI MARK PRODUCT	ANY ISI MARK PRODUCT	
			SUPREME INDUSTRIES			
			SINTEX INDUSTRIES LTD			
14	LAMINATED SHEET					
		LAMINATED SHEET	HYLAM	HYLAM	HYLAM	
			ANCHOR	ANCHOR	ANCHOR	
			NATIONAL	NATIONAL	NATIONAL	
15	JOINTING KITS FOR CABLES					
		HEAT AND COLD SHRINKABLE CABLE BOXES	M-SEAL	CAB SEAL	CAB SEAL	
			RAYCHEM	M-SEAL	DENSON	
				RAYCHEM		
				DENSON		
16	FLAME PROOF FITTINGS					
		FLAME PROOF FITTING/EXHAUST FAN AND FIXTURE	SUDHIR	BALIGA	SHYAAM	
			PHILIPS	FLEXPRO	FCG	
				BAJAJ		
				CROMPTON		
		FLAME PROOF MOTORS	ABB	JYOTI		
			CROMPTON	KIRLOSKAR		
			SIEMENS			
			HAVELLS			
17	CONDUCTORS					
		ALUMINIUM/ACSR CONDUCTORS	INDIAN ALUMINIUM CO	VK CONDUCTORS	VK CONDUCTORS	
			BHARAT CONDUCTOR	KRISHNA	KRISHNA	
			ALUMINIUM IND.	MPCAB	MPCAB	
18	HT/LT INSULATORS					
		HT/LT INSULATORS	WS INSULATOR	MODERN INSULATOR		
			SOUTHERN INSULATORS	HITKARI CJI		
			JAISHREE	DENSON		
			JAIPURIA			
			REYCHEM			
			BIRLA 3M			
19	CABLE LUGS					
		CABLE LUGS	JOHNSON	ASCON		
			DOWELL	AXIS		
				INDIANA		
20	DG SET					
		DG SET - ALTERNATOR	STEMFORD	KIRLOSKAR		
			CATTERPILLAR	JYOTI		
			CROMPTON GREAVES	NGEF		
		DG SET - ENGINE	CUMMINS	KIRLOSKAR		
			CATTERPILLAR	CROMPTON GREAVES		
			Mahindra & Mahindra Ltd	Mahindra & Mahindra Ltd	Mahindra & Mahindra Ltd	
21	LIGHTENING ARRESTORS					
		LIGHTENING ARRESTORS	SCHENIDER	-		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
			BHEL			
			GE POWER			
			OBLUM			
			W/S INSULATORS			
			SOUTHERN INSULATORS			
22	<u>BUS TRUNK</u>					
		AIR INSULATED TRUNK BUS BARS/BUS DUCTS/ BUS BAR TRUNKING SYSTEM	C&S	HENSEL		
			LEGRAND	SINTEX		
			SCHENIDER			
23	<u>RCC/PCC POLES/STEEL POLES</u>					
		PCC POLES	CONCRETE UDHYOG JHANSI	MOHAN CONCRETE UDHYOG		
			HINDUSTAN PRESTRESSED CONCRETE STRUCTURE	CONCRETE UDHYOG JHANSI		
			RK INDUSTRIES & POLES	CHAMAN FABRIC PANCHKULA		
			MOHAN CONCRETE UDHYOG	SHREE AMBE FABRIC LUCKNOW		
		STEEL TUBULAR POLES	JINDAL	INDIA TUBE CO		
			NATIONAL TUBE	JAI BHARAT POLES		
			BHARAT CONDUIT	M/S SOHAN LAL & SONS		
			BCW KANPUR			
24	<u>PROTECTION RELAYS</u>					
		HT SWITCH GEAR PROTECTION RELAYS, ELECTROMECHANICAL/DIGITAL	ABB	ABB	JVS	
			SCHNEIDER	SCHNEIDER	L&T	
			L&T	L&T	SCHNEIDER	
			GE POWER	GE POWER		
			SIEMENS	SIEMENS		
			ASHIDA	ASHIDA		
25	<u>SOLAR LIGHTING</u>					
		SOLAR LIGHTING PANELS	TATA BP SOLAR	TATA BP SOLAR	GLOMAC	
			PHILIPS	BAJAJ		
				C&S		
				SURYA ROSHNI LTD		
				BIRLA POWER		
26	<u>BATTERY/BATTERY CHARGERS</u>					
		BATTERY CHARGER & BATTERY	EXIDE	BCH		
			AMCO	ESCORP		
			PANASONIC	NUCLEOUS		
			SINETRAC	STANDARD		
			PRESTOLITE	SF SONIC		
			AMRON	OKAYA		
			LUMINUOUS			
27	<u>EXTERNAL WATER SUPPLY</u>					
		CENTRIFUGAL PUMP	KIRLOSKAR	BE	BE	
			BECON	MAXFLOW	MAXFLOW	
			CROMPTON	WASP	WASP	
			JYOTI			

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		MOTORS	KSB			
			KIRLOSKAR	CROMPTON	CROMPTON	
			L&T	BCH	BCH	
			SCHNEIDER	BHARAT BIJLEE	BHARAT BIJLEE	
			JYOTI	L&T	L&T	
			SIEMENS			
			NGF			
			ABB			
		TURBINE PUMP/VERTICAL TURBINE PUMP	KIRLOSKAR	WORTHINGTON		
			JYOTI	CROMPTON		
			JOHNSON			
			KSB			
		SUBMERSIBLE PUMP /HORIZONTAL PUMP	KIRLOSKAR	CALAMA		
			JYOTI	SHAKTI		
			KSB	V-GUARD		
			TULLU	GRANDFOS		
				CRI		
				SFMC	SFMC	
		GM GATE VALVES /STOP VALVES/CI SLUICE VALVES/ REFLUX VALVES/ FOOT VALVES/ AIR RELEASE/ FOOT VALVE	ZOLOTO	VENUS	KARTAR	
			LEADER	KEJRIWAL	BIR	
			AUDCO	KARTAR		
			KIRLOSKAR	BIR		
			IVC			
			UPADHYAY			
			L&T			
		MOTOR STARTER/ SINGLE PHASE PREVENTOR/ PHASE SEQUENCE CORRECTOR(AUTO)/ FASD STARTER/DOL STARTER/AUTO MOTOR CONTROL TIMER PANELECTRONIC DIGITAL MOTOR PROTECTION RELAYS	L&T	L&T	BENTEC	
			ABB	BENTEC	SINETRAC	
			C&S	SINETRAC	STANDARD	
			HAVELLS	STANDARD	HPL	
			BCH	HPL		
			INDO ASIAN	MINILEC		
			CROMPTON	SECO		
			SCHNEIDER	GIC		
		WATER LEVEL INDICATOR DIGITAL	SINETRAC	PUMPUTER	PUMPUTER	
			AKASH	AKASH	AKASH	
			PHOTOTRON	SURYA	SURYA	
			SURYA	PHOTOTRON	PHOTOTRON	
			SECO			
		WATER METERS	DASHMESH	DASHMESH		
			KIRLOSKAR	KIRLOSKAR		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
28	AIR CONDITIONING					
		COMPRESSOR RECIPROCATING	KIRLOSKAR BLUE STAR VOLTAS CARRIER	KIRLOSKAR BLUE STAR VOLTAS CARRIER		
		COMPRESSOR SCREW TYPE	CARRIER YORK TRANE	CARRIER DENUMBUSH		
		ELECTRIC MOTOR	KIRLOSKAR L&T SCHNEIDER JYOTI SIEMENS NGF ABB KSB	CROMPTON BCH BHARAT BIJLEE L&T	CROMPTON BCH BHARAT BIJLEE L&T	
		MOTOR STARTER	L&T ABB C&S HAVELLS BCH INDO ASIAN CROMPTON SCHNEIDER	L&T BENTEC SINETRAC STANDARD HPL MINILEC SECO GIC	BENTEC SINETRAC STANDARD HPL	
		COOLING COIL/AHU	VOLTAS BLUE STAR ZECO ACCEL CARRIER	VOLTAS BLUE STAR ZECO ACCEL CARRIER EDGETECH	UNIVERSAL PARKAIRE EDGETECH	
		CONDENSOR	VOLTAS BLUE STAR ZECO ACCEL CARRIER	UNIVERSAL PARKAIRE		
		AIR FILTER	KIRLOSKAR	TENACITY ATHLETE		
		COOLING TOWER	PAHARPUR MIHIR VOLTAS BLUE STAR	THERMO PACK DELTA		
		EXPANSION VALVES /THERMOSTAT/HUMIDISTAT	DANFOSS SPORLON INDFOSS HONEYWELL	ALCO RANCO		
		HP/LP CUT OUT	DANFOSS INDFOSS JOHNSON	RANCO PENN		
		THERMO METERS	H-GURU THERMAX ZENITH SCIENTIFIC	AIRCOOL RENUTROL		
		HOT WATER GENERATORS	THERMAX ZENITH RAID CONTROL	THERMAX SANT		
		STRIP HEATER	RACOLD DASS PASS HOTWELL	SANT EMI CROWN		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		SHUT OFF VALVE	DANFOSS	SANT		
			INDFOSS	RENUTROL		
		CHILLER	VOLTAS	ZECO		
			BLUESTAR	FEDDERS		
			LLOYD CORPORATION			
		WINDOW TYPE ACs	VOLTAS	SAMSUNG		
			HITACHI	LG		
			CARRIER	DAIKIN		
			BLUE STAR			
		PACKAGE TYPE AC	BLUE STAR	VOLTAS		
			HITACHI	CARRIER		
		CHILLING PACKAGE UNIT	VOLTAS	KIRLOSKAR		
			BLUESTAR			
		PUMP MONO-BLOCK	KIRLOSKAR	KIRLOSKAR		
			CROMPTON	CROMPTON		
		AC CONTACTORS	L&T	C&S		
			ABB	GE		
			SIEMENS			
29	<u>SOLAR WATER HEATING SYSTEMS</u>					
		SOLAR WATER HEATING SYSTEM	TATA BP SOLAR	V GUARD		
			BHEL	BHEL		
				M/S Nuotech Solar System Ltd	M/S Nuotech Solar System Ltd	
		Grid connected and rooftop solar photovoltaic power plants(Off Grid Battery Back-up Systems(5 KW-100 KW), rooftop Grid Interactive systems (20 KW-10KW), Land based Grid Connected systems (100 KW-25 MW)"	M/S Thermax Limited	M/S Thermax Limited	M/S Thermax Limited	
30	<u>SHOCK PROOF INSULATION</u>					
		ELECTRICAL INSULATION RUBBER MATS	JAIPURIA	JYOTI		
			JYOTI	INSULATICA		
31	<u>FIRE FIGHTING SYSTEMS</u>					
		FIRE DETECTORS	SIEMENS	SIEMENS		
			HONEYWELL	HONEYWELL		
		FIRE PUMP/ JOCKEY PUMP	KIRLOSKAR	CRI		
			KSB	GRUNDFOSS		
32	<u>MISCELLANEOUS ITEMS</u>					
		GI SHEET CLASS 8	TATA	JINDAL		
			SAIL	TATA		
				SAIL		
		EOT CRANE	ROCKWELL HOISTO	POINEER CRANES		
			HERCULES HOISTO	TURBO FERGUSAN (INDIA) PVT LTD		
		AIR CURTAINS	ALMONARD	ALMONARD		
			CROMPTON	CROMPTON		
		ADVANCE LIGHTING PROTECTION UNIT	PHEONIX	PRAGATI ELECTROCOM		
			VOLTAS	SM Innotech- Earth Plus		
				Dhruva Tech PVT LTD -PROTECH		
		WATER COOLERS	VOLTAS	VOLTAS		
			BLUE STAR			

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		AVIATION OBSTRUCTION LIGHTS	USHA SRIRAM	USHA SRIRAM		
			PHILLIPS	BAJAJ		
			WIPRO	WIPRO		
		UPS		GEC		
			SIEMENS	MICROTECH	APLAB	
		DAMPER DIFFUSERS/ GRILLER	V GUARD	SU-KAM	MICROTECH	
			CARRIER	ATE		
			CARRIER	ATE		
				MHP		
		INVERTERS		MARPO		
			LUMINOUS	MICROTECH		
			SUKAM	SUKAM		
		GPRS/GSM BASED SCADA WIRELESS		LUMINOUS		
			SECO	SURYA ELECTRONIC CONTROLS JODHPUR		
		UNDER WATER LIGHTS	PHILLIPS	BAJAJ		
			CROMPTON GREAVES	PHILLIPS		
		AIR COMPRESSORS	BLUE STAR	BLUE STAR		
			INGEROLL RAND	INGEROLL RAND		
		ELECTRIC LIFTS	OTIS	MITSUBISHI		
			KONE INDIA	KONE INDIA		
			JOHNSON	JOHNSON		
		STATIC FREQUENCY CONVERTORS	SIEMENS	MITSUBISHI		
			ABB	TOSHIBA		
		MANUAL CALL POINT	APOLLO	SAFEWAY		
				DG CON		
				SURAKSHA		
				NAVEEN		
		ISOLATION TRANSFORMER	VOLINA	VOLINA		
		NON GAS BASED CHLORINATION SYTEM/DOSING SYSTEM WITH DOSING PUMP	DECLIBAC POTER & WATT CORP	DECLIBAC POTER & WATT CORP		
			BRIOZING UNLIMITED	BRIOZING UNLIMITED		
		CHEMICAL FOR CHLORINATION	DECLIBAC	DECLIBAC		
			POTER & WATT CORP	POTER & WATT CORP		
			BRIOZING UNLIMITED	BRIOZING UNLIMITED		
		CHLORONOME PLANT	CAPITAL CONTROL	CAPITAL CONTROL		
			JESCO	JESCO		
			PATTERSON	PATTERSON		
		SEWER MANHOLE CI COVER		BENGAL IRON CORPORATION		

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
33	ENERGY SAVER					
		MEGA ENERGY SAVER FOR WINDOW, SPLIT AND PACKAGE AC, MEGA ENERGIX-P/G ENERGY SAVER FOR PUMPS AND FAN MOTORS. MEGA SLC ENERGY SAVING STREET LIGHT CONTROL SYSTEM AND MEGA ENERGY SAVER SYSTEM FOR CENTRAL AIR CONDITIONING	M/S MEGA ENERGY SOLUTIONS PUNE			
		NATURE SWITCH FOR AUTOMATION OF STREET LIGHTING CIRCUITS	KAKATIYA ENERGY SYSTEMS PVT LTD			
34	LED LIGHTS					
		LED Energy efficient lighting systems and Luminaries for domestic/ commercial/ industrial/street lighting	Havells M/s Insta Power Ltd Phillips M/S Surya Roshni Ltd. Mepro	Havells Phillips M/S Surya Roshni Ltd. Mepro	Havells Phillips Electron* Mepro	
		Mega LED Lighting for indoor and outdoor Use. Mega Solar LED Lighting			*M/s Mega Energy Solutions	
			C&S	C&S	C&S	
				VIN Semiconductor Pvt Ltd	VIN Semiconductor Pvt Ltd	
			SYSKA	SYSKA	SYSKA	
		Enerpax AC LED Light	M/S DIFFLIC Enerpax Global Pvt Ltd	M/S DIFFLIC Enerpax Global Pvt Ltd	M/S DIFFLIC Enerpax Global Pvt Ltd	
35	SEWAGE TREATMENT PLANTS					
		MBBR	Thermax Limited Ion Exchange (India) Ltd	Thermax Limited Ion Exchange (India) Ltd		
				Fontus Water Ltd		
					Hydrotech Paryavaran (India) Pvt Ltd	
					Nitasha Constructions	
					Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	
		MBR	Thermax Limited. Nitasha Constructions	Thermax Limited. Nitasha Constructions	Thermax Limited. Nitasha Constructions	
			Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
		<u>FBBR, FAB, FMR, SAFF</u>	Thermax Limited.	Thermax Limited.	Thermax Limited.	
			Nitasha Constructions	Nitasha Constructions	Nitasha Constructions	
			Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	
				Fontus Water Ltd.	Fontus Water Ltd.	
		<u>SBR</u>	Thermax Limited.	Thermax Limited.	Thermax Limited.	
			Nitasha Constructions	Nitasha Constructions	Nitasha Constructions	
			Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	
					Hydrotech Paryavaran (india) Pvt Ltd.	
		<u>ASP Technology</u>	Nitasha Constructions	Nitasha Constructions	Nitasha Constructions	
			Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	
			Hydrotech Paryavaran (india) Pvt Ltd.	Hydrotech Paryavaran (india) Pvt Ltd.	Hydrotech Paryavaran (india) Pvt Ltd.	
		Package type treatment plant for water & waste water	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	
		PSTP-Package Sewage treatment plant, PWTS- AM Advance Septic Tank and PWTS- STBF Sewage Treatment Plant	M/S Sintex Industries Limited (Plastic Division)	M/S Sintex Industries Limited (Plastic Division)	M/S Sintex Industries Limited (Plastic Division)	
		Testing Lab for water & waste water, chemical, building material and other products as per NABL approval	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)	
36	<u>WATER TREATMENT</u>					
		Mark Baxer brand water disinfectant granules/tablets - Sodium Dichloro isocyanurate (Na DCC)	BM Aqua Tech Pvt Ltd.			
		RO Plants, Filters & Sopftners	Fontus Water Ltd. Thermax Limited.			

SER No	PRODUCT CATEGORY	PRODUCT	GROUP OF PRODUCTS BASED ON MAKES/BRANDS			REMARKS
			GROUP I	GROUP II	GROUP III	
			Sophisticated Industrial Materials Analytic Lab Pvt Ltd (SIMA)			
37	MISC					
		PLC wireless gateways, wireless communication and misc. items PLC/IRTU Model (10000, 300, 6000, 9000), ISLC 3000, Wireless Gateway Unit, Aqua Scanet, Power Scanet, Lighting gale FEP (Front End Processor), IPMU 4000 Energy Meter, ICOM 6000 wireless communication modem	M/s CIMCON Software (India) Pvt Ltd.			

NOTES :-

Make of product as mentioned groupwise in aforesaid list shall be incorporated in the work. If make of any product is not available in concern group but the same is available in other superior groups, the same shall be incorporated in the work without any extra cost to the Govt. Order of the superiority shall be from Group-III to Group-I. Further if no make is available in most superior group and the same is required to incorporate in the work from the makes of other groups, in such cases make of product to be approved by the Accepting Officer before incorporation in the work.

(Signature of the Contractor)
Dated :

DCWE (Contracts)
For Accepting Officer

PARTICULAR SPECIFICATIONS (CONTD.....)**APPENDIX 'C'****SOURCES OF MATERIALS**

S. NO.	NAME OF MATERIALS	SOURCE OF MATERIALS FOR WORKS AT STATION
1.	Bricks and brick tiles	As specified here-in-before
2.	(a) Coarse aggregate for all RCC works	Crushed stone aggregate from Haldwani, river boulder/River single as specified
	(b) Coarse aggregate for all PCC works	---do---
3.	Coarse sand for RCC/PCC lime concrete, DPC and seal coat.	Haldwani River coarse sand
4.	Sand for plastering, pointing, brick masonry, stone masonry, sand for cushioning, filling and covering for LT cables	Haldwani River sand
5.	Broken / crushed stones/boulders for Hardcore and road work, stone chipping for premix carpeting	Haldwani River boulders/broken boulders stones/crushed stones
6.	Stone for WBM and Sub base/soling, screening and Premix carpet	---do---

NOTES: -

1. Sources indicated are for guidance only. The tenderer shall ascertain the actual position / exact location of source before submitting his tender and no additional payment shall be made on account of misunderstanding or its distance from site of works.
2. The tenderer shall amongst other things also ascertain all information such as royalties, taxes, duties and other charges etc. on the materials and no additional payment shall be made on account of the foregoing.
3. However, if due to any ban imposed by the State Government/any other authority on obtaining the materials from the sources specified hereinabove and /or specified materials is not available at the source mentioned above, these materials conforming to specifications as given in particular specifications will be obtained by the contractor from any other place / source without any extra cost to the Government.

.....
(Signature of Contractor)

Dated.....

DCWE (Contracts)
For Accepting Officer

PARTICULAR SPECIFICATION
MATERIALS AND TESTS
APPENDIX 'D'

Srl No	Material	Tests	Method of Testing	Frequency of tests of test	Level of test	Rate	Remarks
1	2	3	4	5	6	7	8
1	Brick	(i) Compressive strength	IS-3495 (Pt-II)	As per IS : 5454 given under:-	A	180/-	Checks for visual and dimensional characteristics shall also be carried out as per IS : 5454
2	Coarse aggregate	(ii) Water absorption	IS-3495 (Pt-II)	Lot size Sample size of defective bricks	A	150/-	<u>LEGEND</u> A - Site Lab B - Zonal Lab C - National test house/SEMT Wing/Engg. College
		(iii) Efflorescence	IS-3495 (Pt-I)	1001 to 05 10000 10001 10 to 35000 35001 15 to 50000 01	A	180/-	
		(i) Sieve analysis	IS-2386(Pt-I)	One test for every 15 cubic metre of aggregates or part there of brought at site.	A	120/-	
		(ii) Flakiness Index	IS-2386(Pt-I)	One test for every 15 cubic metre of aggregates or part there of brought at site.	A	90/-	
		(iii) Estimation of deleterious material	IS-2386(Pt-I)	One test for every 100 cubic metre of aggregate of Part thereof.	A	120/-	
		(iv) Organic impurities	IS-2386(Pt-I)	One test per source of supply	C	120/-	
		(v) Moisture contents	IS-2386(Pt-II)	Regularly as required	A	120/-	
		(vi) Specific gravity.	IS-2386(Pt-II)	One test for each source of supply	B	120/-	

CONTD

PARTICULAR SPECIFICATION
MATERIALS AND TESTS
APPENDIX 'D'

1	2	3	4	5	6	7	8
3	Fine aggregate	(i) Sieve analysis	IS-2386(Pt-I)	One test for every 15 cubic metre of FA or part when brought to site	A	180/-	
		(ii) Test for clay, silt and impurities	IS-2386(Pt-I)	One test for every 15 cubic metre of FA or part when brought to site	A	90/-	
		(iii) Specific gravity	IS-2386(Pt-II)	One for each source of supply	B	180/-	
		(iv) Moisture content	IS-2386(Pt-II)	Regularly as required subject to 2 tests/day when being used.	A	180/-	
		(v) Test for organic impurities	IS-2386(Pt-II)	One test for each source of supply	C	180/-	
4	Structural concrete (M-15 grade and above)	(i) Slump test or compacting factor test or vee-bee time	IS : 1199	The minimum frequency of sampling of concrete of each grade shall be as under:-	A	180/-	Random sampling shall be carried to cover all mix units.
		(ii) Compressive strength	IS : 516	Qty of concrete in the work (CUM)			
				1 - 5	1		
				6 - 15	2		
				16 - 30	3		
				31 - 50	4		
				51 and above	4 + 1 for each addl 50 Cum or part thereof		
5	(a) PCC block walling (Hollow block)	(i) Compressive strength	IS : 2156 -1984 (Appx 'B')	8 blocks out of 14	A	60/-	Samples - 14 blocks from consignment of every 5000 blocks or part thereof.

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PARTICULAR SPECIFICATION
MATERIALS AND TESTS
APPENDIX 'D'

1	2	3	4	5	6	7	8
Srl No 5 (Contd...)							
	(ii) Water absorption		IS : 2156 -1984 (Appx 'E')	3 blocks out of 14	B	120/-	
	(iii) Density		IS : 2156 -1984 (Appx 'A')	3 blocks out of 14	B	90/-	
	(b) PCC solid block for walling	(i) Compressive strength	IS : 2185	12 block out of 18	A	60/-	Samples - 18 blocks from consignment of every 1000 blocks or part thereof.
	(ii) Water absorption		IS : 2185	3 blocks out of 18	B	120/-	These blocks to be checked for dimension and weight.
	(iii) Density		IS : 2185	3 block out of 18	B	120/-	
6	Cement flooring tiles/terrazzo	(i) Water absorption	IS-1237 (Appx 'D')	6 tiles out of 18.	B	180/-	Samples of 18 tiles from each source of supply selected at random
	(ii) Wet transverse strength		IS-1237 (Appx 'E')	6 tiles out of 18.	B	144/-	
	(iii) Resistance to wear		IS-1237 (Appx 'F')	6 tiles out of 18.	C	540/-	

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MATERIALS AND TESTS
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1	2	3	4	5	6	7	8
7	Burnt clay roofing tiles (hand made) IS-2690 (Pt-II)	(i) Water absorption	IS-3495 (Part-I)	6 tiles out of 12	B	216/-	SAMPLES : 12 tiles from each source of supply selected at random.
	<u>LENGTH</u> 150 mm to 250 mm	(ii) Compressive strength	IS-3495 (Part-I)	6 tiles out of 12	A	180/-	
	<u>WIDTH</u> 100 mm to 200mm						
	<u>THICKNESS</u> 35mm to 50mm						
8	Mangalore pattern roofing tiles	(i) Water absorption	IS : 654 (Appx 'A')	6 tiles out of 32	B	180/-	SAMPLES : 32 tiles from each consignment of 3000 tiles or part thereof. These tiles shall be checked for dimensions.
		(ii) Breaking load	IS : 654 (Appx 'C')	6 tiles out of 32	B	120/-	
9	Timber	(i) Specific gravity and weight	IS : 1708	Minimum 3 samples from a lot of 4 cum or 250 pieces of seasoned timber	B	120/-	
		(ii) Moisture content	IS : 1708	- do -	A	120/-	
10	Water for constn. Purposes	(i) Test for acidity	IS-456 & 3015	Once at the stage of approval of source of water	B	240/-	Also refer clause No. 4.3 of IS-456 and its subsequent clauses regarding suitability of water.
		(ii) Test of alkalinity	IS-456 & 3015	-do-	B	240/-	
		(iii) Test for solid content	IS-456 & 3015	-do-	C	300/-	

CONTD

PARTICULAR SPECIFICATION
MATERIALS AND TESTS
APPENDIX 'D'

1	2	3	4	5	6	7	8
11	Welding of steel work	Visual inspection test	IS-822 clause 7.1	100% visual inspection	Work site	360/-	Specialised test, their method and frequency to be decided on consideration of their importance by Accepting Officer.
12	Timber paneled glazed door window shutters (including factory made shutters)	(a) Dimensions sizes workmanship and finish	IS : 1003 (Pt-I)	Frequency of sampling from each lot shall be as under:- LOT SIZE 26 to 50 51 to 100 101 to 150 151 to 300 301 to 500 501 to 1000 1001 to above SAMPLE SIZE 5 8 13 20 32 50 80	A	180/-	
<u>(b) STRENGTH TESTS</u>							
	(i) Slamming		IS : 1303	From the each lot 5% of the factory made shutters shall be manufacturer tested for strength tests.			
	(ii) Impact Identification		IS : 1303	~do~			
	(iii) Shock resistance		IS : 1303-1990	~do~			
	(iv) Edge loading		IS : 1303-1990	~do~			
13	Ply Wood (IS : 303)	(a) Moisture content	IS : 1734 (Part I)	Six test pieces cut from each of the boards selected as per table shall be subjected to tests	C	240/-	Sampling shall as per IS : 7835 Table

CONTD

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MATERIALS AND TESTS
APPENDIX 'D'

1	2	3	4	5	6	7	8
14	Wood particle board (medium density) IS : 3097	(a) Density	IS - 2360 (Part-III)	Three test specimens from each sample (Size 150 mm x 75 mm)	A	60/-	Sampling shall be as per IS : 3487-83 with moisture metre
	(b) Moisture content		IS - 2360 (Part-III)	~do~	A & B	60/-	
	(c) Water absorption		IS - 2360 (Part-16)	~do~ (Size 300mmx300mm)	A	60/-	
	(d) Swelling due to surface absorption		IS - 2360 (Part-17)	~do~ (Size 125mmx100mm)	A	60/-	
	(e) Swelling in water		IS - 2360 (Part-17)	~do~ (Size 200mmx100mm)	A	60/-	
	(f) Modulus of rupture		IS - 2360 (Part-4)	Three test specimens as per IS : 2380	B	90/-	
	(g) Screw withdrawal strength		IS - 2360 (Part-4)	Three test specimens as per IS : 2385	C	120/-	
15	Cement	(i) Setting time	IS:4031-63	Once for each consignment or as and affirmed 1980	B'	180/-	
	(ii) Soundness		IS:4031-63	Once for each consignment or as and affirmed 1980	B'	120/-	
	(iii) Compressive Strength		IS:4031-63	Once for each consignment or as and affirmed 1980	B'	360/-	
	(i) Fineness		IS:4031-63	Once for each consignment or as and affirmed 1980	B'	120/-	

Signature of contractor
Dated

DCWE (Contracts)
for Accepting Officer

CONTD