

**TENDER FOR PROCUREMENT OF ESP SPARES  
(Bid No.: GIPCL/MATLS/ ESP SPARES SUPPLY/2025-26)**

**GUJARAT INDUSTRIES POWER COMPANY LIMITED**

**TENDER FOR PROCUREMENT OF ESP SPARES**

**Bid No.: GIPCL/MATLS/ ESP SPARES SUPPLY/2025-26**



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**NOTICE INVITING TENDER (NIT)**

**TENDER NO.: Bid No.: GIPCL/MATLS/ ESP SPARES SUPPLY/2025-26**

Name of work	Procurement of ESP Spares
Place of Supply	GUJARAT INDUSTRIES POWER CO. LTD,  Surat Lignite Power Plant (SLPP) At & Post: Nani Naroli Taluka: Mangrol Dist: Surat pin: 394112 (Gujarat)
Quantity	Quantity shall be as per Section-D
Non-Refundable Tender Fee	Rs. 2,950/- by Demand Draft/RTGS in favor of GIPCL and payable at Vadodara as per clause No.06 of Section A.
EMD	<b>Rs. 1,55,000/- (Rs. One Lac Fifty-Five Thousand only) as per clause No.06 of Section A.</b>
Security Deposit	10% of Basic Order Value (excluding Taxes & Duties.) Valid for Guarantee Period as per format attached in Section- E in favor of Gujarat Industries Power Company Ltd as per Clause No.01 of Section C, GCC.
Submission of EMD other supporting documents for technical Bid in physical form	On or before due date during office hours at office of GIPCL, Post: Ranoli-391350, Dist.: -Vadodara, Gujarat – India

**NOTES:**

1. Amendment / corrigendum of the tender document, forms, schedules, etc... may be done any time by the GIPCL during the period of publication of Tender in the website. The Bidders are required to visit the website regularly till the last date & time of Bid submission.

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2. GIPCL reserves the right to reject any or all the tenders without assigning any reason thereof.
3. The Bidders are required to quote the rate strictly as per the terms and conditions mentioned in the tender document, adhering to technical specifications as well.
4. The Bidders are required to submit their Bids online through the website <https://tender.nprocure.com>
5. EMD and other supporting documents are to be submitted in physical form only at the following address:-

**General Manager (Materials & Contracts)  
Gujarat Industries Power Company Limited,  
Post: Ranoli – 391350  
Dist.: Vadodara.**

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**SECTION-A**  
**INSTRUCTIONS TO BIDDERS**

**1. PLANT SYNOPSIS**

Gujarat Industries Power Company Limited (GIPCL) was incorporated in the year 1985 as a Public Limited Company. The Company is registered with the Registrar of Companies, Gujarat under the Companies Act, 1956, registered and corporate Office is located at P.O. Ranoli, Vadodara- 391 350, Gujarat, India.

GIPCL is in the business of Electrical Power Generation. The current installed capacity is 1859.4 MW. The Company has a diversified power generation portfolio comprising Thermal (Lignite and Gas) and Renewable (Wind and Solar) Power Plants. GIPCL also operates captive Lignite and Limestone Mines to meet the fuel requirement of the 500 MW Surat Lignite Power Plant. Over the years, GIPCL has established itself as a formidable player in the power generation business.

**GIPCL Assets**

**Thermal**

- 500 MW (2 x 250 MW) Surat Lignite Power Plant at Village Mangrol, Surat, Gujarat
- 310 MW (145 MW +165 MW) Gas Based Combined Cycle Power Plants at Vadodara, Gujarat

**Renewables**

- 937 MW Solar Generating Capacity spread across various locations in Gujarat
- 112.4 MW Wind Generating Capacity in the Saurashtra and Kutch region of Gujarat

**Surat Lignite Power Plant (SLPP)** with four units of 125 MW capacity each is located at Village: Nani Naroli, Taluka: Mangrol, District: Surat in Gujarat. GIPCL has also operating its own captive Lignite and Lime Stone Mines close to the Power Plant. The Power Plant is based on Circulating Fluidized Bed Combustion (CFBC) technology for the Boilers, where Lignite is burnt along with Lime Stone in the Combustor of the Boiler.

Surat Lignite Power Plant (SLPP) is accessible by road from Kim and Kosamba, which are on Mumbai-Ahmadabad highway. From Kosamba, SLPP is around 32 KM, out of which 27 KM is part of the National & State Highway and balance 5 KM is District Road. From Kim, SLPP is around 18 KM, out of which 13 KM is the State Highway and balance 5 KM is District Road. The nearest Broad-Gauge Railway Line is at Kim, which is around 21 KM from the SLPP. Surat is approximately 50 KM from the SLPP.

**2. SCOPE OF SUPPLY:**

Detail Scope of Supply, Technical Specifications for Procurement of ESP Spares is mentioned in Section-D.

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**3. GENERAL INSTRUCTIONS**

- 3.1 The Bidders who are interested in participating in the tender must read and comply with the instructions and the Terms & Conditions contained in the tender documents.
- 3.2 The Bids shall be filled in by the Bidders clearly, neatly and accurately. Any alteration, erasures or overwriting shall be liable to make the tender invalid unless the same is neatly carried out and attested over the full signature of Bidder. The decision of the Company to interpret the information and rates filled in by the Bidder shall be final and binding on the Bidder.
- 3.3 The Bidders are requested to make themselves fully conversant with the General Conditions of Contract, Special Conditions of Contract, Technical Specifications, Site conditions, Safety & Health Aspects and Norms to be observed etc. before submitting their bids so that no ambiguity arises in these respects subsequent to submission of the Bids.
- 3.4 Before quoting the rates, the Bidder must visit site and should go through the specifications, scope of work etc. and get himself fully conversant with them. The Bid should include cost of mobilization and cost to adhere to all Safety Norms as described in the tender. No relaxation or request for revision of quoted/accepted rates shall be entertained subsequent to the opening of Bid on account of mobilization or Safety costs.
- 3.5 Bidder has to submit all the information as per required Bid document. Failure to furnish all the information as per required Bid documents or submission of a Bid containing deviations from the contractual terms and conditions, specifications and requirements, shall be rejected.
- 3.6 The Bids shall be submitted within the time frames set out in the Notice Inviting Tender ('NIT') and Bids submitted thereafter shall not be accepted and considered.
- 3.7 The tender documents shall not be transferable.
- 3.8 The Bidders are expected to examine all instructions, forms, terms & specifications in the Bid documents and to get fully acquainted themselves with all the conditions and matters which may affect the subject matter of the work/tender or the cost thereof. If any Bidder finds any discrepancies or omissions in the specifications and documents or any doubt in true meaning or interpretation of any part, he shall seek necessary clarifications in writing if required.
- 3.9 Conditional offers shall not be considered and liable to be rejected.
- 3.10 The Company reserves the right to extend the deadlines for submission of the Bids by giving amendments.
- 3.11 During evaluation of Bids the Company may, at its discretion ask the Bidder (s) for clarification of their Bid. The request for clarification and the response shall be in writing and no change in prices or substance of the Bid shall be sought, offered or permitted.
- 3.12 The Company reserves the right to amend/ modify the Bidding documents at any time prior to the deadline for submission of Bids, either at its own discretion or in response to the clarification requested by a prospective Bidder. In such case, the Company may in its discretion extend the deadline for submission of Bids in order

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to facilitate the prospective Bidders for incorporating the effect of the amendment in their Bids.

- 3.13 The Bidders shall bear all costs and expenses associated with the preparation and submission of their respective Bids, to attend meetings or conferences, if any, including any pre-award discussion with the successful Bidder, technical and other presentations etc. and the Company shall not be liable for any expense thereof.
- 3.14 If the successful Bidder is consortium/joint deed of undertaking of company, the Consortium leader/Bidder shall accept joint and several responsibilities and liabilities for all obligations under the Contract.
- 3.15 Timely and satisfactory completion of the work and strict adherence to the allotted time frames for jobs shall be the essence of the contract.
- 3.16 The Company reserves the right to qualify/disqualify any applicant without assigning any reason.
- 3.17 The Bidder shall be disqualified if any untrue statement or misrepresentation is made in the Bid forms, attachments and other supporting documents submitted by the Bidder.

**4. ELIGIBILITY CRITERIA**

The following criteria shall be adopted for qualifying the Bidders for further proceeding.

- 4.1 Bidder should possess minimum **Three (03) years** of experience for supply of ESP spares including collecting electrodes/ discharge (emitting) electrodes/, collecting electrode & Emitting electrode suspension system/, shock bar, Shock bar Guide assemblies/, Collecting/Emitting Rapping Mechanism parts/, All type of bearings utilized in ESP field internals/ Shaft & Support Insulators/ GD screen at inlet and outlet & its elements, **out of last seven (07) years** for **BHEL Make ESP (TYPE FAA-6 X 45 (45)-126-135-2 OR FOR ESP TYPE FAA-7 X 45 (45)-132-135-2) or equivalent ESP, connected to boilers of minimum 100 MW power plants or boilers of any other industry.** Bidder shall submit relevant PO copies for the same.
- 4.2 Bidder should produce evidence of having experience of successfully supplied any of similar type of ESP Spares as mentioned in **Annexure-1 and Annexure-2 for** boilers of minimum 100 MW power plants or boilers of any other industry in powerplant or equivalent heavy industries as defined hereunder during last **Seven years** ending last day of the month previous to the one in which tender is invited, satisfactory progress of ongoing works etc. secured from clients along with self-attested copies of documentary evidence preferably photo copies of work experience. The experience should be either of the following:
  - A. **One similar completed/executed work each costing not less than the amount equal to 1.46 Crore (Incl GST).**

OR
  - B. **Two similar completed/executed works each costing not less than the amount equal to 97.13 Lacs (Incl GST).**

OR

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**C. Three similar completed/executed works each costing not less than the amount equal to 72.85 Lacs (Incl GST).**

Bidder should specifically mention fulfilling of above criteria in his offer along with details of Purchase orders/ PO completion/execution certificates issued by clients.

4.3 The Bidder should have minimum average turnover of **Rs. 5.0 Crore** per annum during last three financial years. Balance Sheet of the company along with profit and loss account to be submitted duly audited by chartered accountant for the last three financial years to demonstrate the financial healthiness of the company. The balance Sheet and Profit and Loss Account must be in the name of the company. Any type of MOU for this purpose will not be entertained.

Note: In case, the annual turnover is less than the statutory guideline which does not require audit, the bidder shall submit the turnover certificate from Chartered Accountant.

4.4 The net worth of the bidder should be positive as evidenced from audited accounts of last financial year.

4.5 EMD: **The EMD & Tender Fee** shall be accompanied in the form of DD or Bank Guarantee given by Bank as described in subsequent clause.

4.6 The Bidder has to submit INCOME TAX Permanent Account Number (PAN), GST Registration No. of the firm. Copies of the same shall be submitted.

4.7 In case Bidder is a Consortium/Joint deed of undertaking of company, the above requirements/credential of consortium leader/bidder shall be considered unless otherwise specifically mentioned in the tender.

4.8 If Bidder or its Partner(s) or Director(s) is /are/was Black Listed / Deregistered / Stopped or banned from dealing in the past by any Govt, of Gujarat Undertakings / Depts. / Authorities and Govt. of Gujarat supported companies / undertakings / organizations, bid of that party may be liable to be rejected. Bidder agrees and undertakes to accept decision of GIPCL in this regard as final and binding on the Bidder without any demur and that no further correspondence shall be done in this regard at any stage. Bidder shall have to submit "Declaration for Contractual Litigations" as amended in Annexure / Form attached

4.9 All the tender documents shall be submitted with sign and stamp on each & every page. Attested copies of relevant documents duly signed & seal on each & every page shall be submitted. GIPCL may verify the documents, experience certificates issued by concern authority. After opening of technical Bid, if any required attested documents found missing in the Technical Bid submitted by the Bidder, the tender inviting authority may inform to that Bidder by E-mail to submit the missing required documents within stipulated time limit. If Bidder/Bidders fail to submit within stipulated time, their Bid will be declared technically disqualified and no further correspondence will be entertained.

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The Bidder shall submit all the evidences, documents, attested copies of purchase orders etc. as a proof with EMD and also provide the requisite details for meeting the prequalification requirements. GIPCL will verify the experience, performance, manufacturing capability for BHEL Make ESPs & strength of Bidders, independently for executing the job. GIPCL may visit the site & consult the owner of the industry/property where similar job is executed by the Bidder. GIPCL reserves the right to accept/cancel/reject any/all Bids without assigning any reason thereof. The tenders of qualified Bidder/Bidders shall only be considered for further evaluation.

4.10 GIPCL reserves the right not to consider bid of vendor who has track record of Non-Compliance/ Non-Performance/Non-Supply/ Cancellation of Work Order/Purchase Order in past with GIPCL.

**5. LANGUAGE OF BID**

The Bid prepared by the Bidder, and all correspondence and documents relating to the Bid exchanged by the Bidder and the Company, shall be written in the English language. Any printed literature furnished by the Bidder, written in another language shall be accompanied by an English translation for the purpose of interpretation of the Bid.

**6. EARNEST MONEY DEPOSIT (EMD) AND TENDER FEE**

6.1 An EMD of **Rs. 1,55,000/-** and Nonrefundable Tender fee **Rs. 2,950/-** shall accompany with Bid. The Tender fee & EMD shall be in the form of a crossed bank Demand Draft in favor of Gujarat Industries Power Co. Ltd. **and payable at Vadodara**.

6.2 The EMD, in alternative, may be submitted in the form of irrevocable Bank Guarantee in favor of Gujarat Industries Power Company Limited as per Performa of BG enclosed under Section-E.

6.3 EMD & Tender Fee may also be submitted through online payment gateway of company's website: [www.gipcl.com](http://www.gipcl.com) (online Payment Form) as per detail provided in Section-E herein under. Generated receipt must be submitted with technical bid.

6.4 In case EMD is paid in the form of BG (Format is attached in Section-E), the same shall be valid for a period of 180 days after the due date for submission of the bid.

6.5 The EMD of the Successful bidder will be returned after payment of Security Deposit by successful bidder.

6.6 The earnest money deposit paid in the form of Demand draft/BG/Online will be refunded to the Unsuccessful BIDDER as soon as the tender is finalized and after award of LOI/Work Order.

6.7 GIPCL reserves the right to accept/reject/refloat the tender, in no case tender fee shall be refunded.

6.8 Any bid not accompanied with EMD will be rejected.

6.9 No interest shall be payable on EMD.

6.10 The EMD will be forfeited if the BIDDER (i) withdraws his tender after acceptance or (ii) withdraws his tender before the validity date of the tender.

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**6.11 SCHEDULE OF EMD**

EMD & Tender FEE and all the documents asked in the tender (except price bid) shall be submitted with duly signed and stamp in physical on or before due date.	Address for Submission: General Manager (Materials & Contracts)  Gujarat Industries Power Company Limited, Post: Ranoli – 391350, Dist.: Vadodara, Gujarat - India
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**7. SUBMISSION OF BIDS**

**A: MODE OF SUBMISSION**

The Bids shall be submitted in two parts along with EMD within dates specified in NIT as under: -

- (a) Pre-qualification and Techno-commercial Bid without price.
- (b) Price Bid.

**a) Pre-Qualification and Techno-commercial Bid without price:**

**The following Documents shall also be submitted along with EMD in Physical Form to GIPCL-Vadodara.**

The following supporting documents shall also be submitted along with EMD in physical form:

1. The Tender Documents of (Section-A to Section-E) duly signed in all pages without price bid along with techno-commercial deviations, if any shall accompany the bid. If you don't have deviations then write "NIL" in the deviation sheet and then submit with sign & stamp.
2. EMD in the form of DD/BG.
3. Proof of minimum eligibility criteria as per clause no.04 of Section A.

**b) Price Bid:**

- 1) Price Bid shall be submitted only in soft form through **(n) Procure Only**.

**8. EVALUATION & COMPARISON OF BIDS**

- 8.1 GIPCL shall evaluate the Bids received and accepted by it to ascertain the overall lowest/item vise lowest evaluated Bid in conformity with the specifications of the tender documents at hid sole discretion.
- 8.2 The Technical Bids will be examined for minor matters regarding qualification of bids. Subsequent to correspondence with the respective bidders, the decision of GIPCL will be final.
- 8.3 All responses to requests for clarifications shall be in writing and shall be presented to the Company through e-mail or in a sealed envelope on or before the given date requested by the Company. If the Technical clarifications sought

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by the Company do not reach the Company on or before due date, the Bid will be rejected.

8.4 The comparison of all the Bids shall be carried out with reference to the scope of work as per the technical specification. Any deviation/omission shall be evaluated at highest quoted price of the deviation/omission quoted by any of the Bidder. In case a separate price (for omission) is not given by any other Bidder, a reasonable price of the same shall be taken & the same shall be binding to the Bidders.

8.5 The commercial deviation, if any, shall be loaded to bring all the Bids at par. The loading shall be carried out at an interest rate of 2% above PLR of SBI.

8.6 A Bid to be substantially responsive shall be one which on evaluation confirms to all the terms, conditions and specifications of the Bid documents without any material deviation or reservation.

8.7 For the above referred purpose, a 'material deviation' shall be one which:

- (a) Which affects in any substantial way the scope, quality or performance of the contract, or
- (b) Which limits in any substantial way and in a manner inconsistent with the Bid documents, GIPCL's right or the Bidder's obligations, under the contract, or
- (c) Whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

**9. METHOD OF TENDERING/SIGNATURE ON BIDS**

- (i) The Bid must contain the postal address like name, residence and place of business of the person or persons submitting the Bid and must be signed and sealed by the Bidder with his usual signature. The name of all persons signing the documents shall also be typed or printed below the signature on each page.
- (ii) Bid by a consortium/joint deed of undertaking of company/partnership firm must be furnished with full names of all partners and be signed with the partnership name, followed by the signature and designation of one of the authorized partners or other authorized representative(s). A certified copy of the power of attorney authorizing such partner or representative shall also be submitted.
- (iii) Bids by a Corporation/Company must be signed with the legal name of the Corporation/Company i.e. by the President/Managing Director/Secretary or other person or persons authorized to Bid on behalf of such Corporation/Company. A certified copy of the board resolution/power of attorney authorizing such partner or representative shall also be submitted.
- (iv) The Bidder's name stated on the proposal shall be the exact legal name of the firm.
- (v) Erasures or other changes in the Bid Documents shall be initialed by the person signing the Bid.
- (vi) Bids not conforming to the above requirements of signing shall be disqualified.

**10. MODIFICATION AND WITHDRAWAL OF BIDS**

- a. The Bidder may modify or withdraw the bid prior to the deadline prescribed for submission of bids.
- b. No Bid shall be modified subsequent to the deadline for submission of Bids.

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- c. No Bid shall be withdrawn in the interval between the deadline for submission of Bids and the expiration of the period of bid validity.

**11. POLICY FOR BIDS UNDER CONSIDERATION**

- a. Bid shall be deemed to be under consideration immediately after opening of the bid and till official intimation of award/rejection made by the Company to the Bidders.
- b. While the Bids are under consideration, Bidders and / or their representative or other interested parties are advised to refrain from contacting by any means, the Company. The Engineer, if necessary, will obtain clarifications on the Bids by requesting for such information from any or all the Bidders, in writing as may be necessary. The Bidder will not be permitted to change the price or substance of the Bid after the Bid has been opened.

**12. EFFECT AND VALIDITY OF THE BID**

- a. The Bid should be kept valid for acceptance for a period of one hundred and eighty (180) calendar days from the last date of submission of Bids.
- b. The submission of any Bid along with the required documents and specifications shall constitute an agreement that the Bidder shall have no cause of action or claim, against the Company for rejection of his Bid. The Company shall always be at liberty to reject or accept any Bid or Bids at his sole discretion and any action will not be called into question and the Bidder shall have no claim in that regard against the GIPCL.

**13. PRELIMINARY EXAMINATION OF BIDS**

- 13.1 The Company will examine the Bids for any computational errors, for sureties furnished by bidder, for authentication of documents submitted and completeness of the Bids.
- 13.2 Arithmetical errors will be rectified on the following basis:
  - (a) If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price will be corrected & will be binding to the bidders
  - (b) If there is a discrepancy between the Total Bid Amount and the sum of total prices, the sum of total prices shall prevail and the Total Bid Amount will be corrected & will be binding to the bidders.

**14. RIGHT OF REJECTION OF TENDERS**

- 14.1 GIPCL reserves the right to accept or reject any Bid or to cancel the Bidding process and reject all Bids at any time prior to award of contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders regarding the same. GIPCL reserves the right to disqualify any bidder who does not accept GIPCL terms & Conditions.
- 14.2 Any Tender without EMD will be treated as non-responsive and shall be rejected at the outset & no further correspondence shall be entertained regarding this.
- 14.3 GIPCL reserves the right to debar any Bidder from participation in future Bids if such Bidder has quoted an abnormally low rate in the Bid document/price Bid.

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**15. AWARD OF CONTRACT**

- 15.1 GIPCL will award the contract to that bidder whose quotation has been determined to be substantially responsive and evaluated as the overall lowest quotation/item wise lowest quotation in conformity with the requirements of the specifications and documents contained herein, provided further that the bidder is determined and evaluated to be qualified to perform the contract satisfactorily at sole discretion of GIPCL.
- 15.2 The successful bidder shall be intimated of his selection through the Letter of Intent or Letter of Award/ Purchase Order which shall be sent to him through e-mail, courier.
- 15.3 GIPCL reserves the right to cancel/short close the contract during the contract period without assigning any reason.
- 15.4 GIPCL reserves the right to increase or decrease the qty. mentioned in tender inquiry before finalization of order.
- 15.5 GIPCL reserves the right to split the contract quantity between vendors.

**16. ASSIGNMENT AND SUB-LETTING**

The Supplier shall not directly or indirectly assign or sub-let total/any part of the contract to any other party or agency.

**17. CLARIFICATION OF BIDDING DOCUMENTS**

If any Bidder requires any further information or clarification in the Bidding Documents, may notify the Company before one week of last date of submission of online Bid, in writing or by E-mail at the GIPCL's mailing address [bcsahah@gipcl.com](mailto:bcsahah@gipcl.com) as indicated in the 'Invitation to Bids'. The GIPCL's response (including an explanation of the query) will be sent in writing or by E-mail to all prospective Bidders who have received the Bidding Documents.

**18. TIME SCHEDULE**

The basic considerations and the essence of the 'Contract' shall be the strict adherence to the time schedule for performing the specified 'Works'.

**19. UNDERSTANDING AND CLARIFICATION ON DOCUMENTS AND SPECIFICATION**

The Bidder is required to carefully examine the specifications and documents, all the conditions and matters work wise & cost wise. If any Bidder finds any discrepancies or omissions in the specifications and documents or is in doubt for any meaning of any part, he shall request in writing for an interpretation/ clarification to the GIPCL.

All such interpretations and clarifications shall form a part of the Bid documents.

**20. PAYMENTS**

All the payments against the work order shall be in Indian currency and payable through cheque/RTGS only.

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**SECTION-B**

**INSTRUCTIONS TO BIDDERS FOR ONLINE TENDERING**

<b>Sr. No</b>	<b>Description</b>
01.	Tender documents are available only in electronic format which Bidders can download from the website <a href="https://tender.nprocure.com">https://tender.nprocure.com</a> and It can also be viewed from Company's website <a href="http://www.gipcl.com">www.gipcl.com</a> .
02.	Price bid should be submitted online through the website <a href="https://tender.nprocure.com">https://tender.nprocure.com</a> only. No physical submission of price bid will be entertained as it should be furnished on-line only.
03.	Bidders who wish to participate in online tenders will have to procure / should have legally valid Digital Certificate (Class III) as per Information Technology Act-2000, using which they can sign their electronic bids. Bidders can procure the same from any of the license certifying Authority of India or can contact (n)code solutions- a division of GNFC Limited, who are licensed Certifying Authority by Government of India
04.	All bids should be digitally signed. The bidders are required to contact at the below mentioned address for detailed training on on-line tendering and also for requirement.  (n)Code Solutions - Division of GNFC Ltd., (n)Procure Cell 501, GNFC Info tower, S.G. Road Bodakdev, Ahmedabad - 380054 (Gujarat)  <b>Toll Free :</b> 7359021663 (9:30 AM to 8:00 PM) Email : <a href="mailto:nprocure@ncode.in">nprocure@ncode.in</a>

**Interested bidders are requested to submit the online tender at least two days in advance from the due date set for on line submission of bid in order to avoid non-participation.**

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**E-REVERSE AUCTION:**

- 1) GIPCL reserves the right to conduct E-Reverse auction through (n) Procure platform.
- 2) E-Reverse auction shall be conducted amongst (a) the lowest 50% eligible bidders (rounded to the next higher whole number) from the total bids received OR (b) Minimum three (03) lowest bidders, whichever is higher, shall be invited for participation in e-Reverse Auction through n-procure platform.
- 3) Opening Price, Detrimental value and duration for the e-Reverse Auction shall be informed to the qualified bidders before start of e-Reverse Auction.
- 4) After e-Reverse Auction process, L1 bidder shall be decided on Lowest Total Contract Price.
- 5) To participate in e-Reverse Auction, Bidders have to create e-Auction USER ID on [\*\*https://e-auction.nprocure.com\*\*](https://e-auction.nprocure.com) that the bidder shall be allowed to participate the e-Reverse Auction.
- 6) In case of any further information regarding online bidding or if a Bidder needs any assistance in accessing/ submission of online bid/ clarification or if training is required for participating in online e-reverse bidding, then the Bidder can contact the following office for assistance or training:

(n) Procure Cell, (n) code solutions-A division of GNFC Ltd.,

**Head Office**

- **(n)Code Solutions (A Division of GNFC Ltd.)**  
14th Floor, Tower One, Road 5C, Zone 5,  
Gujarat Information Finance Tech City (GIFT City),  
Gandhinagar - 382355. India.  
Toll Free Number : 7359-021-663  
Support: 079- 4000 7517/515/514  
Email : [nprocure@ncode.in](mailto:nprocure@ncode.in)

For further assistance visit website <https://e-auction.nprocure.com/Home/Contact>

**TENDER FOR PROCUREMENT OF ESP SPARES  
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**SECTION-C  
GENERAL CONDITIONS OF CONTRACT**

**1) CONTRACT SECURITY DEPOSIT/ PERFORMANCE BANK GUARANTEE**

As a Contract Security, the successful Bidder, to whom the work is awarded, shall be required to furnish a Performance Bank Guarantee (PBG)/Contract security deposit in favor of Gujarat Industries Power Company Limited for guarantee amount at 10% of the Purchase Order Value (excluding Taxes & Duties) valid for **18 months** from the date of receipt of materials from list of banks mentioned in the BG format attached in SECTION-E, and it shall guarantee the faithful performance of the 'Contract' in accordance with the terms and conditions specified in these documents and specifications. Any defect or poor workmanship found during guarantee period, vendor shall replace the Material at free of cost. GIPCL reserves the right to forfeit Performance Bank Guarantee (PBG)/Contract security deposit.

Contract Security deposit shall be submitted within Twenty-One (21) days from date of receipt of materials at site.

The (PBG)/Contract security will be returned to the Supplier without any interest after successful completion of guarantee period and on fulfilling contractual obligations throughout the period. However, any delay in submission of initial SD will result in equivalent late release of entire SD after guarantee period.

**2) Guarantee Period:**

The Contractor shall stand guarantee for any defect found in the workmanship / poor quality of supplied spares for the period of twelve (12) months from the date of work completion (i.e. commissioning of field) and shall re-do or repair the same free of cost to demonstrate the performance of the works carried out.

If supplier fails to achieve the desired performance parameters of ESP field after commissioning OR field fails to work with normal operating parameters during the guarantee period of 12 months due to reason attributable to poor quality, defective design/supply or lack of workmanship of items supplied by supplier then he has to correct the same by replacement / repair / adjustment at free of cost to GIPCL.

**3) PRICE**

Price quoted by the bidder should be firm and no price increase will be allowed to the supplier during the contract period. The Bidder shall deliver materials from their works to GIPCL-SLPP on door delivery basis. Prices shall be inclusive of transportation, inspection, packing and forwarding, transit Insurance, Octroi, Stacking, Loading/unloading and any other charges etc. However applicable GST shall be paid extra at actual.

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**4) PRE- DISPATCH INSPECTION**

GIPCL may carry out Pre-dispatch inspection. Bidder shall inform 15 days in advance for pre-dispatch inspection.

**5) DELIVERY AND PENALTY**

Bidder shall deliver the materials within **10 weeks** from date of written intimation/after issue of PO to GIPCL-SLPP. If bidder fails to deliver materials as per above schedule than penalty of **0.5% per week (07 days)** per order value/item value (excluding T&D) shall be levied by GIPCL for late supply / undelivered items maximum up to 10% of items value under order. Material should be directly delivered to GIPCL-SLPP from your works.

Delivery is the essence of the contract and if the delivery is not made as stipulated, GIPCL shall be at liberty to procure the material at Bidder's risk and cost and if hereby any extra expenditure is involved, the same will be debited to Bidder's account. If GIPCL is unable to procure the material from other source in time and if GIPCL suffers any consequential loss, Bidder will have to bear the same. GIPCL in that case (if the delivery is not made as stipulated) will forfeit Security Deposit / Performance Bank Guarantee or EMD and can also lodge claim against party for damage incurred.

**6) PAYMENT TERM**

100% of the order value of the supplied lot of materials will be released within 30 days from receipt of materials at site, after submission of PBG and acceptance by user department after verification of technical documents like Material Test Certificates, Guarantee/warranty certificate, original invoices etc., if any as per the PO terms.

**7) LOSS AND DAMAGES**

Any loss or damages and deterioration to the material in transit shall be at the cost of the suppliers. It shall be at the discretion of the GIPCL to reject the damaged or spoilt material, if so noticed.

**8) INVOICE**

Original invoice should be sent at GIPCL- Baroda and duplicate invoice along with challan should be sent at GIPCL-SLPP Store. (Mention the Purchase Order No. in Invoice and challan).

**9) APPROVAL**

The Material supplied will be subject to GIPCL approval and inspection at GIPCL-SLPP premises. Our decision for acceptance or rejection of the goods will be final and binding on you.

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**10) TRANSIT INSURANCE**

The goods supplied under the contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery to destination. Insurance is to be provided by the supplier at his cost.

**11) QUANTITY OF SUPPLIED MATERIAL:**

Quantity recorded at our GIPCL-SLPP Store will be taken as the basis of payment.

**12) TERMINATION OF CONTRACT BY GIPCL**

Supplier shall be responsible to complete the jobs within agreed time schedule and in case Supplier fails to complete the job, GIPCL shall recover from his bill, Security Deposit and / or whatsoever for expenses incurred to complete the job with additional 10% overhead charges.

In case if Supplier's services are not found satisfactory with respect to time bound completion of work, workmanship then GIPCL has right to terminate the contract at any time without assigning any reason and will make the alternate arrangement at the risk & cost of Supplier.

GIPCL may terminate the contract after due recoveries of pending jobs/damages if any of the following events occur –

- i. Supplier is adjudged as insolvent.
- ii. Supplier has abandoned the contract.
- iii. Supplier fails to proceed with the work with due diligence as per requirements of the contract.
- iv. Supplier has neglected or failed persistently to observe or perform any of the acts, matters or things, which as per the contract are to be observed and performed by the Supplier.
- v. Supplier repetitively violating the safety norms for more than three incidents.
- vi. Any major contradiction of applicable labor laws.
- vii. Any major deviations from contractual terms and conditions including quality of job.
- viii. GIPCL reserves the right to terminate the contract without giving any reason whatsoever.
- ix. GIPCL reserves the right to terminate the contract without giving any reason whatsoever and forfeit the PBG.

**13) FAILURE & TERMINATION**

If the SUPPLIER after receipt of written notice from the GIPCL/ ENGINEER requiring compliance, with such further drawings and / or the GIPCL /ENGINEER instructions fails within seven days to comply with the same, the GIPCL /ENGINEER may employ and pay other agencies to execute any such work whatsoever as may be necessary to give effect thereto and all costs incurred in connection therewith shall be recoverable

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from the SUPPLIER by the GIPCL on a certificate by the GIPCL/ENGINEER as a debt or may be deducted by him from any money due or to become due to the SUPPLIER.

If the supplier fails to execute the work or fails to mobilize the resources and equipment as per directions of GIPCL / ENGINEER within the time frame given and/or violating the GIPCL's safety rules & regulations, ENGINEER/ GIPCL shall get the work done by third party at the risk & cost of the CONTRACTOR with additional 10% overhead charges of GIPCL and all costs incurred in connection therewith shall be recoverable from the CONTRACTOR by the GIPCL /ENGINEER as a debt or may be deducted by him from any money due or to become due to the supplier.

**14) SETTLEMENT OF DISPUTES**

- a. Any disputes or difference of opinion between parties arising out of the contract to the extent possible shall be settled amicably between the parties. If amicable settlement cannot be reached all the disputed issues shall be resolved through arbitration before a Sole Arbitrator appointed by Managing Director, GIPCL according to the provisions of The Arbitration & Conciliation Act-1996, as amended from time to time. The place of arbitration shall be at Vadodara/ Surat or any other place within state of Gujarat.
- b. Work under the contract shall be continued by the contractor during arbitration proceedings unless GIPCL shall order suspension thereof or any part thereof in writing or unless the matter in such work cannot possibly be continued unless the decision of the Arbitration proceedings is obtained.

**15) INTERPRETATION OF CLAUSE**

In case of disputes as regards interpretation of any of the clauses or specification, the decision of Head of Management (HOM)-GIPCL will be final and binding on the supplier.

**16) FORCE MAJEURE**

The performance of the obligations herein contemplated may be suspended without incurring the penalty in the event of the subsistence of Force Majeure conditions.

If a Force Majeure situation arises, the affected Party shall promptly notify the other Party in writing of such conditions and the performance shall be suspended as per mutual agreement.

For the purposes of this clause, 'Force Majeure' means an event beyond the control of the Party and not foreseeable by the Party and shall include events of floods, explosions, riots, wars, hurricane, epidemics, any other Act of God, quarantine restrictions, terrorism, government actions and provided always that such acts result in the impossibility of the further performance of the contract.

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**17) INDEMNITY**

The Supplier shall indemnify and keep harmless GIPCL from and against all actions, proceedings, claims, demands, losses, costs, damages and expenses whatsoever which may be brought against or suffered by GIPCL which it may sustain, pay or incur as a result of or in connection with the performance/ purported performance/ non-performance of the contract by the Supplier.

In case, in any litigation pertaining to labor employed through Supplier if any direction or order is issued by court at any point of time the Supplier shall comply with and implement such direction or order whether passed at the time of award of contract or during the pendency of contract. Further, the Supplier shall indemnify the GIPCL against all consequences arising and affecting GIPCL owing to the compliance of the orders by the Supplier.

**18) GOVERNING LAW AND JURISDICTION**

This tender document and contract shall be governed by the laws of India and the Courts at Vadodara shall have jurisdiction regarding the same.

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**SECTION-D, TECHNICAL DETAILS AND PRICE BID FORMAT**

**1) TECHNICAL SPECIFICATIONS**

All the spares are required for ESP of 4 x 125 MW CFBC Boilers installed at GIPCL-SLPP site. Technical details of ESP installed at GIPCL-SLPP site is as under.

**Technical Details of ESP:**

Description	ESP for Phase-1 (Unit-1 & 2)	ESP for Phase-2 (Unit-3 & 4)
Make	BHEL	BHEL
Model	ESP TYPE FAA-6 X 45 (45)-126-135-2	ESP TYPE FAA-7x45(45) -132-135-2
Nos. of Passes	2	2
Nos. of Fields / Pass	7 per Pass	8 per Pass
Total Field	Unit 1: 14 Nos & Unit 2: 14 Nos	Unit 3: 16 Nos & Unit 4: 16 Nos
Pitch between Two Collecting Electrode	300 mm	400 mm
No of rows for CE	43 Row per field. Each row consists 6 Nos CE	34 Row per field. Each row consists 6 Nos CE.

**1. Supply of Spares:** These spares are required for field internal replacement and overhauling of fields of ESPs of Phase-1 and Phase-2 Boilers. Supplied Spares shall be one to one interchangeable with the spares of existing BHEL make ESP having technical details mentioned hereabove. The spares shall be supplied as per technical specifications, MOC, sketches etc. attached as **Annexure A1** for Phase 1 & **Annexure A2** for Phase 2. Bidder shall go through all the technical details, terms and conditions and Annexures of the tender before participation in tender.

**Note:** Technical specifications and available details of required spares are provided along with the tender in **Annexure A1** for Phase 1 & **Annexure A2**. GIPCL do not have any other manufacturing drawings / details apart from the annexures. In order to supply interchangeable spares, it is advisable that bidder have successfully supplied ESP spares like collecting electrodes, discharge (emitting) electrodes, collecting electrode & Emitting electrode suspension systems, shock bar, Shock bar Guide assembly, Collecting/Emitting Rapping Mechanism parts, All type of bearings utilized in ESP field internals, Shaft & Support Insulators, GD screen at inlet and outlet & its elements for ESPs of BHEL make model for ESP TYPE FAA-6 X 45 (45)-126-135-2 **OR FOR ESP TYPE FAA-7 X 45 (45)-132-135-2.**

**2. Site Visit:** Attempts have been made to provide maximum possible details of required spares. For further understanding of site requirement and better clarity, bidder may visit GIPCL-SLPP site before participating in tender. Sample spares of few available items may be provided by GIPCL for manufacturing of items after award of purchase order at discretion of GIPCL only. It is bidder's sole responsibility and scope to arrange all manufacturing details, dimensions, drawings etc. required for manufacturing of spares. GIPCL will not provide any additional details other than those given in tender.

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3. **Quality:** All the supplied spares must be manufactured and supplied in accordance with applicable quality standards / engineering standards and prudent engineering practices. Manufacturing shall be carried out as per standard QA and QC plans and manufacturer shall maintain all the QC documents for the review of GIPCL / third party inspecting agency hired by GIPCL. If items have any defect, lack of workmanship or not supplied in line with technical specifications given in the tender, then it shall be liable for rejection. Supplier shall replace the same with desired quality at free of cost to GIPCL.
4. **QC Reports:** Vendor shall submit all QC reports including Material test certificate, MOC (as applicable) at the time of inspection or along with supply of material. GIPCL reserves right to test the material in third party laboratory or may carry out PMI through third party to check the physical / chemical properties of supplied items and result of the same shall be binding to both parties.
5. **Inspection:** All the items shall be inspected by GIPCL before dispatch from vendor's works. Items shall be dispatched only after getting dispatch clearance from GIPCL Engineer. Inspections call shall be given to GIPCL at least 7 days in advance for inspection by GIPCL Engineer-In-Charge at contractor's workshop. In case, GIPCL decides to waive the inspection, GIPCL will intimate about waiver of inspection and give dispatch clearance in writing.

Contractor shall also need to update GIPCL about progress of production at salient stages of manufacturing/ fabrication. GIPCL may depute their representative for inter-stage inspection also, if felt necessary.

GIPCL also reserves the right to carry out inspection through third party inspecting agency to establish the quality of material in line with applicable quality standards / engineering standards and prudent engineering practices and terms and conditions of purchase order. Cost of third-party agency shall be borne by GIPCL. However, Vendor shall cooperate and make necessary arrangement for such third-party inspection and result of such third-party inspection shall be binding to both the parties.

6. **Marking:** All the items shall be marked properly with item codes, PO details, handling and storage instructions etc. with packing slip pasted on packing.
7. **Packing:** The vendor shall ensure to pack the supplied items in suitable and transport-worthy packing, which can withstand transport hazards and weather effects of heat, moisture, rain, storage at site etc. Special care must be taken for packing and transportation of Collecting Electrodes in bundles with support scalations made from MS Angle section and covered with tarpaulin to prevent bending/damage and corrosion during transport, loading, unloading and storage at site.
8. **Joint Inspection at site after receipt of spares:** Joint inspection of spares received at site will be carried out by GIPCL Engineer & vendor's representative and if, any item, which is observed damaged or defective shall be rejected and the same shall be replaced with new at free of cost.

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**9. Interchangeability:** All the Supplied spares must be one-to-one interchangeable with the existing spares of ESP installed at GIPCL ESP in all respect i.e. dimensionally, MOC-wise, functionally and performance-wise. Vendor shall have to furnish the Interchangeability of Certificate for all items along with supply of spares.

**10. Deputation of Service Engineer:** GIPCL shall engage a competent and experienced execution agency for field replacement work through separate contract. During the execution of field replacement work, Supplier shall depute their competent/ expert Engineer to ensure proper installation up to their satisfaction. Supplier may depute their Service Engineer either stage-wise or after completion of work as per their requirement, so as to ensure proper installation of parts to achieve desired performance of field after replacement work. No extra cost shall be payable for deputation of service engineer. Cost of deputation of service engineer shall be included in offered price by vendor.

It will be sole responsibility of supplier to demonstrate satisfactory performance of respective ESP Field and no argument regarding improper execution of field replacement work shall be accepted by GIPCL.

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**2) PRICE BID FORMAT FOR SUPPLY OF ESP SPARES**

Sr No	Item Codes	Item Description	QTY	UOM	Unit Rate	Total Rates
1.	710802038	COLLECTING ELECTRODE H-13.5 MTR L-750MM,	384	No		
2.	710117001	DISCHARGE ELECTRODES.	3348	No		
3.	710803019	COLLECTING ELECTRODE SUSPENSION SYSTEM	2	SET		
4.	710801039	RECTANGLE WASHER FOR COLLECTING PLATE FO	2064	No		
5.	710801058	G CLAMP" for ESP	640	No		
6.	710801032	U CLAMP BETWEEN TWO COLLECTING PLATES	640	No		
7.	710801034	SHOCK BAR WITH SHOCK PAD & FASTENERS	64	No		
8.	710801031	SHOCK PAD	64	No		
9.	710803006	SB GUIDE-1 RAP.SIDE L=4367-CERM-NewDesig	4	No		
10.	710803007	SB GUIDE-1 RAP.SIDE L=3598-CERM-NewDesig	4	No		
11.	710803008	SB GUIDE-1 RAP.SIDE L=4791-CERM-NewDesig	4	No		
12.	710803009	ATTACHMENT (SB GUIDE-RAP.)-CERM-NewDesig	8	No		
13.	710803010	SB GUIDE-2 NON-RAP.SIDE L=4391-CERM-NewD	4	No		
14.	710803011	SB GUIDE-2 NON-RAP.SIDE L=3598-CERM-NewD	4	No		
15.	710803012	SB GUIDE-2 NON-RAP.SIDE L=4767-CERM-NewD	4	No		
16.	710803013	ATTACHMENT (SB GUIDE-N RAP.)-CERM-New Design	8	No		
17.	710803005	CRM SHAFT A L 1040 DESIGN	2	No		
18.	2710802010	RAPPING SHAFT DIA. 50: 3990 mm FOR CERM	6	No		
19.	710803001	CRM BRACKET WITH PLAIN BRG	16	No		
20.	2710802013	SLEEVE TUBE-I FOR SHAFT OF CERM	6	No		
21.	710802036	OUTER ARM FOR COLLECTING RAPPING	64	No		
22.	710801006	INNER ARM DRG. 6172003021 FOR ESP	148	No		
23.	710801005	PLAIN BEARINGS DRG. 61720066 FOR ESP	40	No		
24.	710801007	OUTER ARM DRG. 6172003121 FOR ESP	84	No		
25.	710801022	Set Ring 50 for emitting rapping	16	No		
26.	2710802029	CLUTCH FOR SHAFT OF CERM	2	No		
27.	710803022	SIDE CASING GAS GUIDE PLATE_ESP L=1500mm	28	SET		
28.	710117002	SUPPORT INSULATOR.	8	No		
29.	710801033	SCREEN TUBE of Support insulator	8	No		
30.	710803028	Emitting frame suspension rod with nut	8	SET		
31.	710801014	SHAFT INSULATOR ASSY FOR ERM	2	No		

**RATES SHALL  
BE SUBMITTED  
THROUGH  
(N) CODE  
ONLY**

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32.	710803014	RECTANGLE TUBE FOR EE HOOKING FRAME Typ1	124	No	<b>RATES SHALL BE SUBMITTED THROUGH (N) CODE ONLY</b>
33.	2710801050	EE Sub Frame Vertical pipe	186	No	
34.	710803015	RECTANGLE TUBE FOR EE HOOKING FRAME Typ2	124	No	
35.	710801011	GRIP COUPLING DRG. 3-79-017-00227 ERM	4	No	
36.	710801015	PIN WHEEL DRG. 1-79-016-00050/04 FOR ERM	4	No	
37.	710801016	PIN WHEEL DRG. 1-79-016-00051/07 FOR ERM	4	No	
38.	710801017	THRUST BRGS DRG 61720068 FOR ERM	2	No	
39.	710803003	EE VT SHAFT'S BUSH BRG WITH CAGE/CANOPY	2	No	
40.	710803017	Plain Bearing+support angle 75X75X6 L290	20	SET	
41.	710801023	SLEEVE RING 50 FOR EMITTING RAPPING	6	No	
42.	710801038	screen tube for erm shaft insulator	2	No	
43.	710801072	GD screen sheet-I at ESP inlet	25	SET	
44.	710801073	GD screen sheet-II at ESP inlet	25	SET	
45.	710801075	DIVERGENT PLATE	400	SET	
46.	710801076	DUMMY PLATE	400	SET	
47.	710807006	GD screen for ESP outlet	25	No	
48.	2710801058	SHOCK BAR TOP GUIDE ANGLE 400mm PITCH	14	No	
49.	710801024	ER SHAFT-I,D50,L4320DRG.NO3-78-116-00759	2	No	
50.	710801025	ERSHAFT-II,D50,L3290,DRGNO3-78-116-00760	2	No	
51.	710801026	ERSHAFT-III,D50,L4550DRGNO3-78-116-00761	2	No	
52.	2710802001	COLLECTING ELECTRODE OF ESP	408	No	
53.	2710801001	EMITTING ELECTRODE FOR ESP	3564	No	
54.	710801039	RECTANGLE WASHER FOR COLLECTING PLATE FO	1632	No	
55.	710801058	G CLAMP" for ESP	680	No	
56.	710801032	U CLAMP BETWEEN TWO COLLECTING PLATES	680	No	
57.	2710802002	SHOCK BAR 400MM PITCH FOR CERM	68	No	
58.	2710802004	SHOCK PAD FOR CERM	68	No	
59.	2710802009	RAPPING SHAFT END FOR CERM	2	No	
60.	2710802010	RAPPING SHAFT DIA. 50: 3990 mm FOR CERM	4	No	
61.	2710802011	RAPPING SHAFT DIA.50: 4650 mm FOR CERM	2	No	
62.	2710802013	SLEEVE TUBE-I FOR SHAFT OF CERM	6	No	
63.	710802036	OUTER ARM FOR COLLECTING RAPPING	68	No	
64.	710801006	INNER ARM DRG. 6172003021 FOR ESP	68	No	
65.	710801005	PLAIN BEARINGS DRG. 61720066 FOR ESP	16	No	
66.	710801022	Set Ring 50 for emitting rapping	16	No	

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<b>67.</b>	2710802029	CLUTCH FOR SHAFT OF CERM	2	No	
<b>68.</b>	2710802028	COUPLING FOR 0.33HP MOTOR OF CERM	2	No	
<b>69.</b>	710801055	ESP side sealing arrangement	28	No	
<b>70.</b>	710117002	SUPPORT INSULATOR.	8	No	
<b>71.</b>	710801033	SCREEN TUBE of Support insulator	8	No	
<b>72.</b>	710803028	Emitting frame suspension rod with nut	8	SET	
<b>73.</b>	2710801021	SCREEN TUBE FOR EERM	2	No	

**Vendor shall provide applicable GST(%) in their technical bid for all above mentioned materials.**

**The vendor shall mention/provide the unit rate of each material in the (n) procure price bid. The total price quoted in the (n) code price bid shall be exclusive of GST but inclusive of all other charges.**

**The Bidder shall deliver materials from their works to GIPCL-SLPP on door delivery basis. Prices shall be inclusive of transportation, inspection, packing and forwarding, transit Insurance, Octroi, Stacking, Loading/unloading and any other charges etc. However applicable GST shall be paid extra at actual.**

**All above prices shall be quoted through online (n)-Procure only; Hard copy of price bid shall not be considered/accepted.**

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**SECTION-E**

**1.0 ANNEXURE-A**

**PROFORMA FOR BANK GUARANTEE FOR EARNEST MONEY DEPOSIT**

(To be executed on non-judicial stamped paper of appropriate value)

B.G. No \_\_\_\_\_

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

1. WHEREAS M/s.Gujarat Industries Power Company Limited having its Corporate Office at PO: RANOLI, Dist.Vadodara – 391 350, Gujarat State, India (hereinafter called "The Company Owner" which expression shall unless repugnant to the subject or context includes its legal representatives, successors and assigns) has issued tender paper vide its Tender No.....for .....  
----- (hereinafter called "the said tender") to  
M/s. ....(hereinafter called the said Tenderer(s)" which expression shall unless repugnant to the subject or context includes their legal representatives, successors and assigns and as per terms and conditions of the said tender, the tenderer shall submit a  
Bank guarantee for Rs..... (Rupees .....only) towards earnest money in lieu of  
cash.
2. We .....Bank having its branch office  
at ..... do hereby undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Company stating that in the opinion of the company which is final and binding, the amount claimed is due because of any withdrawal of the tender or any material alteration to the  
tender after the opening of the tender by way of any loss or damage caused to or would be caused or suffered by the Company by reason of any breach by the said tenderer(s) of any of the terms and conditions contained in the said tender or failure to accept the letter of Intent Agreement or that the  
amount covered under this Guarantee is forfeited. Any such demand made on the Bank by the owner shall be conclusive as regards the amount due and payable by the Bank under this guarantee, However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....(Rupees.....only).
3. We undertake to pay to the Company any money so demanded  
not notwithstanding any dispute or disputes raised by the  
tenderer (s) in any suit or proceeding pending before any office, court or tribunal  
relating thereto our liability under this present guarantee being absolute and  
unequivocal. The payment so made by us under this bond shall be a valid  
discharge of our liability for payment there under. Our liability to pay is not

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dependent or conditional on the owner proceeding against the tenderer.

4. The guarantee herein contained shall not be determined or affected or suspended by the liquidation or winding up, dissolution or change of constitution or insolvency of the said tenderer(s) but shall in all respect and for all purposes be binding and operative until payment of all money due or liabilities under the said contract(s)/ Order(s) are fulfilled.
5. The Bank further unconditionally agrees with Gujarat Industries Power Company Limited (GIPCL) that Gujarat Industries Power Company Limited (GIPCL) shall be at liberty, without the Bank's consent and without affecting in any manner the Bank's obligation under this Guarantee, from time to time, to:
  - a. Vary and / or modify any of the terms and conditions of the Agreement.
  - b. Extend and / or postpone the time for performance of the obligations of the Contractor under the Agreement.
  - c. Forbear or enforce any of the rights exercisable by Gujarat Industries Power Company Limited (GIPCL) against the Contractor under the terms and conditions of the Agreement.
6. This guarantee shall be in addition to and not in substitution or in derogation of any other security held by Gujarat Industries Power Company Limited (GIPCL) to secure the performance of the obligations of the Contractor under the Agreement.
7. No action, event or condition, which by any Applicable Law should operate to discharge the Bank from liability hereunder, shall have any effect and the Bank hereby waives any right it may have to apply such law, so that in all respects its liability hereunder shall be irrevocable and, except as stated herein, unconditional in all respects.
8. We .....Bank Ltd. further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the finalization of the said tender and that it shall continue to be enforceable till the said tender is finally decided and order placed on the successful tenderer(s) and or till all the dues of the company under or by virtue of the said tender have been fully paid and its claims satisfied or discharged or till a duly authorized officer of the company certifies that the terms and conditions of the said tender have been fully and properly carried out by the said tenderer (s) and accordingly discharges the guarantee.
9. That the Owner Company will have full liberty without reference to us and without affecting this guarantee to postpone for any time or from time to time the exercise of any of the power of the owner under the tender.
10. Notwithstanding anything contained herein before, our liability shall not exceed Rs..... (Rupees.....only) and shall remain in force till..... (Date to be filled up shall be 180 days from the date of submission of Bid).

Date.....

**TENDER FOR PROCUREMENT OF ESP SPARES  
(Bid No.: GIPCL/MATLS/ ESP SPARES SUPPLY/2025-26)**

Bank Corporate Seal of  
the Bank By its  
constitutional Attorney

Signature of duly Authorized person  
On behalf of the Bank

With Seal & Signature code

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**Bidder shall submit PBG from below mentioned banks only.** Banks other than below mentioned list are not Allowed.

- All Nationalized Banks
- Axis Bank
- ICICI Bank
- HDFC Bank
- Kotak Mahindra Bank
- IndusInd Bank
- Federal Bank
- Bandhan Bank
- IDBI Bank
- Karur Vysya Bank

**TENDER FOR PROCUREMENT OF ESP SPARES  
(Bid No.: GIPCL/MATLS/ ESP SPARES SUPPLY/2025-26)**

**2.0 ANNEXURE-B**

**PROFORMA FOR CONTRACT SECURITY-CUM-PERFORMANCE  
GUARANTEE BY SELLER / CONTRACTOR.**

(To be executed on non-judicial stamped paper of approximate value)

B.G. No. \_\_\_\_\_

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

1. WHEREAS Gujarat Industries Power Company Limited having its office at PO: RANOLI, Dist. Vadodara – 391 350, Gujarat State, India (hereinafter referred to as "The Company/Owner" which expressions shall unless repugnant to the subject or context includes its legal representatives, successors and assigns) has entered into a contract with M/s. .... has placed a purchase order on M/s.....(hereinafter referred to as "Contractor(s)/ Seller(s)" which expression shall unless repugnant to the subject or context includes their legal representatives, successors and assigns ) for .....on the terms and conditions as set out inter alia, in the Company's contract No./ P.O.No.....date .....and various documents forming part thereof hereinafter referred to as the "said contract" which expression include all amendments, modifications and/ or variations thereto and where as the Contractor(s)/ Seller(s) has agreed for due execution of the entire contract and guarantees its performance including any parts executed through any other agencies/ subcontractors

AND WHEREAS one of the conditions of the "said contract" is that "contractor(s)/seller(s) shall furnish to the owner a Bank Guarantee from a bank for ....% (.....percent) of the total value of the "said contract" against due and faithful performance of the "said contract" including performance guarantee obligations of the contractor(s)/seller(s) for execution/ supplies made under the "said contract."

2. We .....Bank having its branch office at .....do hereby agree and undertake to pay the amount due and payable under this guarantee without any demur merely on a demand from the Company stating that in the opinion of the Company, which is final & binding, the amount claimed is due by reason of default made by the Contractor(s)/ Seller(s) in performing any of the terms & conditions of the said Contract including defect liability obligations, in fulfilling the performance guarantee obligation or loss or damage caused to or would be caused to or suffered by the Company by reason of any breach by the said Contractor (s)/ Seller(s) of any of the terms & conditions of the contract. Any such demand made on the Bank by the owner shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However our liability under this guarantee shall

**TENDER FOR PROCUREMENT OF ESP SPARES**  
**(Bid No.: GIPCL/MATLS/ ESP SPARES SUPPLY/2025-26)**

be restricted to Rs.  
.....(Rupees.....only)

3. We undertake to pay to the Company any money so demanded notwithstanding any dispute or disputes raised by the contractor(s)/ Seller(s) in any suit or proceeding pending before any office, court or tribunal relating thereto our liability under this present guarantee being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under. Our liability to pay is not dependent or conditional on the owner proceeding against the Contractor(s)/ Seller(s).

4. The guarantee herein contained shall not be determined or affected or suspended by the liquidation or winding up, dissolution or change of constitution or insolvency of the said Contractor(s)/ Seller(s) but shall in all respect and for all purposes be binding and operative until payment of all money due or liabilities under the said contract(s)/ Order(s) are fulfilled.

5. The Bank further unconditionally agrees with Gujarat Industries Power Company Limited (GIPCL) that Gujarat Industries Power Company Limited (GIPCL) shall be at liberty, without the Bank's consent and without affecting in any manner the Bank's obligation under this Guarantee, from time to time, to:

- a. Vary and / or modify any of the terms and conditions of the Agreement.
- b. Extend and / or postpone the time for performance of the obligations of the Contractor under the Agreement.
- c. Forbear or enforce any of the rights exercisable by Gujarat Industries Power Company Limited (GIPCL) against the Contractor under the terms and conditions of the Agreement.

6. This guarantee shall be in addition to and not in substitution or in derogation of any other security held by Gujarat Industries Power Company Limited (GIPCL) to secure the performance of the obligations of the Contractor under the Agreement.

7. No action, event or condition, which by any Applicable Law should operate to discharge the Bank from liability hereunder, shall have any effect and the Bank hereby waives any right it may have to apply such law, so that in all respects its liability hereunder shall be irrevocable and, except as stated herein, unconditional in all respects.

8. This guarantee will remain valid up \_\_\_\_\_ days or \_\_\_\_\_ whichever is earlier. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the OWNER/PURCHASER and further agrees that if this guarantee is extended for a period as mutually agreed between bidder & owner/purchaser, the guarantee shall be valid for a period so extended provided that a written request for such extension is received before the expiry of validity of guarantee.

**TENDER FOR PROCUREMENT OF ESP SPARES  
(Bid No.: GIPCL/MATLS/ ESP SPARES SUPPLY/2025-26)**

9. We .....Bank further agree with the Company that the company shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract(s)/ Order(s) or to extend the time of performance by the said Contractor(s) Seller(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the said Contractor(s)/ Seller(s) and to forbear or enforce any of the terms and conditions relating to the said Contract(s)/ Order(s) and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor (s) / Seller(s) or for any forbearance, act or omission on the part of the Company or any indulgence by the Company to the said Contractor(s)/ Seller(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have affect of so relieving us.

10. Notwithstanding anything contained herein before, our liability shall not exceed Rs.....(Rupees.....only) and shall remain in force till.....Unless a demand or claim under this Guarantee is made on us within three months from the date of expiry we shall be discharged from all the liabilities under this guarantee.

Date..... Bank

Corporate Seal of the Bank

By its constitutional  
Attorney Signature of duly  
Authorized person  
On behalf of the Bank  
With Seal & Signature code

**Note:** BGs to be furnished from any of the banks listed at Annexure -VI of Volume I.

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**Bidder shall submit BG from below mentioned banks only.** Banks other than below mentioned list are not Allowed.

- All Nationalized Banks
- Axis Bank
- ICICI Bank
- HDFC Bank
- Kotak Mahindra Bank
- IndusInd Bank
- Federal Bank
- Bandhan Bank
- IDBI Bank
- Karur Vysya Bank

**TENDER FOR PROCUREMENT OF ESP SPARES  
(Bid No.: GIPCL/MATLS/ ESP SPARES SUPPLY/2025-26)**

**3.0 ANNEXURE-C**

**Schedule of Deviation from Technical Specification and Commercial Terms and Conditions**

**All the deviations from the terms & conditions of contract shall be filled by BIDDER clause by clause in this schedule.**

Sr. No	SECTION	CLAUSE NO	AS PER TENDER DOCUMENT	DEVIATION
COMPANY SEAL				
SIGNATURE-----				
NAME-----				
DESIGNATION---				
COMPANY----				
DATE ----				

The bidder here by certifies that the above mentioned are the only deviations from OWNER's Tender enquiry. The bidder further confirms that in the events any other data and information presented in the BIDDER's proposal and accompanying documents are at variance with specific requirements laid out in the OWNER's Tender Document, then the latter shall govern and will be binding on the BIDDER for quoted price.

**TENDER FOR PROCUREMENT OF ESP SPARES  
(Bid No.: GIPCL/MATLS/ ESP SPARES SUPPLY/2025-26)**

## **4.0 ANNEXURE- D**

## **Declaration for Contractual Litigations**

*(To be submitted on Company's Letter Head)*

**Please Tick (✓) whichever is correct option**

I \_\_\_\_\_ on behalf of .....Name of Party/Company.....hereby  
confirm that I /We have

a. Not invoked legal recourse e.g. litigation against any Govt, of Gujarat Undertakings / Depts. / Authorities and Govt. of Gujarat supported companies / undertakings / organizations for the last three( 03) years. There are no ongoing/pending legal matter(s) with any of the Govt. of Gujarat Undertakings / GoG supported Companies, including GIPCL.

**Please Tick(    )**

OR

**b.** Invoked legal recourse e.g. litigation against any Govt, of Gujarat Undertakings / Depts. / Authorities and Govt. of Gujarat supported companies / undertakings / organizations for the last three( 03) years.

**Please Tick( )**

If “b” is applicable, please submit the details for the same.

The above is true, as on date, to the best of my knowledge. Any breach/ false statement in this regard shall amount to disqualification of the Bid being submitted herein.

Signed and

Stamped by the

Authorized

## Signatory

Of the

## Bidder

**TENDER FOR PROCUREMENT OF ESP SPARES  
(Bid No.: GIPCL/MATLS/ ESP SPARES SUPPLY/2025-26)**

**5.0 ANNEXURE- E**

**PARTICULARS OF THE BIDDER**

<b>Sr. No.</b>	<b>Particulars</b>	<b>Please provide information here.</b>
1.	Name of Bidder	
2.	a. Registered Office Address:  b. Address for Correspondence:  c. E-mail ID:	
3.	Contact Details:  Contact Person Name  Telephone No. :  Mobile No.:	
4.	Year of establishment  PAN No.  GST No	

COMPANY SEAL

SIGNATURE .....

NAME .....

DESIGNATION .....

COMPANY .....

DATE .....

**TENDER FOR PROCUREMENT OF ESP SPARES  
(Bid No.: GIPCL/MATLS/ ESP SPARES SUPPLY/2025-26)**

**6.0 ANNEXURE- F**

**PROCEDURE FOR MAKING ONLINE PAYMENT OF EMD**

1. For making online payment, first go to the website: [www.gipcl.com](http://www.gipcl.com)
2. Then, click on the caption/link as can see like:  
**“Click here for Making Online Payment of EMD/SD, Advance for Ash, DM water etc.”**  
(The link is visible as horizontal highlighted below Tenders - News & Update Section.)
3. After clicking the link the new page will open. On this page, No need to enter User Name and Password. Directly click on “Payment Form” given below the sign in option.
4. After clicking the “Payment Form”, the vendor has to enter the details asked which will be self explanatory. It is desired that all the information may be filled correctly so that the payment made can be tracked.

If the some required fields are not known/available, vendor may write “Not Available” and then proceed. E.g. some information like Party code is not available to vendor or GST No. not available with vendor.

**Optional Note:** Although mentioned as above can be proceeded with “Not available”, It will be appreciated that regular vendors may obtain the party code, so that the vendor can be identified. The same party code may be used for future transactions also. After entering the details, click on SUBMIT Button.

5. The vendor/Party will be redirected to Payment Gateway. By selecting the desired payment mode, payment can be made:
6. After making the payment, the receipt will be generated which has to be submitted with technical bid.

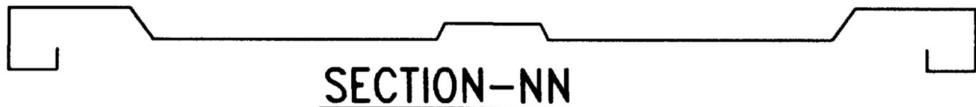
**Important Note:** Please note that for making online payment through the above gateway, the charges\* as below will be applicable, which has to be borne by Vendor/Party making the Payment:

<b>Payment Mode</b>	<b>Charges</b>
Net Banking	Rs.9 + GST
Debit Card	NIL
Credit Card	0.75% + GST
International Card	3.00% + GST
UPI	NIL

**Material code: 710802038 - COLLECTING ELECTRODE**

**TECHNICAL ANNEXURE**

Technical specifications for collecting electrode Material code 710802038  
**FOR ESP TYPE FAA-6 X 45 (45)-126-135-2:**



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- 1) Cross sectional shape for collecting electrode as given in Section N-N:
- 2) Nominal height of Collecting electrode plate: 13560 mm
- 3) Nominal width of collecting electrode: 750 mm
- 4) Material: Carton steel **Grade-A** -As per latest BHEL standard for **collecting electrode for Corten steel**
- 5) Collecting electrode thickness: 1.2 mm (+/- 0.02)
- 6) Surface: shot blasted
- 7) Surface roughness (Ra): 6.3 – 12.5  $\mu\text{m}$
- 8) Flatness tolerance:  $\pm 3$  mm over full length

<b>Chemical Composition (%) of CE (Finished Product)</b>		
<b>Element</b>	<b>Min</b>	<b>Max.</b>
<b>C</b>	0	0.12
<b>Si</b>	0.25	0.75
<b>Mn</b>	0.2	0.5
<b>P</b>	0.07	0.15
<b>S</b>	0.000	0.035
<b>Cr.</b>	0.30	1.25
<b>Cu</b>	0.25	0.55
<b>Ni</b>	0.00	0.65

**Raw steel suppliers are must be of Ms Bhusan Steel / Ms Jindal Steel / Ms Essar Steel / Ms Nippon steel / Ms Tata Steel / Ms SAIL / Ms RINL /Ms VIZAG make.**

- 9) **Surface Preparation:** All collecting electrode plates shall be shot blasted to Sa 2½ grade in accordance with ISO 8501-1 prior to erection/dispatch. The blasting shall be uniform over the entire surface including bends, flanges, and G-profile corrugations.
- 10) **Surface Roughness:** The finished surface roughness shall be in the range of Ra 6.3 to 12.5  $\mu\text{m}$ , measured as per ISO 8503-1.

### **Measurement & Acceptance Criteria for Surface roughness**

- Measuring instrument: Contact type Surface roughness tester (profilometer)
- Standard: ISO 4287 / ISO 8503
- Measurement locations: Minimum 3 readings per plate: One at top, middle, and bottom zone
- Acceptance: Average Ra value to lie within 6.3–12.5  $\mu\text{m}$
- **No single reading below 5.0  $\mu\text{m}$**

### **Functional Requirement**

The specified surface roughness is intended to ensure:

- Adequate dust layer formation
- Effective rapping performance
- Minimum re-entrainment of collected dust
- Reliable long-term ESP performance

### **Fitment:**

1. Each collecting electrode supplied shall be slotted at bottom in such a manner that the same shall fit with the shock bar such as the whole row of collecting electrodes (6 Nos., when installed), and shock bar shall stay mutually aligned with each other.
2. The slots for hooking at top of each collecting electrode shall match the existing / supplied / modified collecting electrode suspension system (CESS) at ESPs of SLPP.

**Deviation:** Any deviation from the above specification shall require prior written approval from GIPCL.

**Material code: 710117001 DISCHARGE (EMITTING) ELECTRODES**

**TECHNICAL ANNEXURE**

**Technical specification for discharge (emitting) electrode FOR ESP TYPE FAA-6 X 45 (45)-126-135-2:**

**Discharge (Emitting) electrode:**

- 1.** Type: Spiral with both side hooks
- 2.** Material: Stainless steel UHB 904 L
- 3.** Wire diameter: 2.7 mm dia.
- 4.** Free Shank Length (Straight Portion): 140 mm
- 5.** Projection of wire end beyond tube: Max. 1 mm
- 6.** Mean Diameter: 32 mm
- 7.** Total Turn: 52.5 Nos
- 8.** Crimping quality of tube with wire: No play allowed
- 9.** Surface quality at the free end from crimped end to start of coil: No tool mark are permitted
- 10.** Quality of Coil: Closely and uniformly coiled without any gap
- 11.** Alignment of one end w.r.t. other end: 30° Max.
- 12.** Spring Back Value: 350 mm Min.
- 13.** Retention Value: 20 Kg Min.
- 14.** Initial tension: 1000 gms Max.
- 15.** Tube & Type: OD X ID = 7 mm x 3 mm

**Chemical Composition (%) of EE (Finished Product)**

<b>Element</b>	<b>Min</b>	<b>Max.</b>
<b>Mn</b>	0.00	2.0
<b>Cr.</b>	19.00	21.00
<b>Cu</b>	1.20	2.00
<b>Mo</b>	4.00	5.00
<b>Ni</b>	24.00	26.00
<b>Fe (Balance)</b>	48.00	50.00

**Material code: 710803019 - COLLECTING ELECTRODE SUSPENSION SYSTEM****TECHNICAL ANNEXURE****COLLECTING ELECTRODE SUSPENSION SYSTEM / HANGING SYSTEM - 1set**

32 row x 400 mm pitch
Last CE to First CE Distance: $31 \times 400 = 12400$
Casing to Casing Distance: $200 + 12600 + 200 = 12800$
To be installed by execution contractor under supervision of supplier

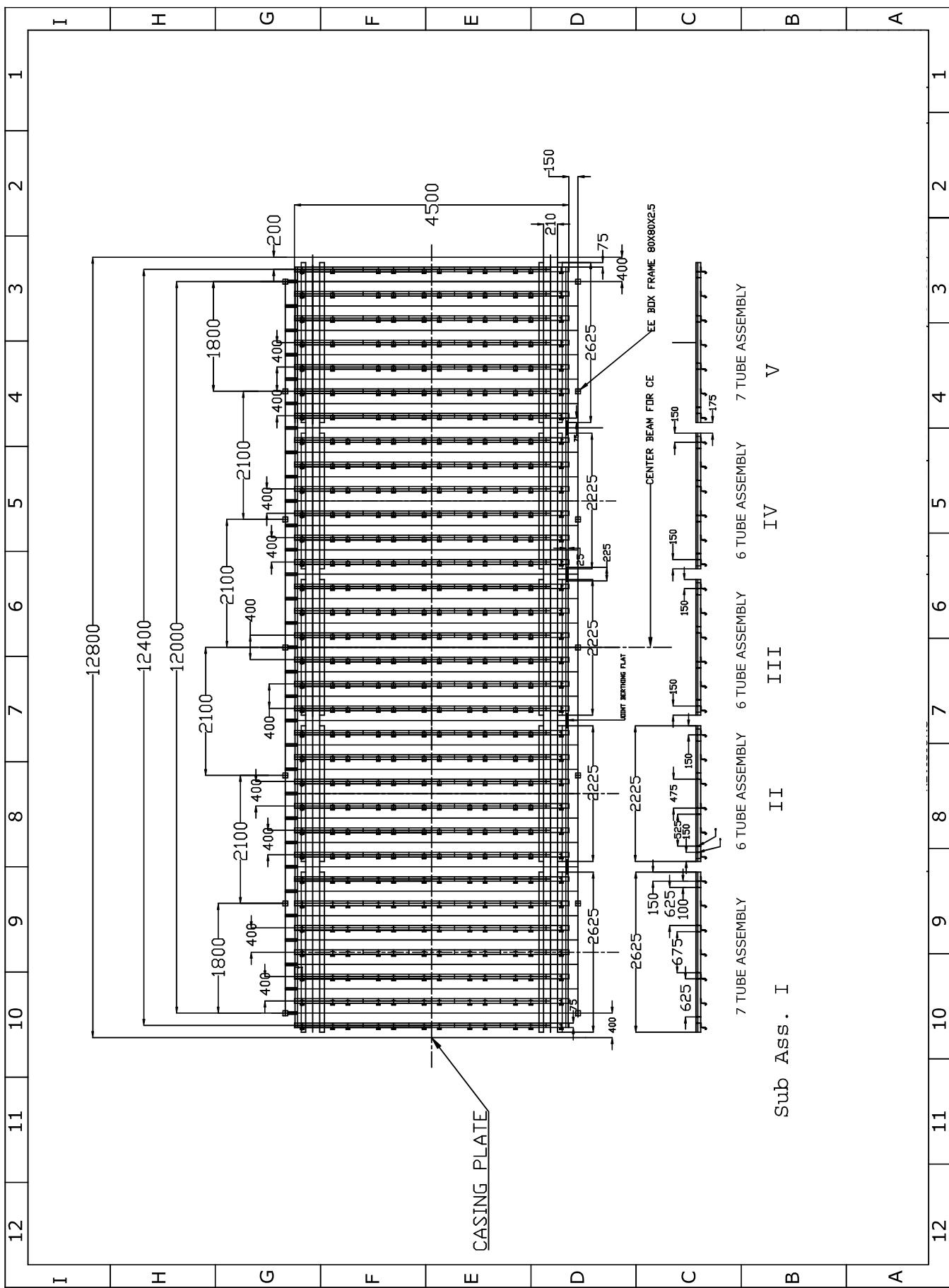
- System Contain 32 row x 400mm pitch ESP Field's ESP HANGING SYSTEM / COLLECTING ELECTRODE SUSPENSION SYSTEM.
- 32 ROW "Suspension Angle" with Pre-fabricated sub assembly as below:

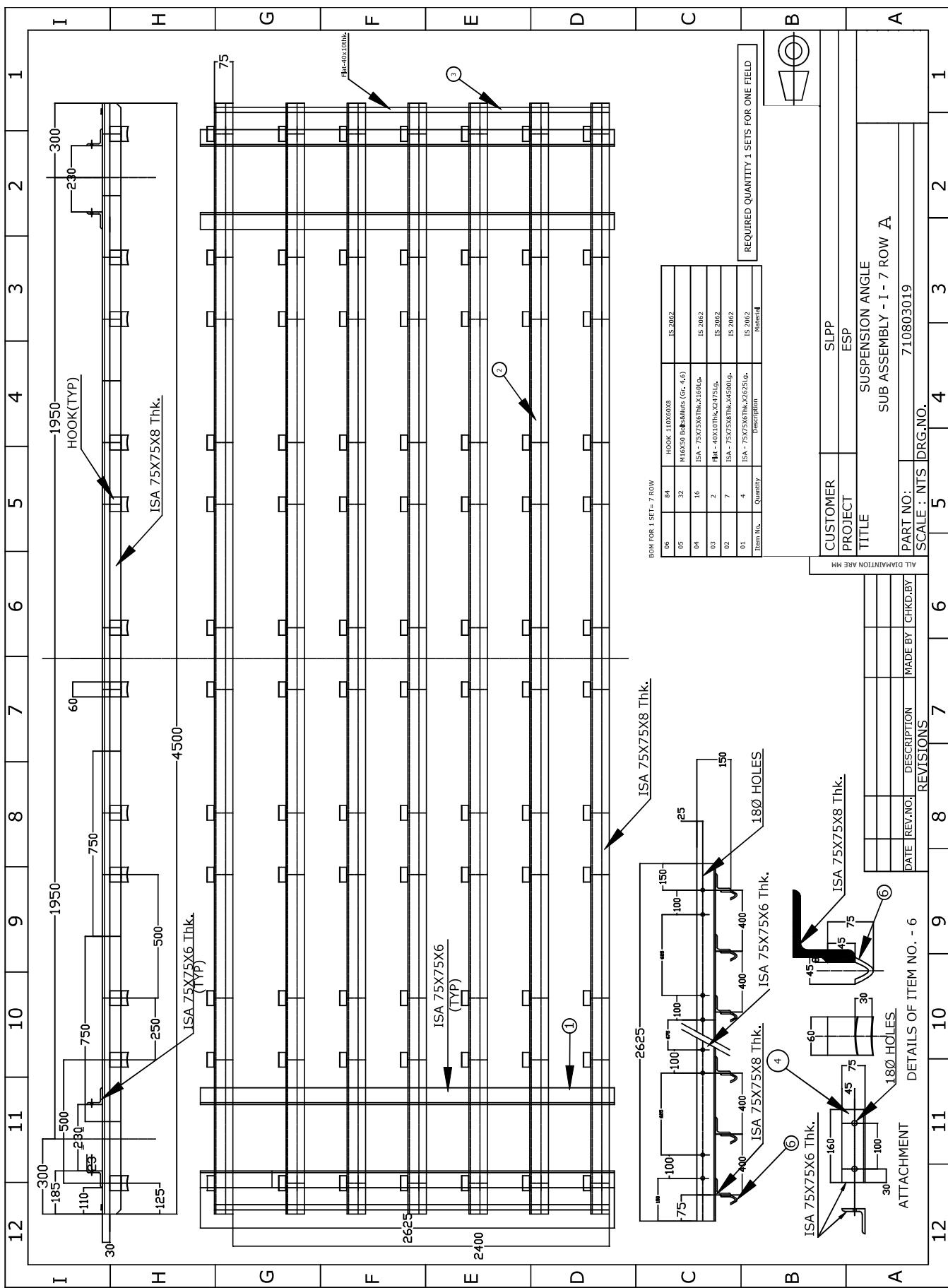
Sr. No.	Sub Assembly	Nos
1	Sub Assembly -I :7 row x Suspension Angle (7 Row A)	1 No. (At end)
2	Sub Assembly -II-IV :6 row x Suspension Angle	3 Nos. (In Middle)
3	Sub Assembly -V :7 row x Suspension Angle (7 Row B)	1 No. (At another end)

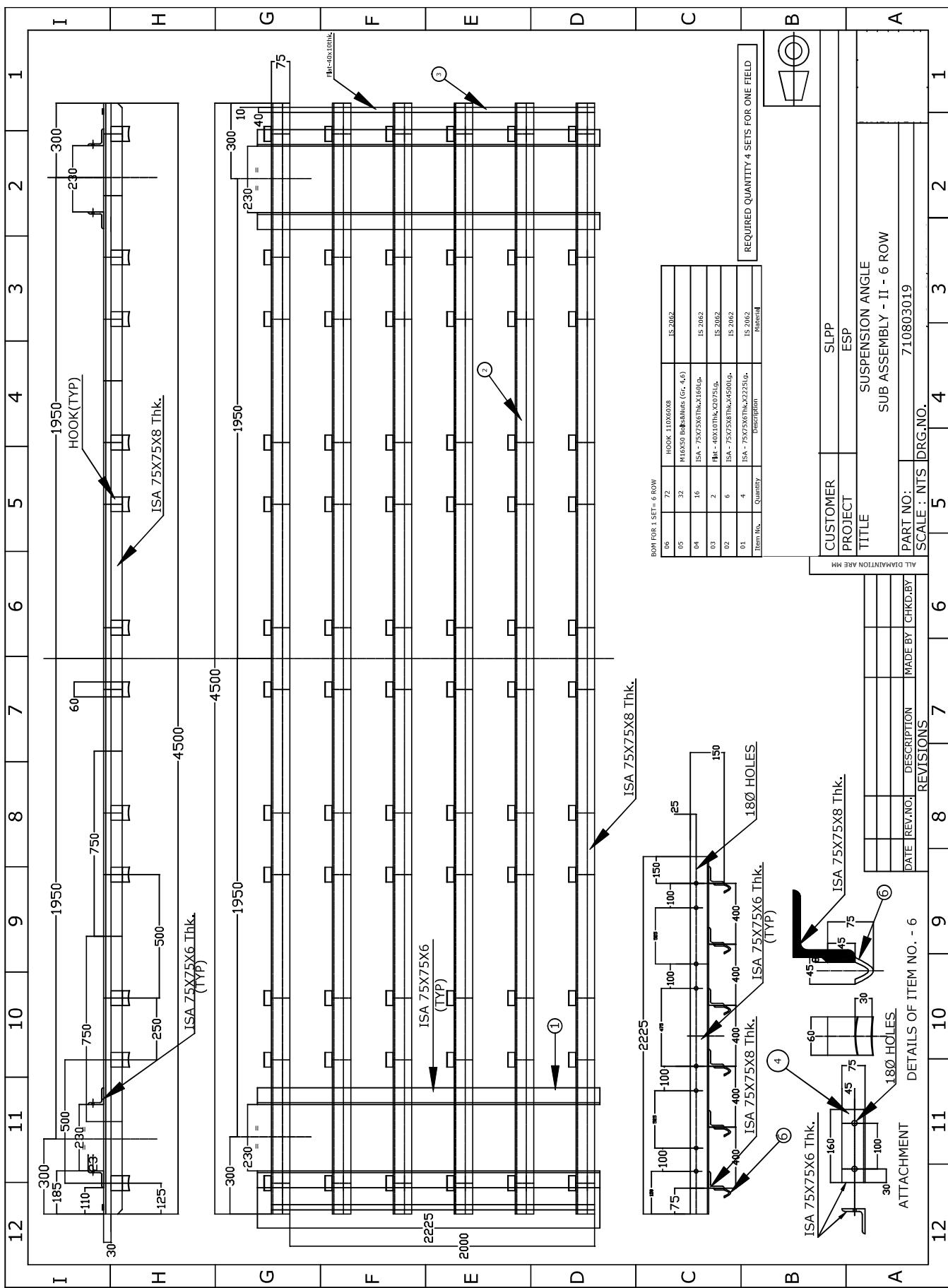
**Each Sub-Assembly Contain**

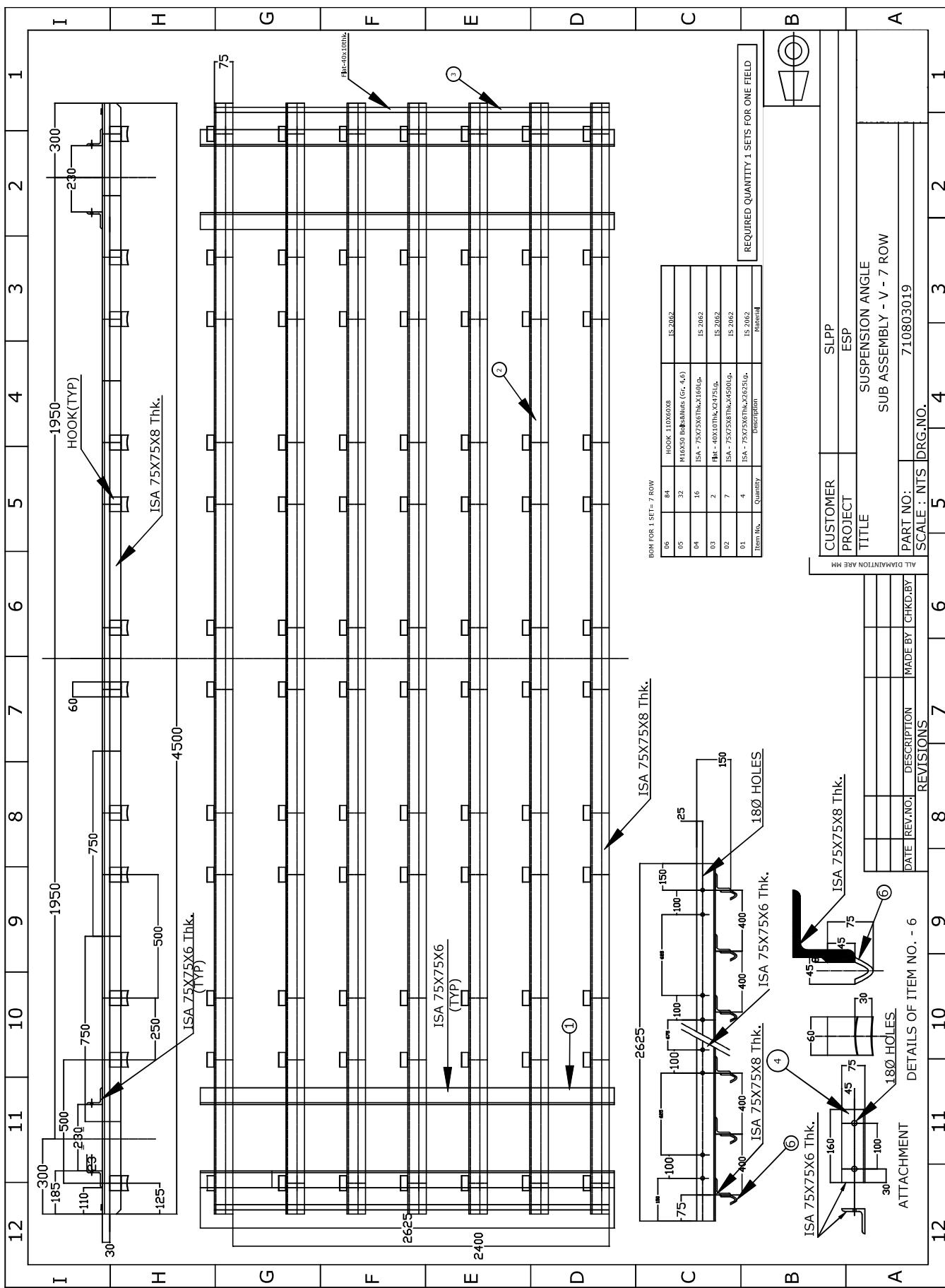
1. 6 Nos./ 7 Nos. Linear Angles with hook 2 x 1Set @ 6 Places, Pitch of Hook for 2 x 1Set @ 6 Places is in line with CE design.
2. 2 Nos. Transverse Angle @ both ends (Gas Entry Side / Gas Exit Side) in each sub assembly.
3. Both 2 Nos. Transverse Angle need to be drilled hole 2 x 1 Set @ 4 Places @ Equal pitch based on BHEL ESP Standard Safe Design.
4. Attachments (each attachment contain in the form of "small piece of angle with 2 hole & its fasteners suitable to Point No. 3) also need to supply in the quantity  $4+4+4+4+4 = 20$  Nos. at gas entry side of Transverse beam at Boiler side.
5. Attachments (each attachment contain in the form of "small piece of angle with 2 hole & its fasteners suitable to Point No. 3) also need to supply in the quantity  $4+4+4+4+4 = 20$  Nos. at gas entry side of Transverse beam at Chimney side.
6. Attachments (each attachment contain in the form of "small piece of angle with 2 hole & its fasteners suitable to Point No. 3) also need to supply in the quantity  $4+4+4+4+4 = 20$  Nos. at gas exit side of Transverse beam at Boiler side.
7. Attachments (each attachment contain in the form of "small piece of angle with 2 hole & its fasteners suitable to Point No. 3) also need to supply in the quantity  $4+4+4+4+4 = 20$  Nos. at gas exit side of Transverse beam at Chimney side.
8. Earthing strip / Locking strip 50 mm wide x 6 mm thick need place / weld / install at gas exit side with expansion provision.
9. Earthing strip / Locking strip 50 mm wide x 6 mm thick need place / weld / install at gas entry side with expansion provision.
10. Before Initiation of actual fabrication, site visit after Placement of PO is compulsory.

11. Drawing need to be submit after site visit for fabrication along with erection checks for installation of system at site.
12. Painting of each Part: DFT 45-micron of red oxide of Berger make / Asian paint make with standard procedure as per Paint supplier.
13. Refer Representative Drawing as attached.









**Material code: 710801039 RECTANGLE WASHER FOR COLLECTING PLATE**

**TECHNICAL ANNEXURE**

Material required for "fastening of collecting electrodes (CE)" with shock bar during replacement of ESP fields.

MOC: IS 2062

Rectangular washer plate for collecting plate 100 mm L x 70 mm W x 8 mm thick, centre hole of 16 mm

Length	100 mm
Width	70 mm
Thickness	8 mm
Centre Hole	16 mm

Material Code: 710801034 - SHOCK BAR WITH SHOCK PAD & FASTENERS

Shock bar along with shock pad installed through fastener

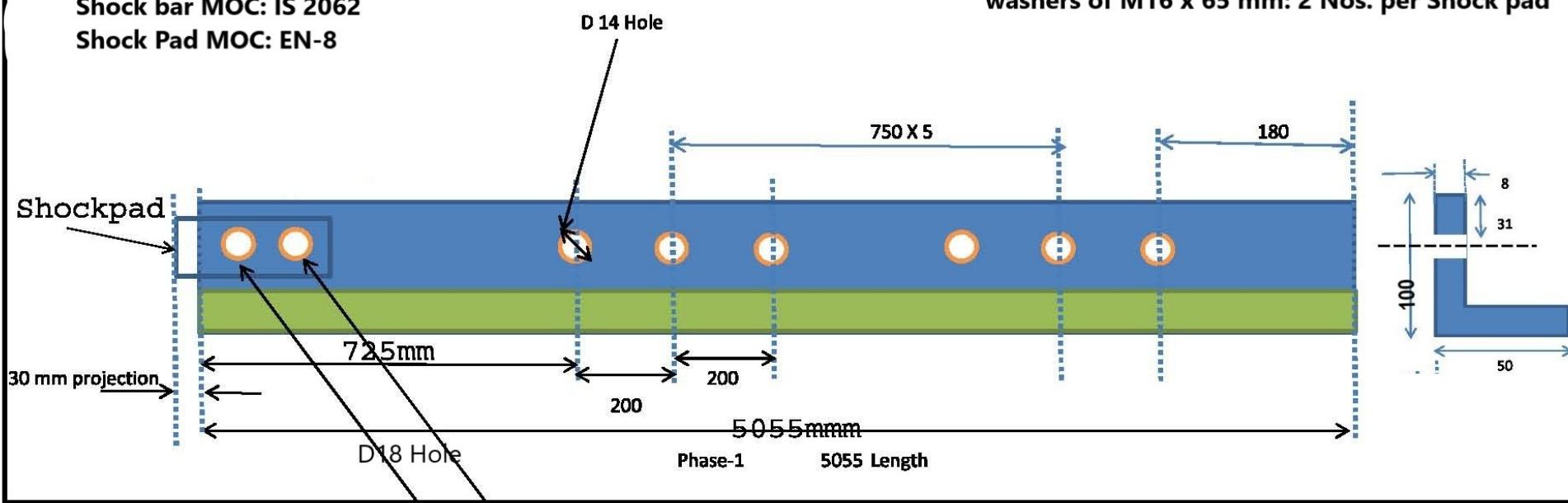
Phase-1

710801034

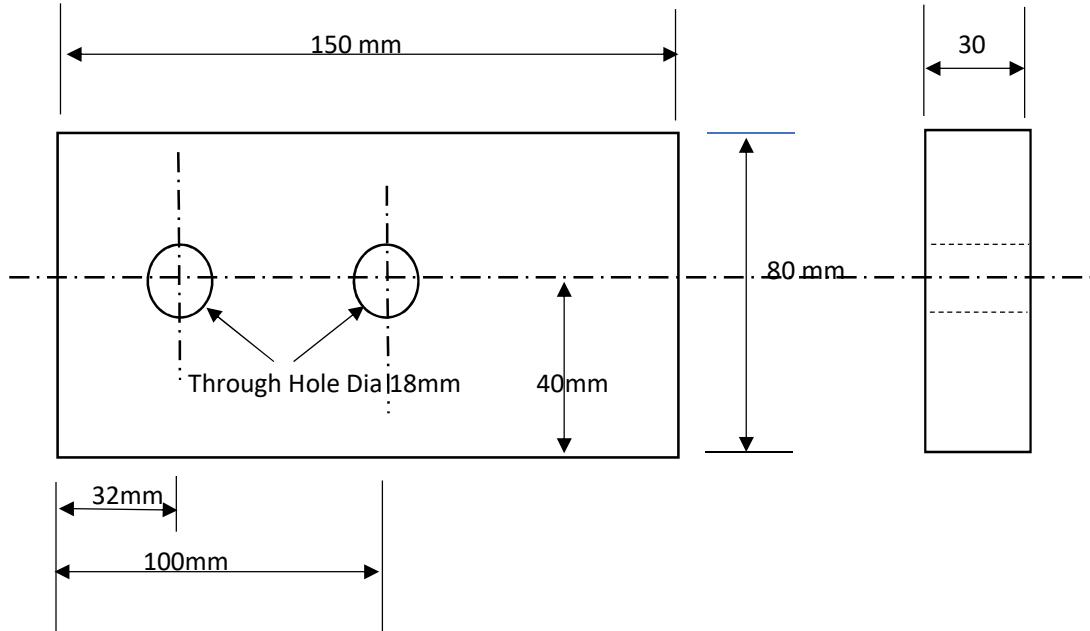
Phase 1 Material Code 710801034

Shock bar MOC: IS 2062  
Shock Pad MOC: EN-8

Fastners to be used: HT (10.9) Hex Nut bolt & washers of M16 x 65 mm: 2 Nos. per Shock pad



**Material Code: 710801031 – SHOCKPAD**



**MOC: EN8**

1. Item Description: Shock Pad / Impact Pad
2. Material: EN8 Medium Carbon Steel conforming to BS 970 (or latest revision).  
Equivalent material: C45 (EN 10083) / IS 1570 Gr 2C
3. Chemical Composition (Typical)

Element	% by Weight
Carbon (C)	0.35 – 0.45
Manganese (Mn)	0.60 – 1.00
Silicon (Si)	0.10 – 0.40
Sulphur (S)	Max. 0.05
Phosphorus (P)	Max. 0.05

**4. Mechanical Properties (Normalized Condition)**

Tensile Strength	550 – 700 MPa
Yield Strength	Min. 280 MPa
Elongation	Min. 16 %
Hardness	170 – 210 HB

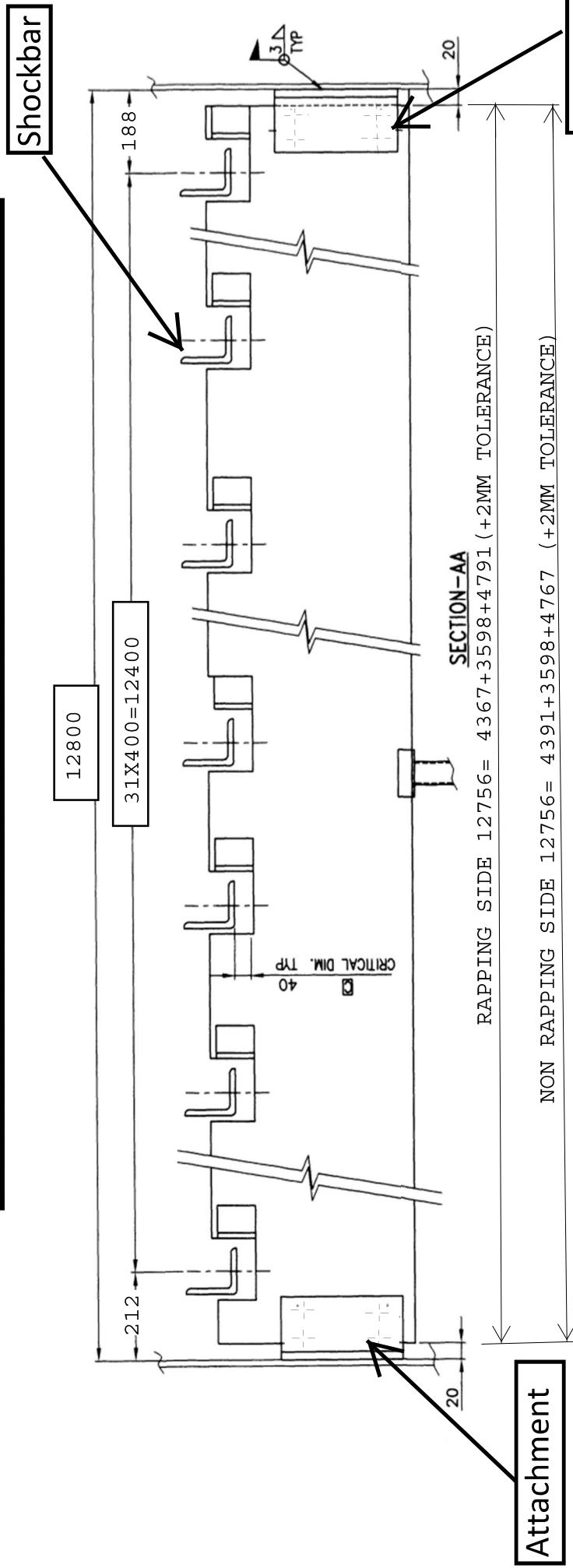
Mechanical properties to be certified by manufacturer.

**5. Supply Condition:**

Material shall be supplied in Normalized condition, free from internal defects, cracks, laminations, or surface flaws.

6. Heat Treatment: Normalizing to be carried out as per relevant standard to achieve uniform grain structure and consistent mechanical properties.
7. Surface Condition:
  - Surface shall be free from scale, rust, oil, grease, and sharp edges.
  - No surface cracks or visible defects permitted.
8. Dimensional Tolerances: As per approved GA / Fabrication Drawing. Flatness and parallelism to be maintained within acceptable machining tolerances.
9. Inspection & Testing:
  - Chemical and mechanical test certificates to be submitted.
  - Hardness testing may be carried out by GIPCL at Government approved laboratory, if required.
  - GIPCL reserves the right to inspect material at manufacturer's works.
10. Each shock pad shall be paint with Asian make/ Berger make Red oxide of DFT 45 micron with standard procedure as per paint supplier.

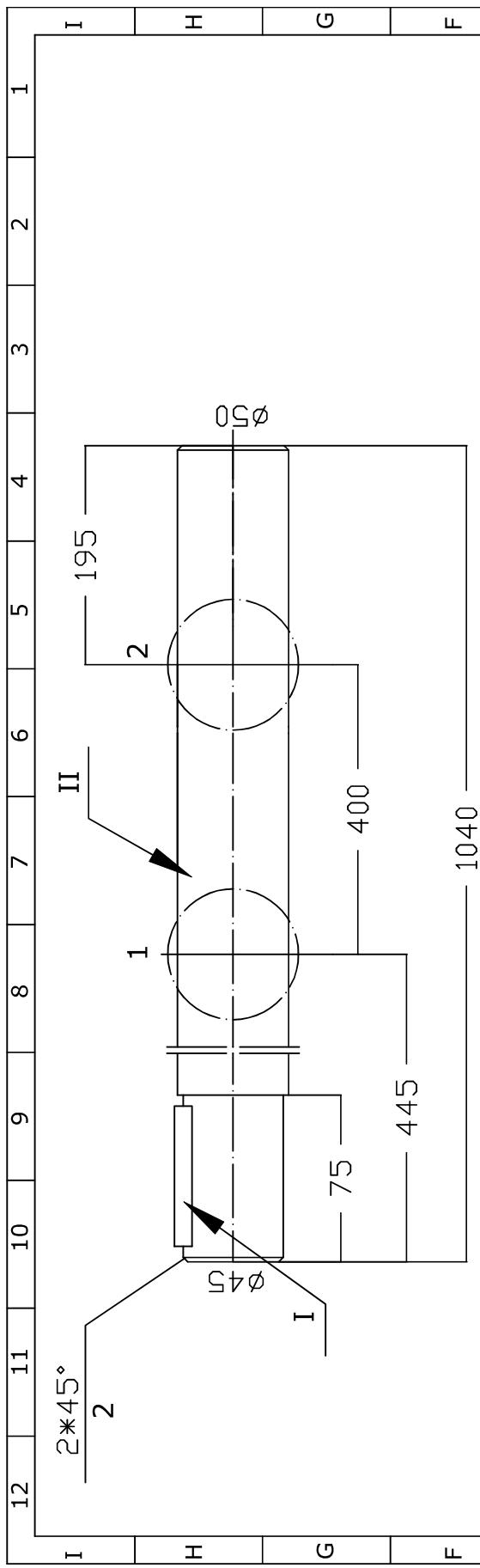
**Technical Annexure for Material Code: 710803006 up to 710803013**



**MOC: IS 2062**  
**Thickness 3.15 mm**

SR	NEW code 400 MM	MODIFIED DESIGN
1	710803006	SHOCK BAR GUIDE-1 RAP SIDE L-4367-CERM 12756+20+20 =12796
2	710803007	SHOCK BAR GUIDE-1 RAP SIDE L-3598-CERM
3	710803008	SHOCK BAR GUIDE-1 RAP SIDE L-4791-CERM
4	710803009	ATTACHMENT (SHOCK BAR GUIDE-RAP)-CERM
5	710803010	SHOCK BAR GUIDE-2 NON-RAP SIDE L-4391-CERM 12755+20+20 =12795
6	710803011	SHOCK BAR GUIDE-2 NON-RAP SIDE L-3598-CERM
7	710803012	SHOCK BAR GUIDE-2 NON-RAP SIDE L-4767-CERM
8	710803013	ATTACHMENT (SHOCK BAR GUIDE-N RAP)-CERM

Material Code: 710803005 - CRM End shaft : Length 1040 mm



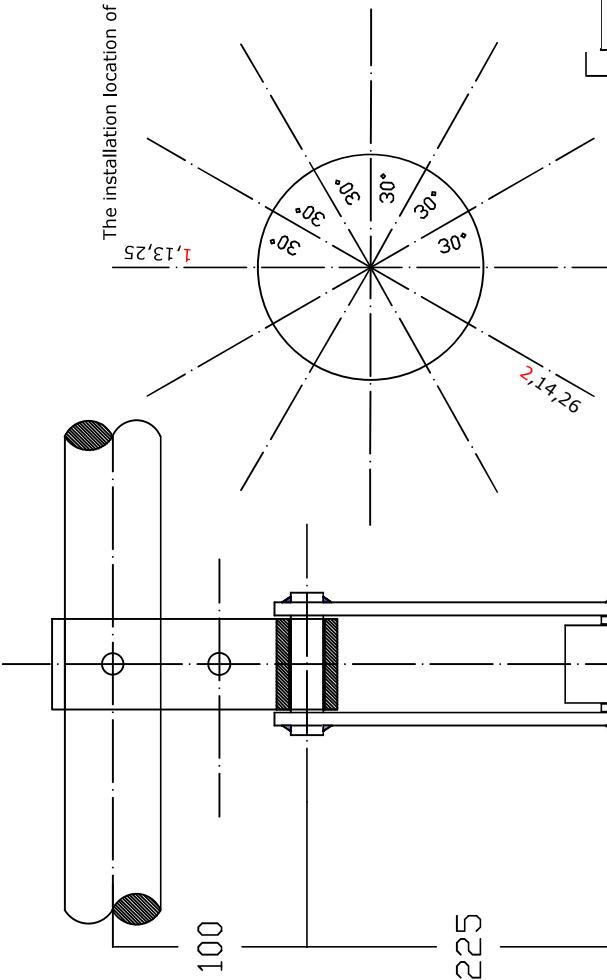
TECH. Requires

Hammer position show  
in diagram 1,2 indicates  
angle for erection.

Key should be wrapped  
on shaft by tape for  
shipment

Sl.no.	No.	Description	Req'd	Material
02	II	Shaft L-1040mm	1	EN8
01	I	Key	1	EN8

12	11	10	9	8	7	6	5	4	3	2	1
<b>COLLECTING RAPPING SHAFT END</b>											
<b>SCALE : DRG.NO.</b>											
<b>DATE REV.NO. DESCRIPTION MADE BY CHECKED BY</b>											
<b>ALL DIMENSIONS ARE MM</b>											
<b>CUSTOMER PROJECT</b>											
<b>SLPP ESP</b>											
<b>TITLE</b>											
<b>225</b>											



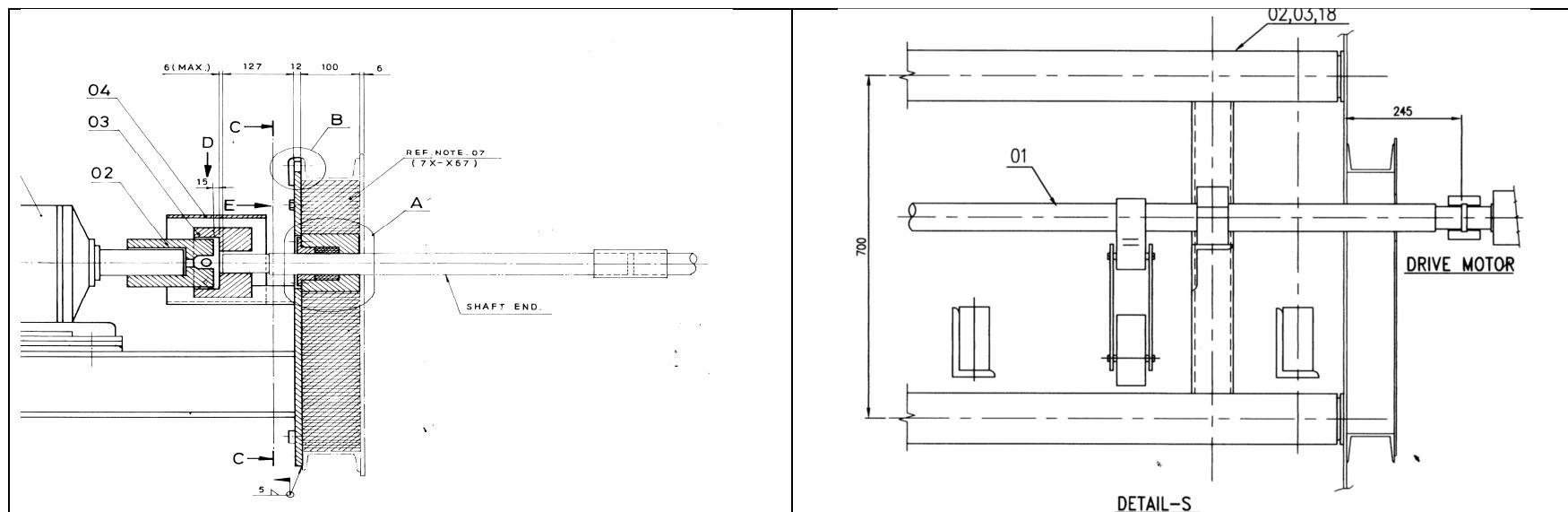
**Material Code: 710803005 & 2710802010 - CRM shaft for 300 to 400 mm pitch**

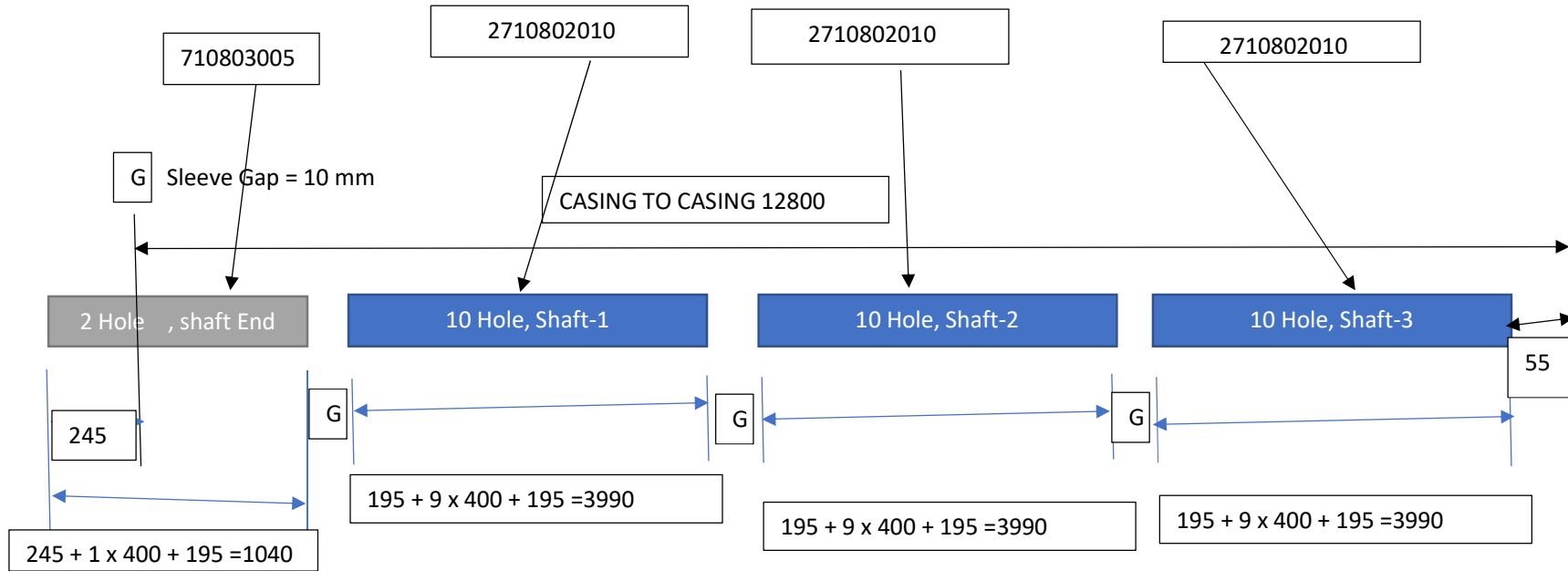
**TECHNICAL ANNEXURE**

Part name	PR Qty-	CODE	Drawing reference
1. End Shaft (L1040) OD50	0	710803005, L1040	
2. Shaft-1 (or 2 or 3) (L3990) OD50	9	2710802010	Refer representative Drawing on Page 2 , Hole/ Hammer Position on Page 2 of annexure & hole / Hammer Orientation on Page-3 (table)

NOTE:

- MOC of SHAFT : EN8





End Shaft	At length	Shaft-1 & 2	At length	Shaft-3	At length
Out side ESP CASING	245	Extended Length	195	Extended Length	195
1 <sup>st</sup> Hole/ Hammer Position	445	3 <sup>rd</sup> -12 <sup>th</sup> Hole/ Hammer Position	195,595,995,1395	23 <sup>rd</sup> -32 <sup>nd</sup> Hole/ Hammer	195,595,995,1395
2 <sup>nd</sup> Hole/ Hammer Position	845	AND	1795,2195,		1795,2195,
Extended Length Position	195	13 <sup>th</sup> – 22 <sup>nd</sup> Hole/ Hammer Position	2595,2995, 3395,3795		2595,2995, 3395,3795
		Extended Length	195	Extended Length	195
Total length	1040	Total length	3990 + 3990	Total length	3990*

- Gap with casing 15 mm =  $12800 - (1040-245) - 3990 - 3990 - 3990$
- = Sleeve Gap = 10 mm

**DEGREE POSITION:**

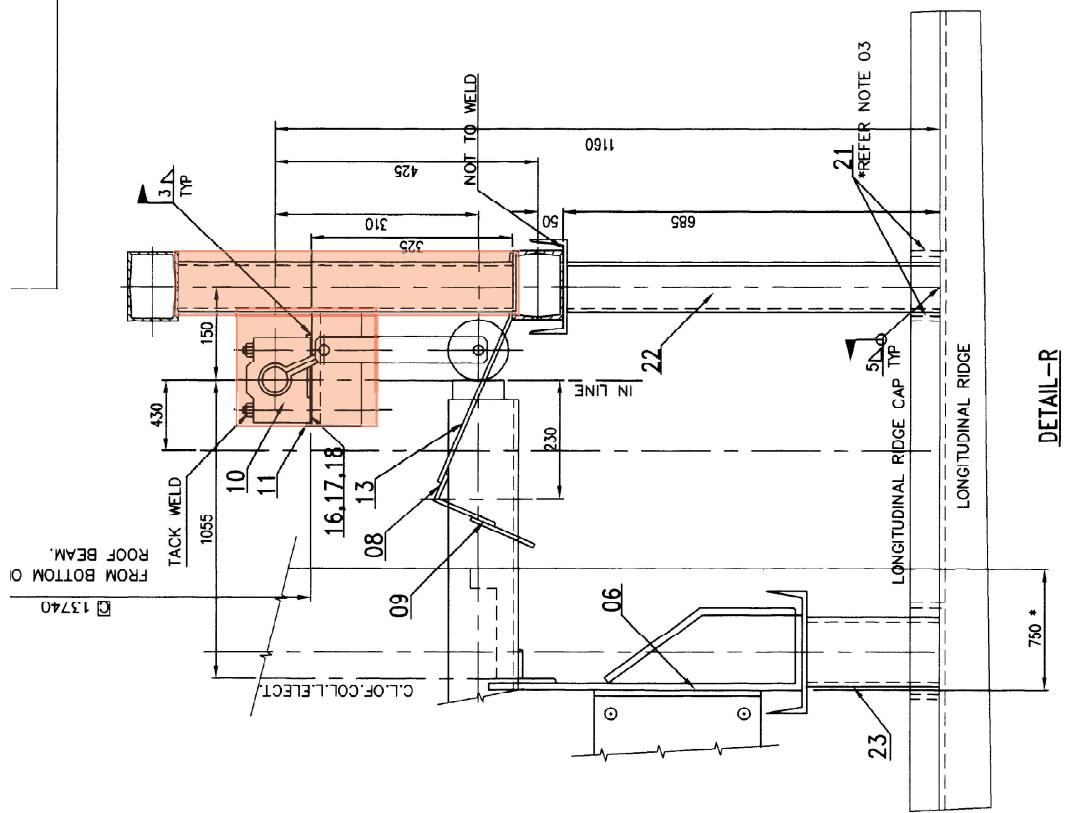
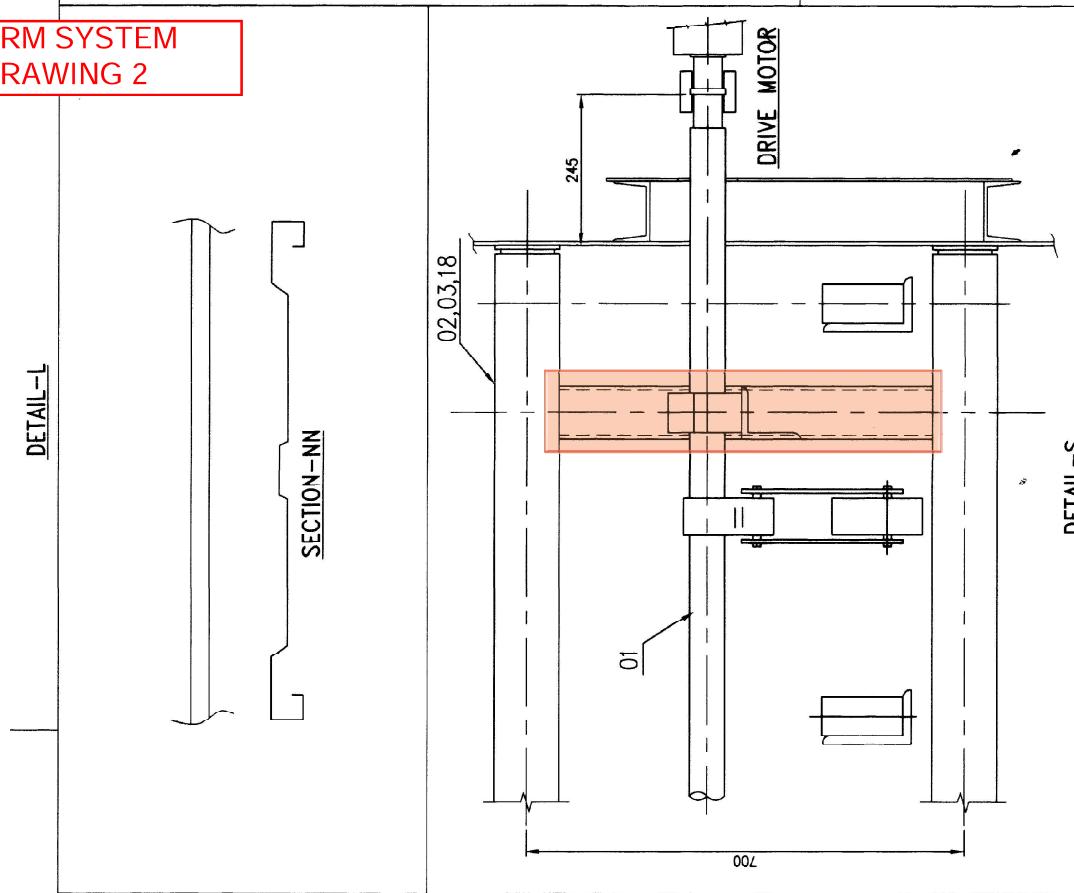
Orientation of Hole	Degree	Hole/ Hammer No.							
AT POSITION – I	0°	1 (Master)		7	13(Master)	19		25	31
AT POSITION – II	30°	2		8	14	20		26	32
AT POSITION – III	60°		3 (Master)	9	15	21		27	
AT POSITION – IV	90°		4	10	16	22		28	
AT POSITION – V	120°		5	11	17		23(Master)	29	
AT POSITION – VI	150°		6	12	18		24	30	
		Shaft end	Shaft-1		Shaft-2		Shaft-3		

**HOLE ID: 17mm**

Material Code: 710803001 - CRM bracket with Plain Bearing

## CRM SYSTEM DRAWING 2

P.T.O.



**Material code: 710803001 - CRM bracket with Plain Bearing**

**SCOPE OF SUPPLY & DESCRIPTION**

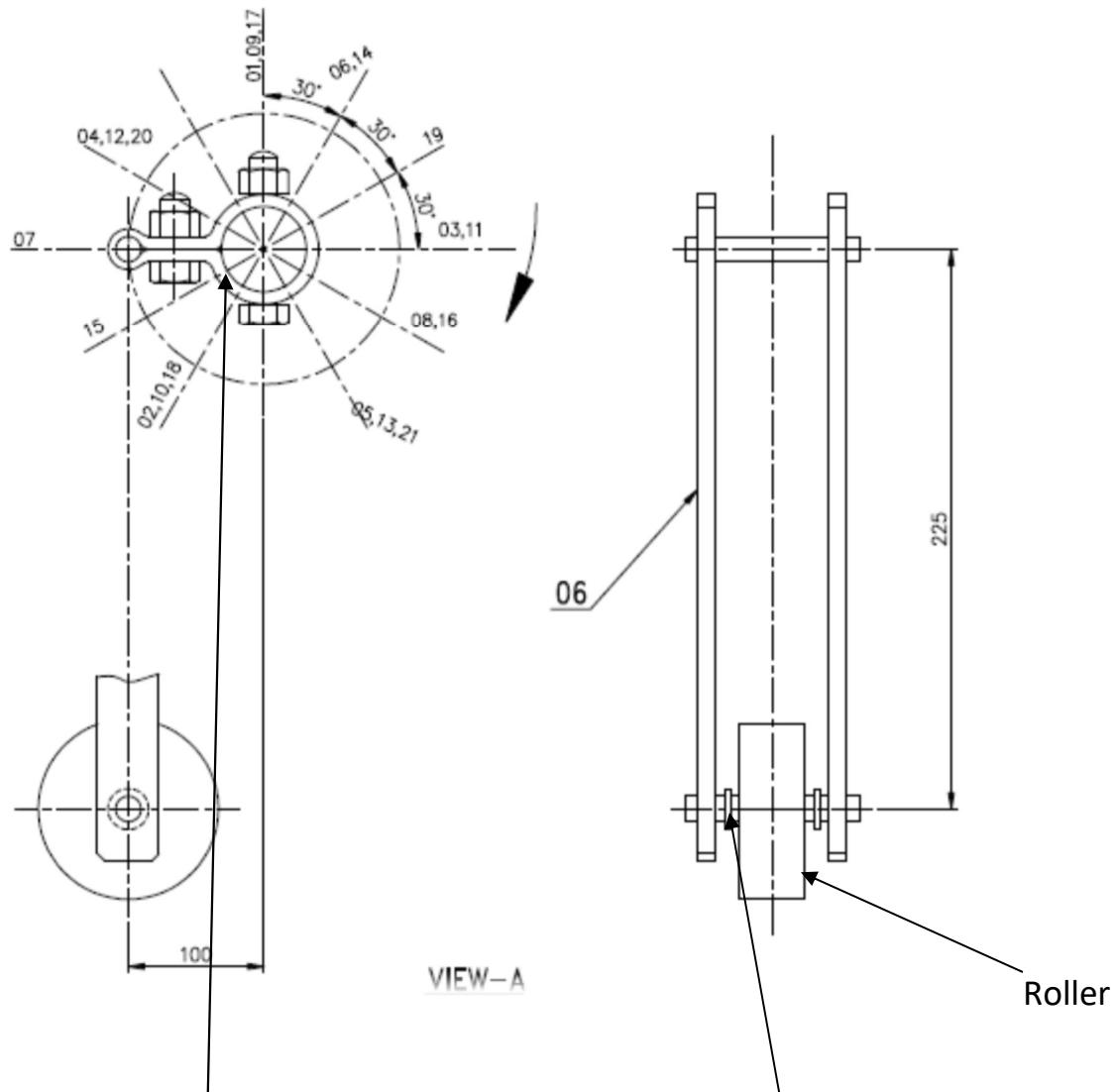
Part name	Qty In	CODE	Drawing reference
<b>1. CRM Bracket for Plain Bearing Shaft Which consist Following</b>	<b>1 Nos</b>	<b>710803001</b>	<b>1 Nos CRM Bracket Consist following sub items A+B+C+D+E+F+G as mentioned in Qty column</b>
<b>A. Plain Bearing (MOC: IS 2062) with HT 10.9 HEX M16 Nut&amp; Bolt x 2 Nos</b>	<b>1 No</b>	<b>1) Main Vertical Support L600 ISMC-100+ Hz Angle L220-ISA90 with Oval Hole for Plain Bearing Welded together exactly at 90° + Plain Bearing with fastener (i.e. -M16 Nut&amp; Bolt x 2 Nos + 2 Nos. Stopper Plate (Loose) 10 x 20 x 50 + 1 Nos. each type of shim 2 , 1.6 &amp; 0.63 Thick x 60 W x 160L</b>	<b>CRM SYSTEM DRAWING 2</b>
<b>B. With Horizontal Bracket (Angle with hole for Plain brg.) (MOC: IS 2062)</b>	<b>1 Nos</b>	<b>2) (ISA 90 x 90 x 8) Hz Angle's TOS is 325 mm From Vertical Support's Bottom</b>	
<b>C. Along with loose stop plate 10(thk) x 20(width) x 50(length) (MOC: IS 2062) AND</b>	<b>2 Nos</b>	<b>3) OVAL Hole [20mm (along the length) x 18mm (across the length) = 1st oval Hole centre from free end is 40 mm &amp; 2nd Hole 160 mm from free end</b>	
<b>D. Vertical Support (Channel L600 mm) &amp; Fastener</b>	<b>1 Nos</b>		
<b>E. Bearing Shim 2 x 60 x 160</b>	<b>1 No.</b>		
<b>F. Bearing Shim 1.6 x 60 x 160</b>	<b>1 No.</b>		
<b>G. Bearing Shim 0.63 x 60 x 160</b>	<b>1 No.</b>		

Material code: **710802036, 710801006, 710801005, 710801007**

## TECHNICAL ANNEXURE

### SCOPE OF SUPPLY & DESCRIPTION

710802036	OUTER ARM FOR COLLECTING RAPPING
710801006	INNER ARM DRG. 6172003021 FOR ESP
710801005	PLAIN BEARINGS DRG. 61720066 FOR ESP
710801007	OUTER ARM DRG. 6172003121 FOR ESP



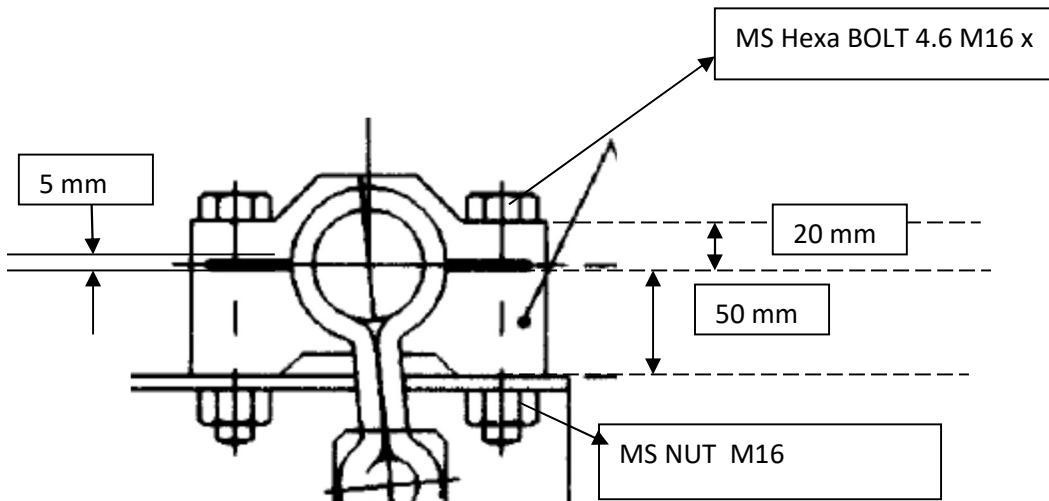
**710801006: INNER ARM**

**710802036: OUTER ARM**

**710801007: OUTER ARM**

**P.T.O**

<p><b>710801006:</b> Inner arm <b>along with</b> HT Nut (M16) Bolt (M16 x 100) <b>Material:</b> M.S. (IS 2062) <b>Net Specific Weight:</b> 3.240 KGs</p>	<p><b>710801007:</b> Outer arm <b>along with</b> HT Nut (M16) Bolt (M16 x 100), Roller Dia 90mm Width 60, Ct. To Ct. distance : 225 mm <b>Material:</b> M.S. (IS 2062) <b>Net Specific Weight:</b> 5.776 KGs</p>
<p><b>710802036 :</b> Outer arm <b>along with</b> HT Nut (M16) Bolt (M16 x 100), Roller Dia 150mm Width 60, Ct. To Ct. distance : 225 mm <b>Material:</b> M.S. (IS 2062) <b>Net Specific Weight:</b> 8.002 KGs</p>	<p><b>710801005 :</b> Plain Bearing 60 x160 <b>along with</b> 2set MS 4.6 Nut-M16 + Bolt-M16x 100 &amp; finished Shim (i) 0.63, (ii)1.6, (iii) 2.0 of 60x 160 size <b>Material:</b> M.S. (IS 2062) <b>Net Specific Weight:</b> 3.889 KGs (Drawing attached)</p>



Including mentioned size shim & Fasteners as per description

**710801005: Plain Bearing 60 X 160**

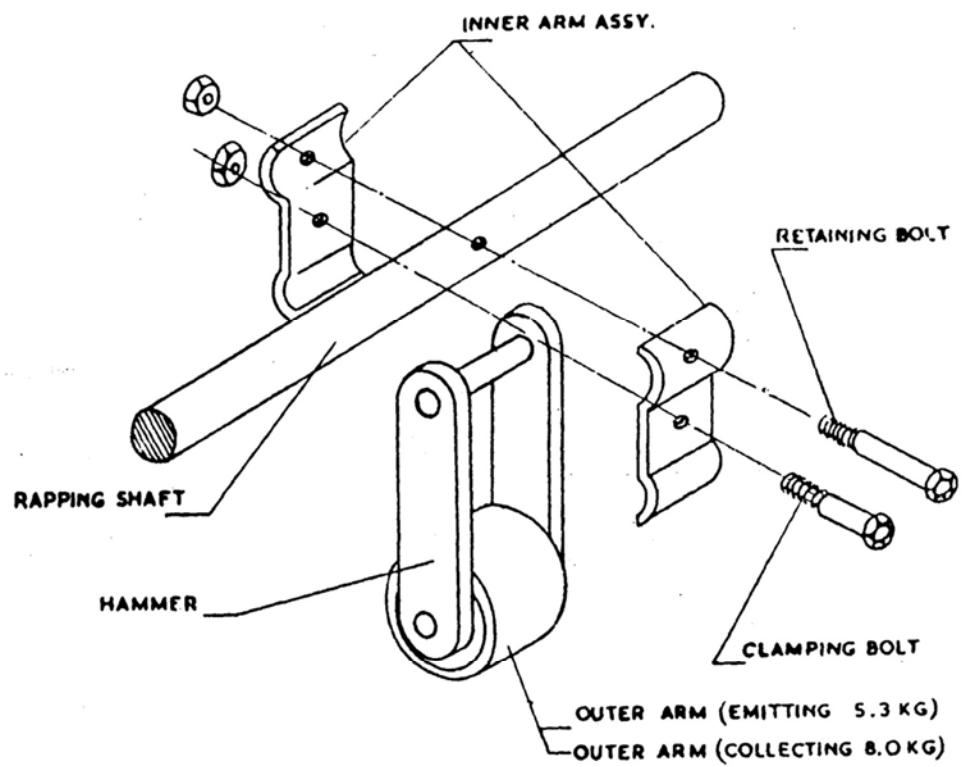
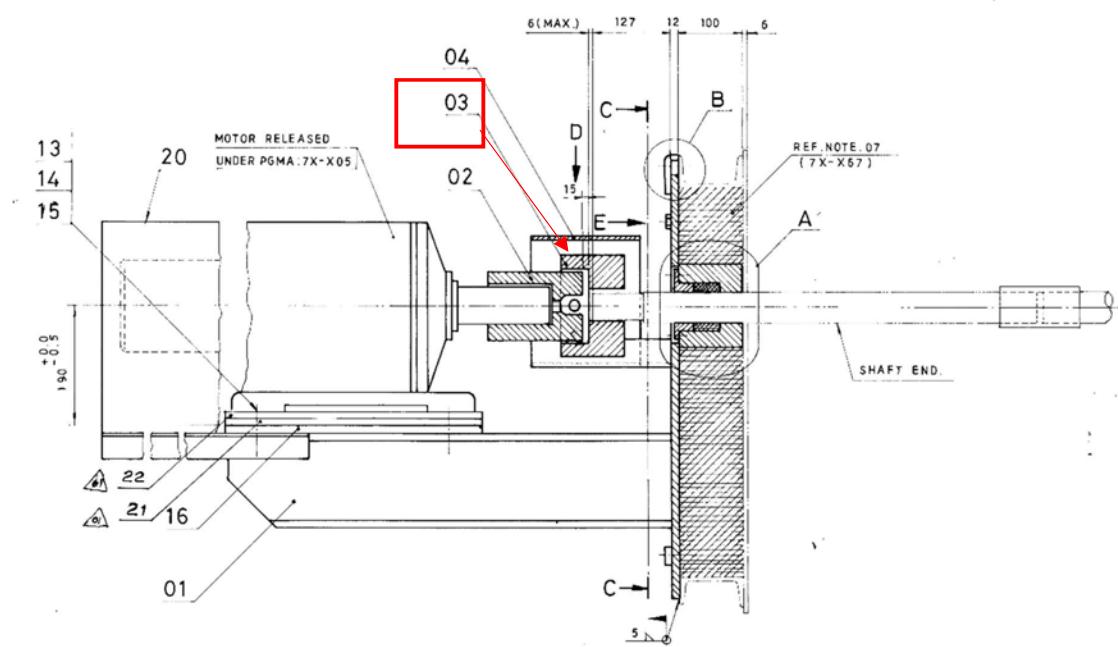


FIGURE 27  
TUMBLING HAMMER ASSEMBLY

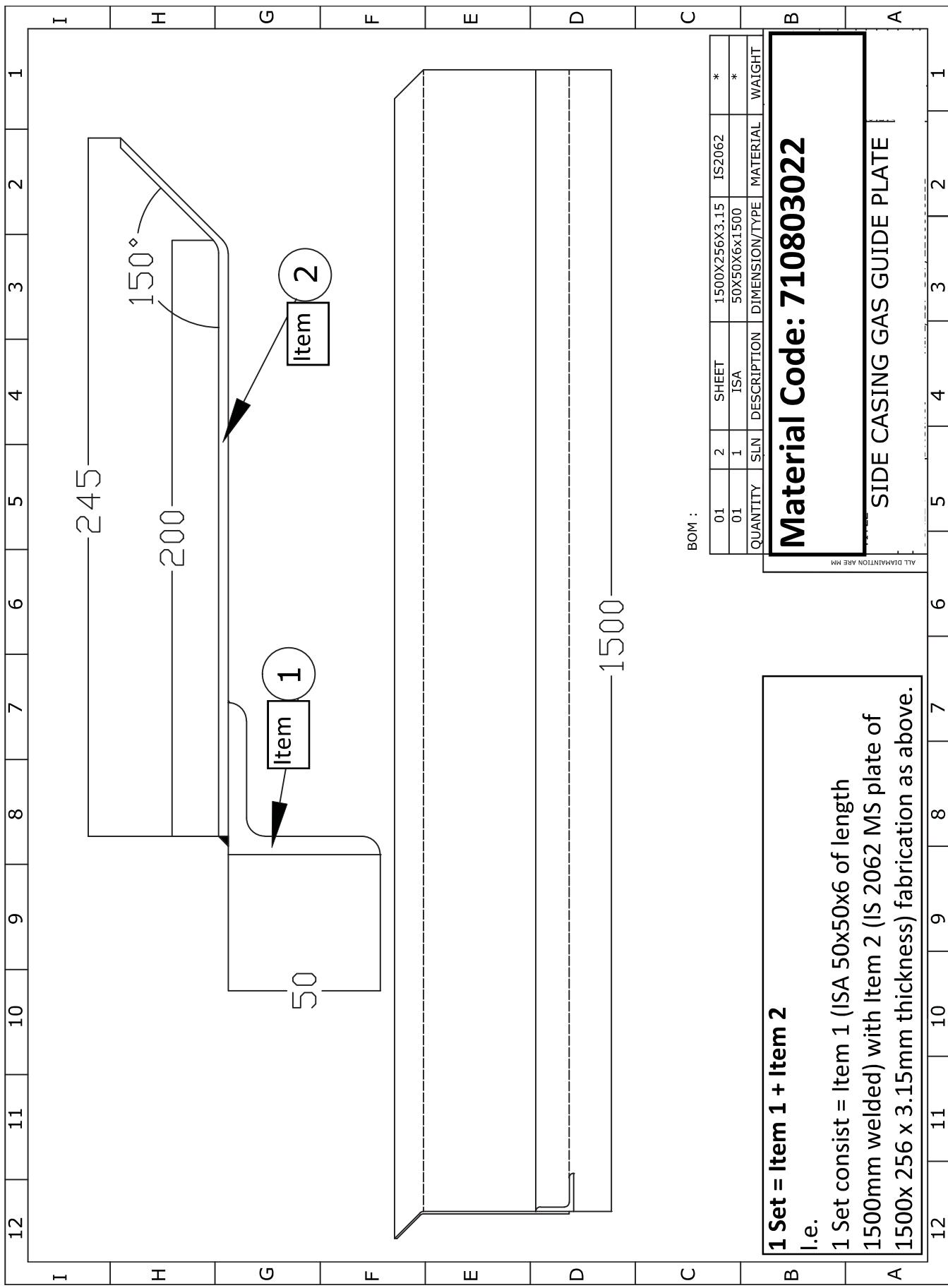
## Material Code: 2710802029 - CLUTCH FOR SHAFT OF CERM

## TECHNICAL ANNEXURE



**MOC: IS 2062**

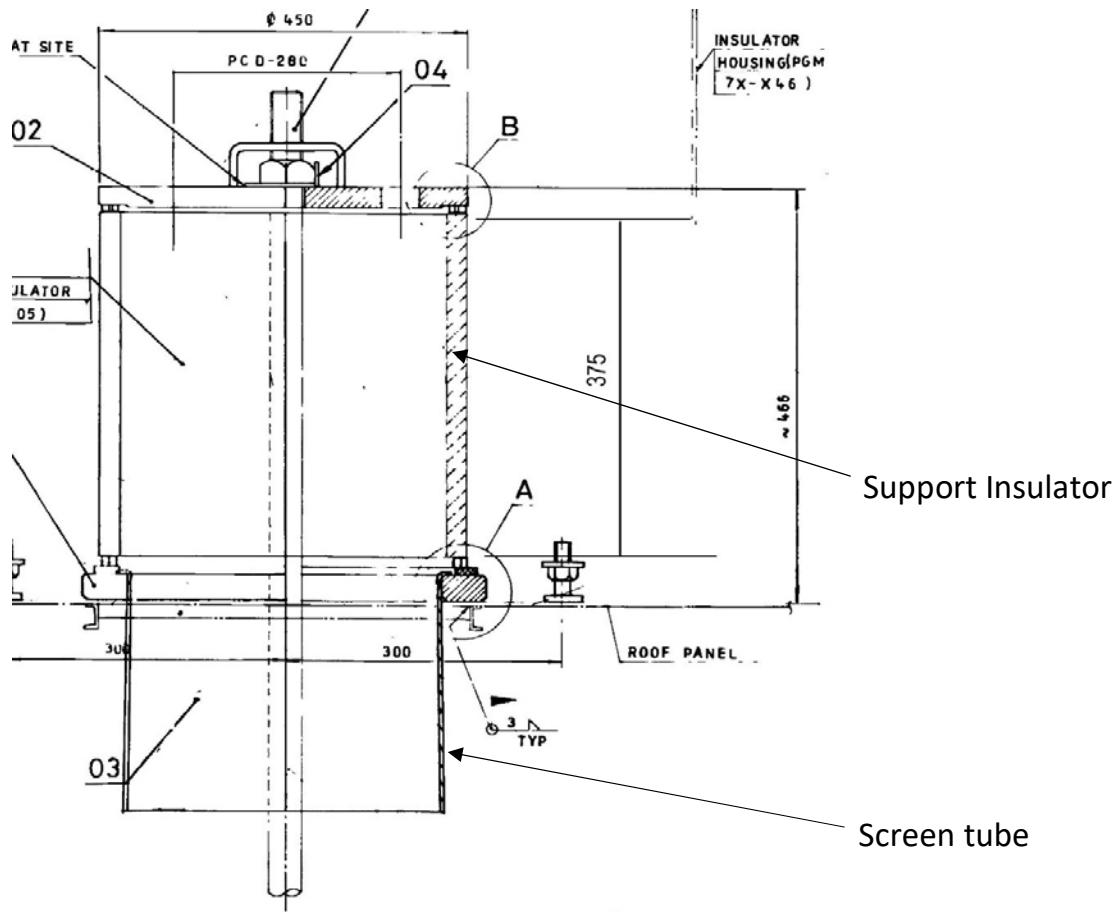
**Material Code: 710803022 Side Casing Gas Guide Plate**



Material Code: 710117002: Support Insulator, 710801033: Screen tube

## TECHNICAL ANNEXURE

Technical specification for Support Insulator FOR ESP TYPE FAA-6 X 45 (45)-126-135-2 & ESP TYPE FAA-7 X 45 (45)-132-135-2:



### 1. SCOPE

- This specification covers the design, manufacture, supply, inspection, testing and quality requirements of **cylindrical support insulators** intended for use in **high-voltage Electrostatic Precipitators (ESP)** for CFBC thermal power plants.
- The insulator shall be suitable for continuous operation under severe electrical, mechanical, thermal and environmental conditions prevailing in ESP installations.

## 2. SERVICE CONDITIONS

Parameter	Requirement
Type of service	ESP application
System Operation voltage	Up to 90 kV–110 kV DC (ESP operation)
Ambient temperature	Up to 55 °C
Operating temperature	250 to 350 °C
Atmosphere	Dust-laden, corrosive flue gases
Duty	Continuous

## 3. DESIGN & CONSTRUCTION

### 3.1 Type

Cylindrical porcelain support insulator, vertically mounted, designed to support ESP electrode system and electrically isolate it from grounded structure.

### 3.2 Support Insulator Material

- High alumina porcelain / ceramic with **minimum 52 % Al<sub>2</sub>O<sub>3</sub>** content.
- Homogeneous, dense, non-porous structure
- Compressive strength  $\geq$  500kN,

### 3.3 Surface Glaze

- Smooth, uniform, vitrified glaze at both internal and external surface of the insulator.
- Colour: Brown
- Glaze shall be free from cracks, pinholes, blisters and crawling
- Glaze shall be resistant to acidic and alkaline flue gas constituents
- Glazed (white or brown)
- 

### 3.4 End Faces

- End faces shall be flat and parallel and finely-ground.

## 5. QUALITY REQUIREMENTS

- Porosity shall be minimal; water absorption shall be within permissible limits
- No visible cracks, laminations, cavities or inclusions
- Uniform glaze thickness and finish

## 6. TESTING & INSPECTION

### 1. Routine Tests (100%)

- Visual inspection P.T.O.

- Dimensional verification
- Power frequency withstand test

## **2. Type / Sample Tests**

- DC voltage withstand test
- Thermal shock / temperature cycling test
- Porosity / water absorption test
- Mechanical compressive load test
- Glaze adhesion test

## **3. Acceptance Criteria**

- No flashover, puncture or visible damage
- No mechanical failure or glaze cracking

Test certificates shall be submitted by vendor.

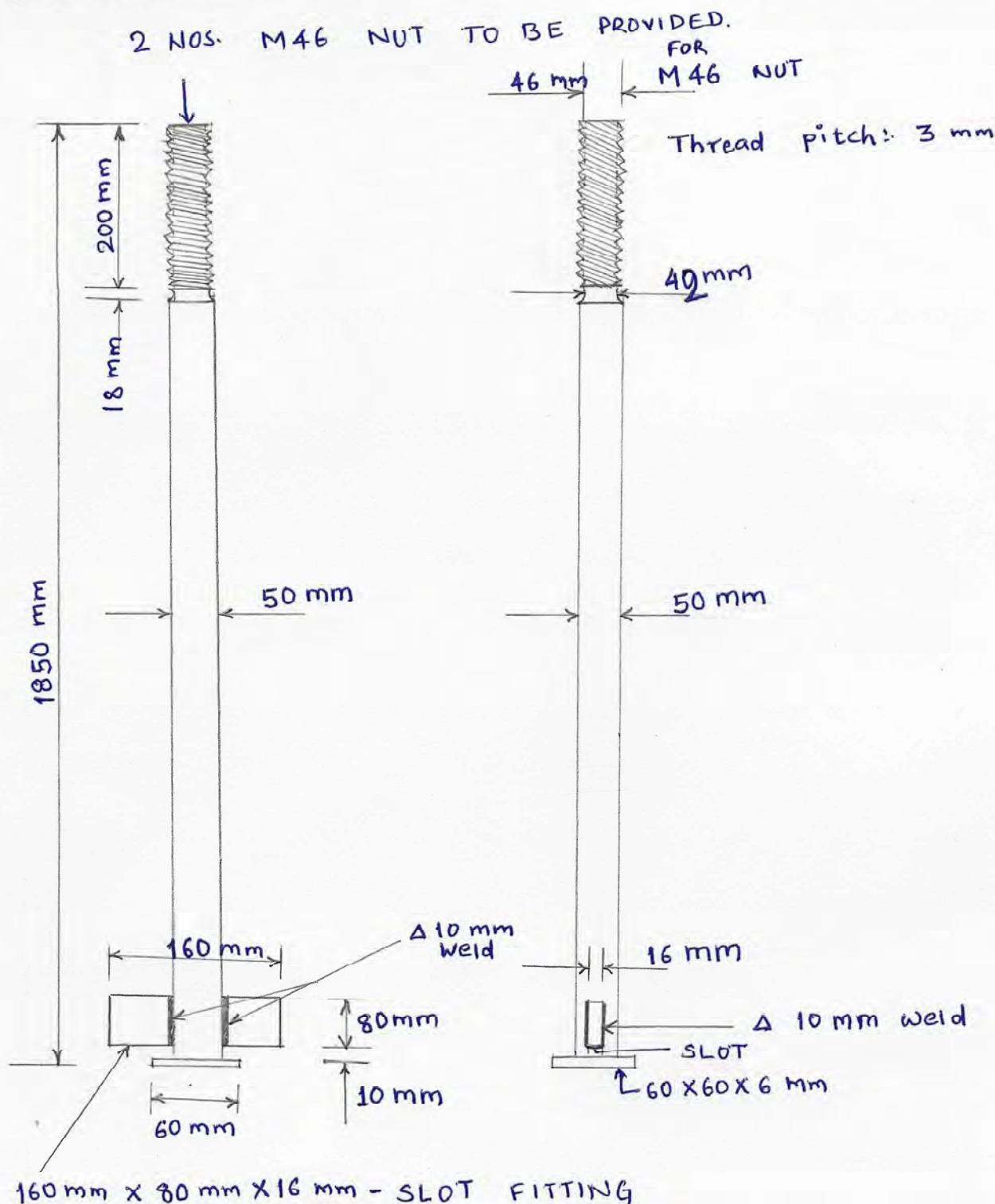
## **7. INSPECTION**

GIPCL reserves the right to inspect the insulators at manufacturer's works during any stage of manufacture and testing.

## **8. DOCUMENTATION**

The following documents shall be submitted:

- Dimensional drawings
- Material test certificates
- Routine and type test reports

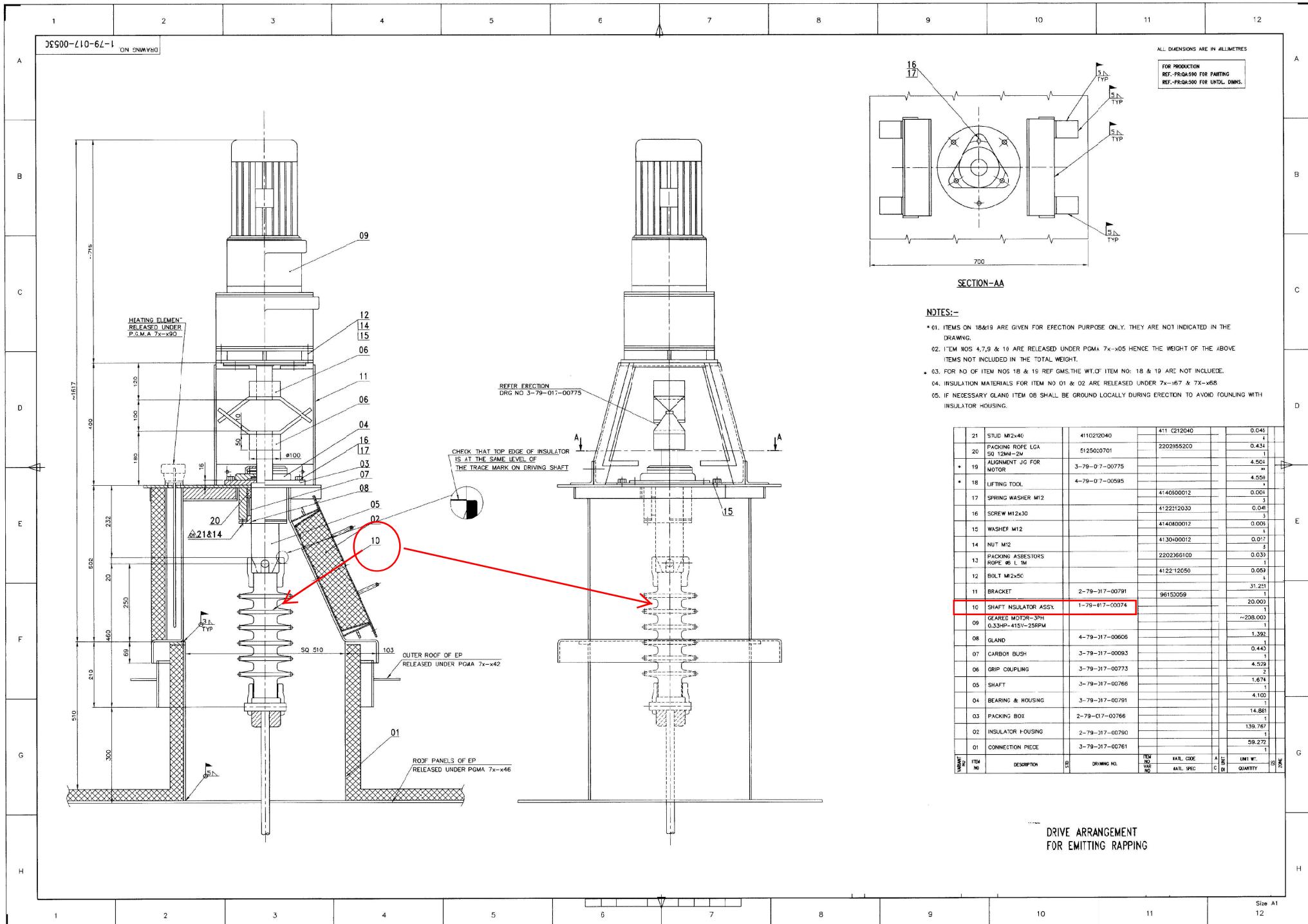


SET Include: 1 Suspension Rod + 2 Nos M46 NUT on it

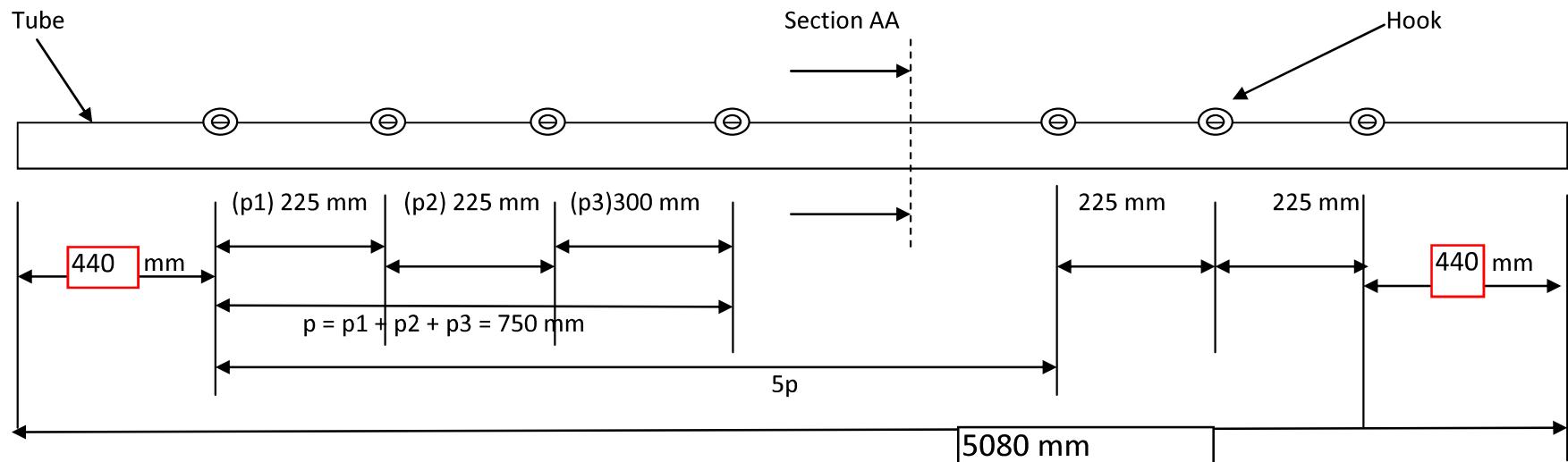
MATERIAL CODE: 710803028

M.O.C.: IS 2062

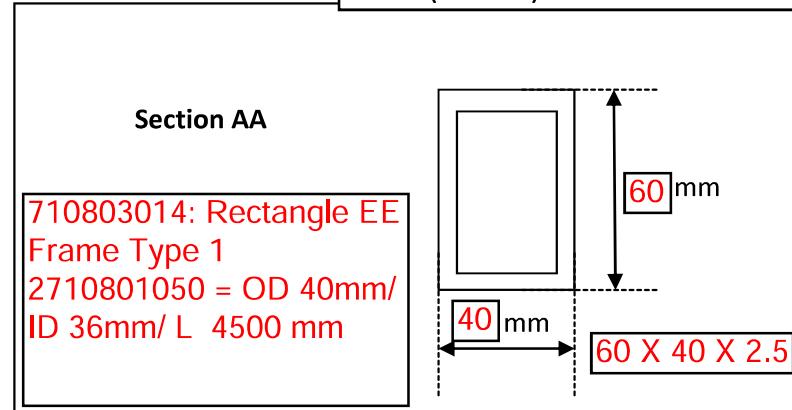
EMITTING FRAME SUSPENSION BOLT/ROD WITH NUT



Material code: 710803014, 2710801050



$$440 + (5 \times 750) + 225 + 225 + 440 = 5080 \text{ mm}$$



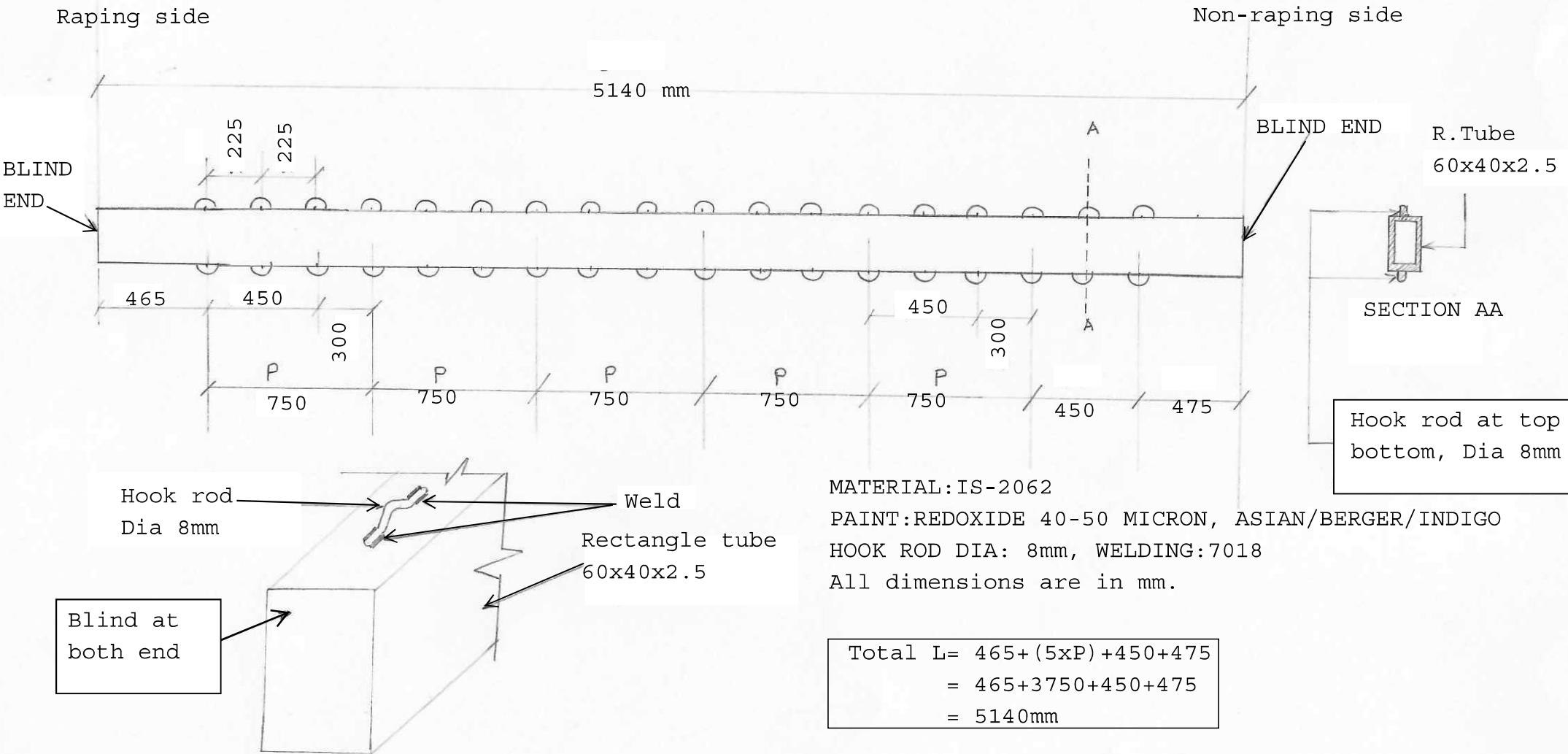
THICKNESS : 2.5 MM  
MATERIAL: IS-2062  
ALL MATERIAL TO BE  
PAINT WITH  
REDOXIDE PAINT OF  
40-50 MICRON  
PAINT : ASIAN PAINT/  
BERGER/INDIGO  
HOOK ROD DIA : 8MM  
HOOK WELDING :7018

Material Code	Description	Detail
710803014	RECTANGLE TUBE FOR EE HOOKING FRAME Type-1	SINGLE SIDE HOOK
2710801050	Emitting electrode Sub Frame Vertical pipe OD 40 mm / ID 36 mm / L 4500 mm	

ANNEXURE

MATERIAL CODE: 710803015 RECTANGLE TUBE FOR EE HOOKING FRAME Type-2 (both side hook)

Raping side



**Material code: 710801011: GRIP COUPLING**

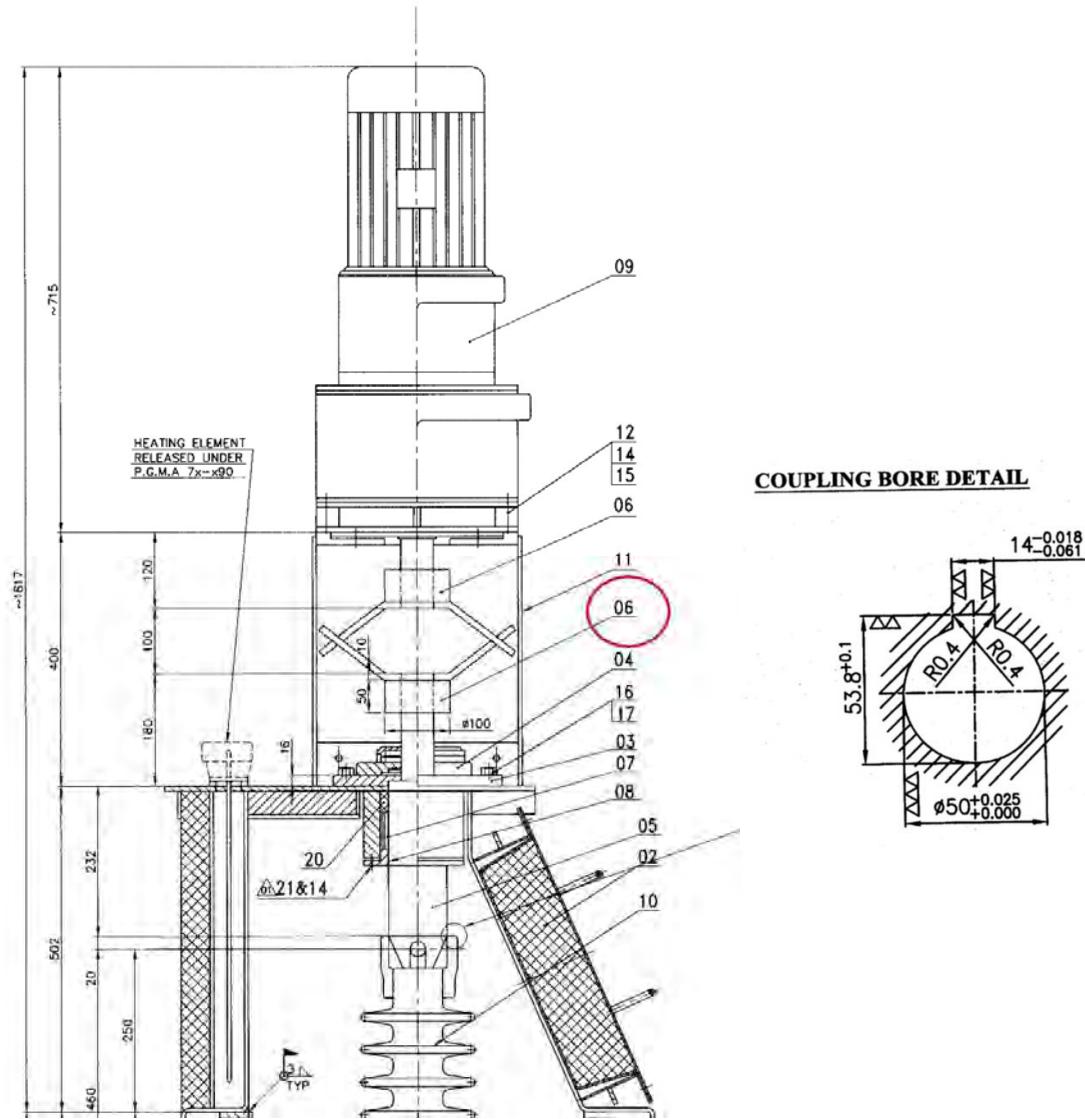
**TECHNICAL ANNEXURE**

Grip Coupling suitable

- (i) to Gear motor shaft dia. [(OD50) + key (14 x 9)] &
- (ii) to Vertical end shaft [(OD50 + key 14mm x 9mm)] before shaft insulator.

**Refer item No. 06 of drawing "DRIVE ARRANGEMENT FOR EMITTING RAPPING" (Red Marked)**

**MOC: IS 2062**



**DRIVE ARRANGEMENT FOR EMITTING RAPPING**

REMOVAL OF THE WEDGE

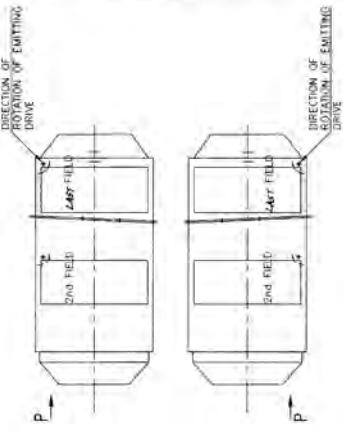
07. DO NOT INTERCHANGE THE UPPER AND LOWER  
08. ITEM 01 IS ERCTION TOOL FOR ALIGNING THE  
09. DURING ASSEMBLY OF VERTICAL DRIVE SHAFT ASSY IT IS  
01 ITEM TO BE POSITIONED IN SAME LOCATION  
HAMMER AT THE SAME TIME.

10. LEVEL OF PLATE BEARING TO BE ENSURED BY WAX  
11. THIS DRG FOR SECOND FIELD ONWARDS ONLY

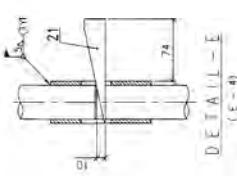
141. FIELD  
12. ITEMS & QUANTITY GIVEN FOR ONE EMITTING FRAG

\* 13. ITEM RELEASED IN PIMA 7X-16

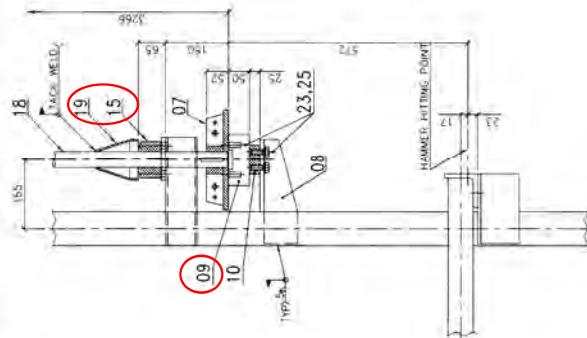
FRONT VIEW KEY DIAGRAM FOR EMITTING RAPPING SYSTEM



DATA - X

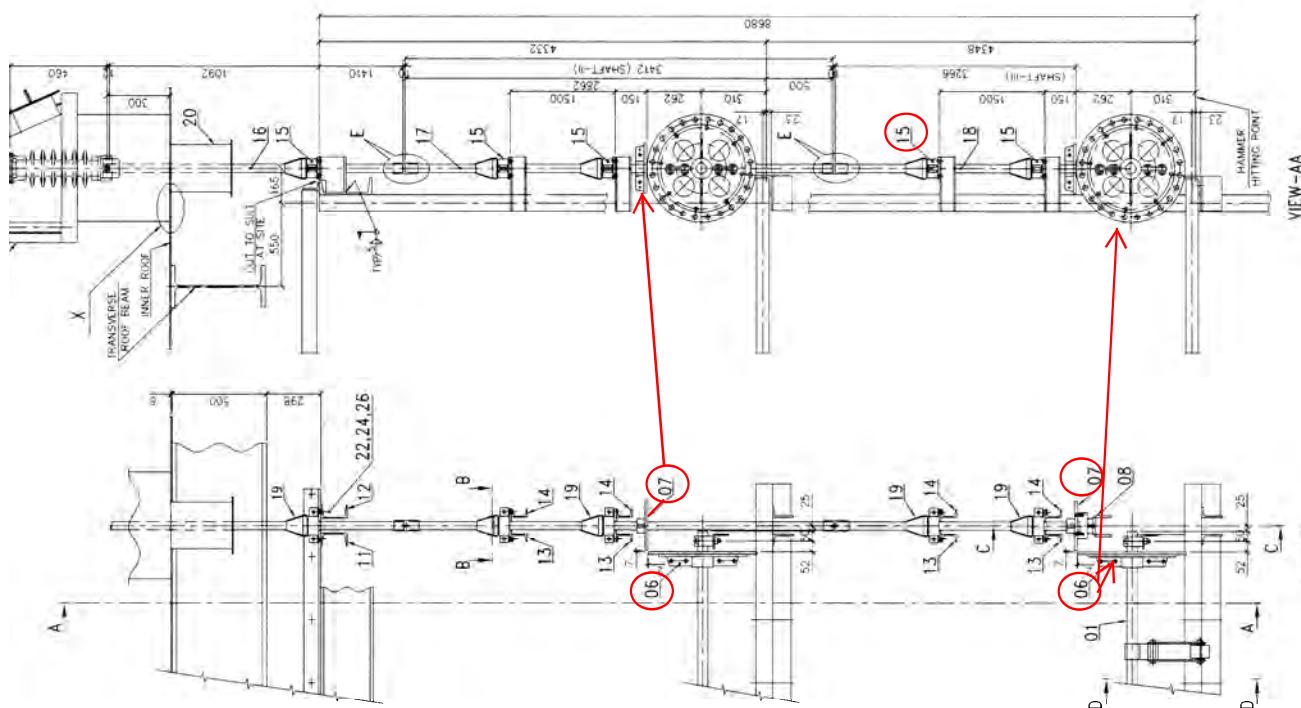


PLAN VIEW KEY DIAGRAM FOR EMITTING RAPPING SYSTEM



SECTION - C C

REF#	DATE	ALTERED
Z045		CHEKED



**Material Suitable for**

<b>Refer Item Number in drawing</b>	<b>Description</b>	<b>MOC</b>	<b>GIPCL Material Code</b>
06	PIN WHEEL DRG. 1-79-016-00050/04 FOR ERM (Big) : Driven	IS 2062	710801015
07	PIN WHEEL DRG. 1-79-016-00051/07 FOR ERM (small): Drive	IS 2062	710801016
09	THRUST BRGS DRG 61720068 FOR ERM: Thrust bearing with 3 M12 Female thread holes with Thrust pad x 1 No. with 2 M12 Female thread holes	EN8	710801017
15,19	EE VT SHAFT'S BUSH BRG WITH CAGE/CANOPY	Bearing-EN8 Canopy: IS 2062	710803003

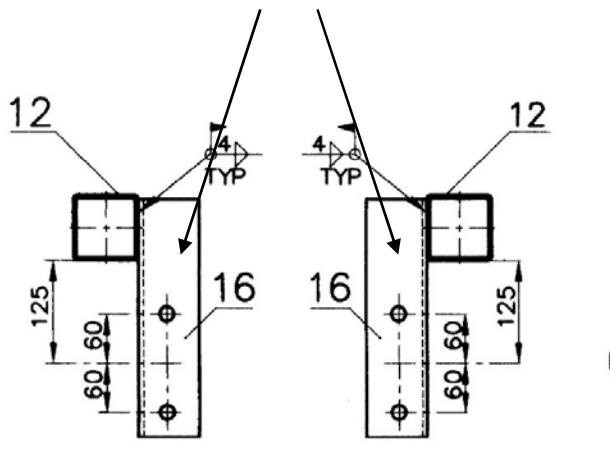
**Material code: 710803017 Plain Bearing with support Angle 75 x 75 x 6, L290**

**TECHNICAL ANNEXURE**

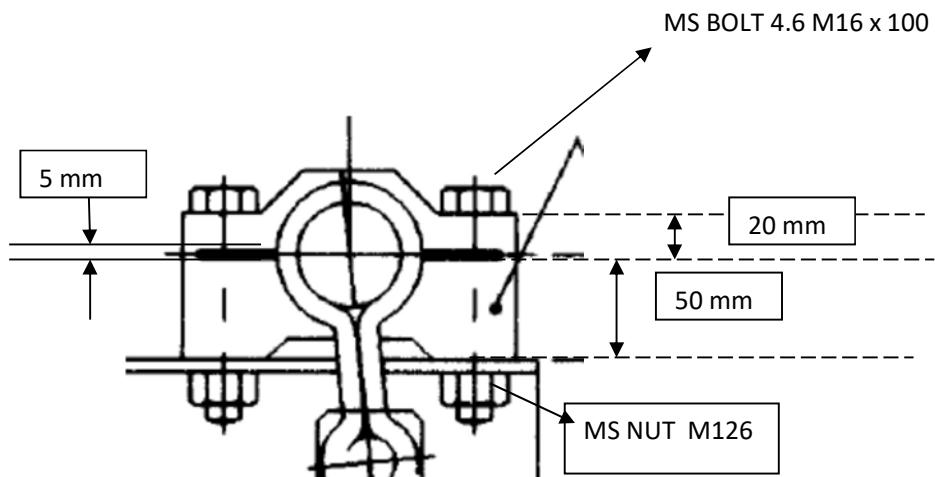
**SCOPE OF SUPPLY**

710803017: It include **Plain Bearing** with **support Angle 75 x 75 x 6, L290** with 2 x D18 Hole for fixing Plain Bearing, 1<sup>st</sup> Hole at 145 mm & 2<sup>nd</sup> Hole at 265mm on both face of Angle for orientation flexibility **along with** Fastener HEX. HT nut- bolt M16 x 100 (2 nos) & seam 0.63, 1.60 & 2.00 of 60 x 160 mm<sup>2</sup>. Holes of angle to be match with Plain bearing. Item No 12 : 80mm x 80 mm box ( Only for understanding of dimension )

Support Angle 75 x 75 x 6, L290 (**MOC: MS IS-2062**)



SECTION-DD      SECTION-D'D'



Including mentioned size shim & Fasteners as per description

**Plain Bearing (MOC: MS IS- 2062)**

## TECHNICAL ANNEXURE for

### 1. Material code: 710801072: GD screen sheet-I at ESP inlet: Total 25 set

- 1 Set = 7 nos (piece of vertical length 1500 mm & 490 mm width)
- GD screen sheet-1 at ESP inlet complete vertical screen sheet length approx. 10610 mm
- Each screen sheet set to be supplied with Item No 5 (1- Qty Locking Plate) + 15 Nos (1 Set M16 x 40 Bolt Nut) + Item 16 (Washer A16) & Item S (Support to hang screen sheet from top). Refer Drawing Sheet 1 Section CC
- Profile of GD screen: Refer Drawing Sheet 1 Section GG
- MOC : MS IS 2062
- Thickness of screen sheet : 2.5 mm

### 2. Material code: 710801073: GD screen sheet-II at ESP inlet: Total 25 set

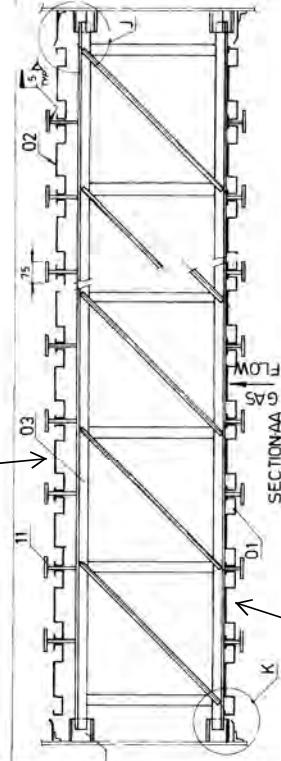
- 1 Set = 7 Nos (piece of vertical length 1500 mm & 490 mm width) + 1 Nos (piece of vertical length 1225 mm & 490 mm width)
- GD screen sheet-2 at ESP inlet complete vertical screen sheet length approx. 11725 mm.
- Each screen sheet set to be supplied with Item No 5 (1- Qty Locking Plate) + 15 Nos (1 Set M16 x 40 Bolt Nut) + Item 16 (Washer A16) & Item S (Support to hang screen sheet from top). Refer Drawing Sheet 1 Section CC
- MOC : MS IS 2062
- Thickness of screen sheet : 2.5 mm

NOTE:

01. OPENING FOR INSPECTION DOOR TO BE CUT AT SITE SIZE 490 X 810.
02. POSITIONING AND WELDING OF DEFLECTION PLATES TO THE SCREEN SHEET WILL BE DONE AT SITE DURING GAS DISTRIBUTION TEST.

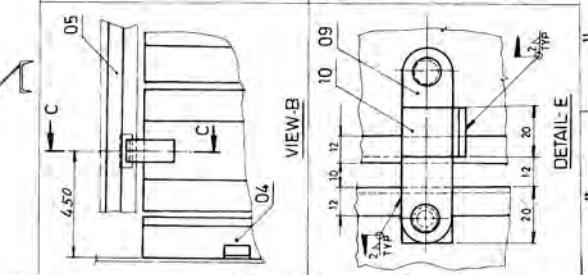
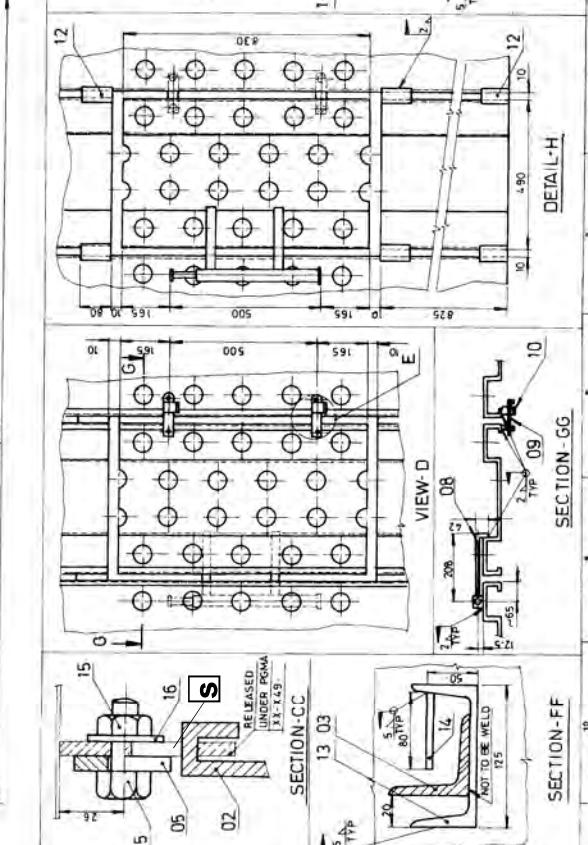
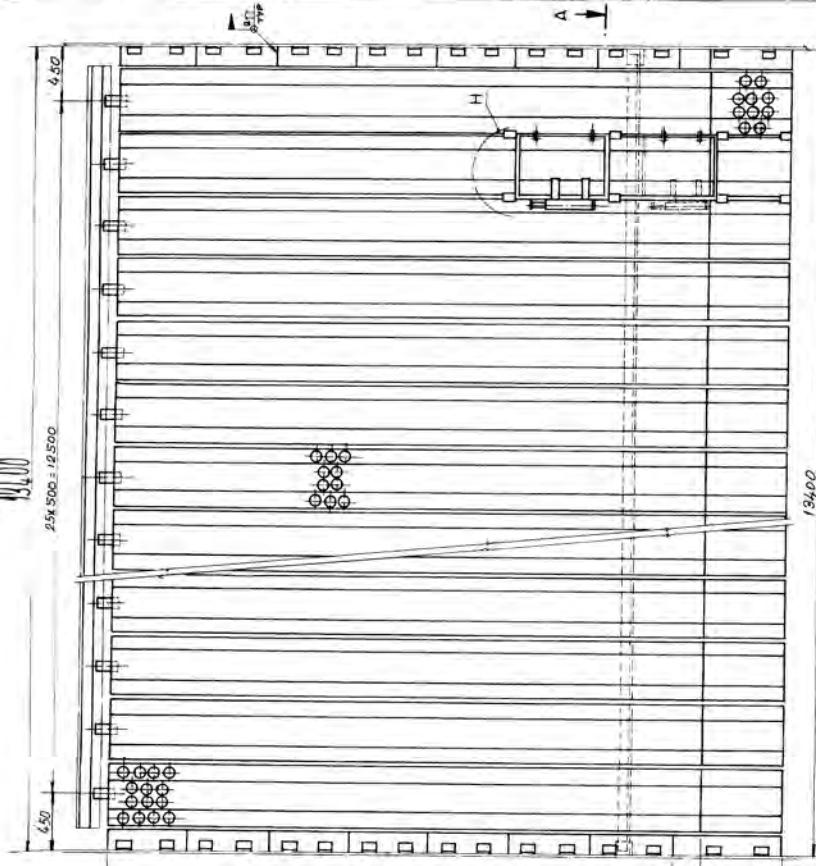
GD screen 2

GD screen 1



ITEM #	DESCRIPTION	QTY	DRAWING NO.	MAN. CODE	UNIT	REV.
17	BRAKING	2	277-208-01969	02	416.08 16000	159 815
16	WASHER A 16				0111	
15	SCREW NUT M15 X 60				0126	
14	PL. 6X10X200				0137	
13	15MC 125 - 100 L				0137	
12	SH 2 X 50 X 60				1 310	
11	F - 50 X 6 - 75				0163	
10	HORN	3	17-308-00072	01	150.00	
09	LOCK	3	17-308-00152		21.16	
08	HINGE	3	17-308-000667		10.50	
07	DEFLECTION PLATE	3	17-208-00574	01	181.5	
06	SUPPORT	3	17-208-00574	02	10.00	
05	LOCKING PLATE	4	17-308-002235		14.00	
04	COVER PLATE	3	17-308-00223		16.31	
03	BRAKING	2	17-208-01969	01	126.50	
02	SCREEN SHEET 11	3	17-208-00284	02	87.26	
01	SCREEN SHEET 11	3	17-208-00284	01	89.22	

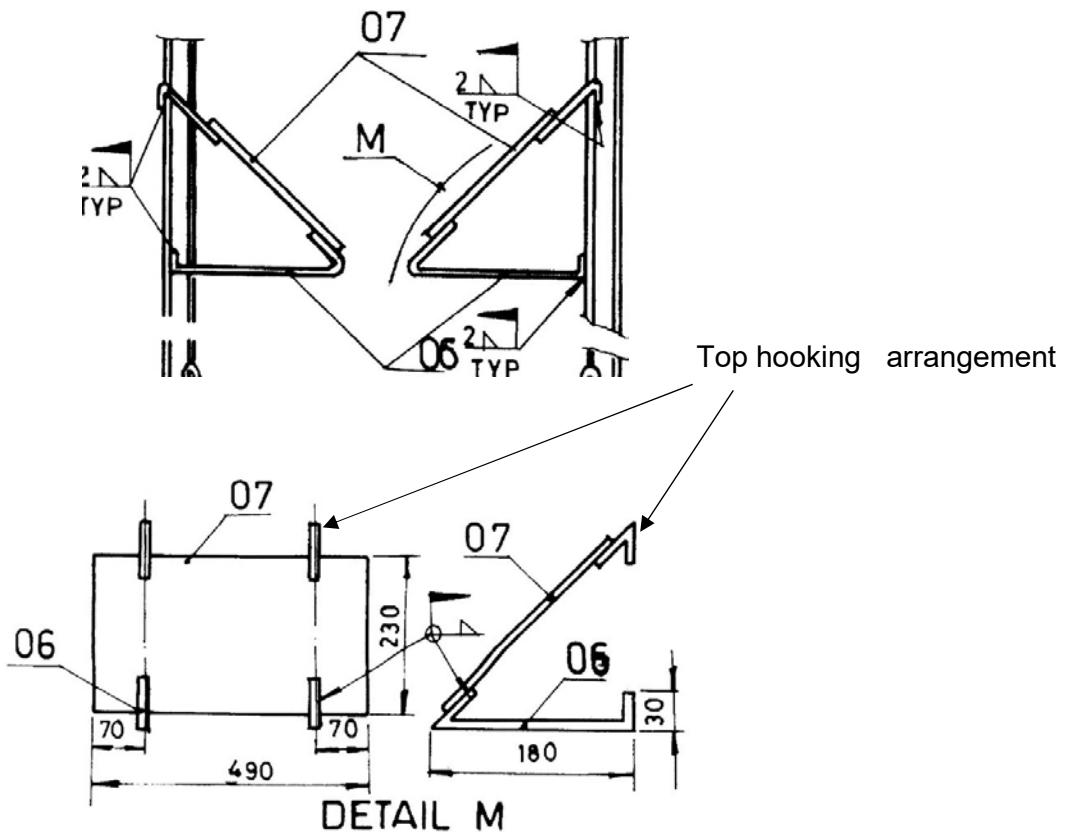
Drawing sheet 1





## TECHNICAL ANNEXURE

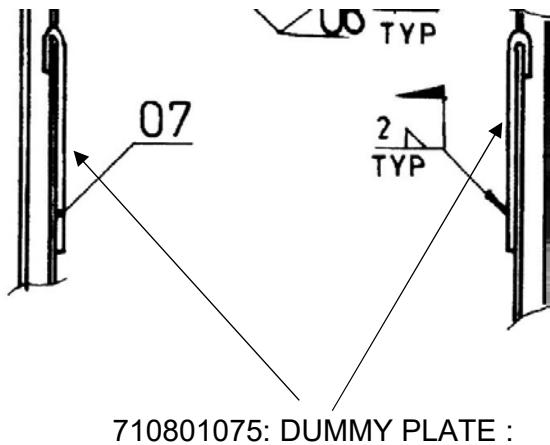
Material Code: 710801075: DIVERGENT PLATE



710801075 : DIVERGENT PLATE: MOC: MS IS 2062 Consist Item 7 (490mm x 230mm x 2.5 mm) + Item 6 + Top hooking arrangement as shown in drawing.

## TECHNICAL ANNEXURE

Material Code: 710801076: DUMMY PLATE



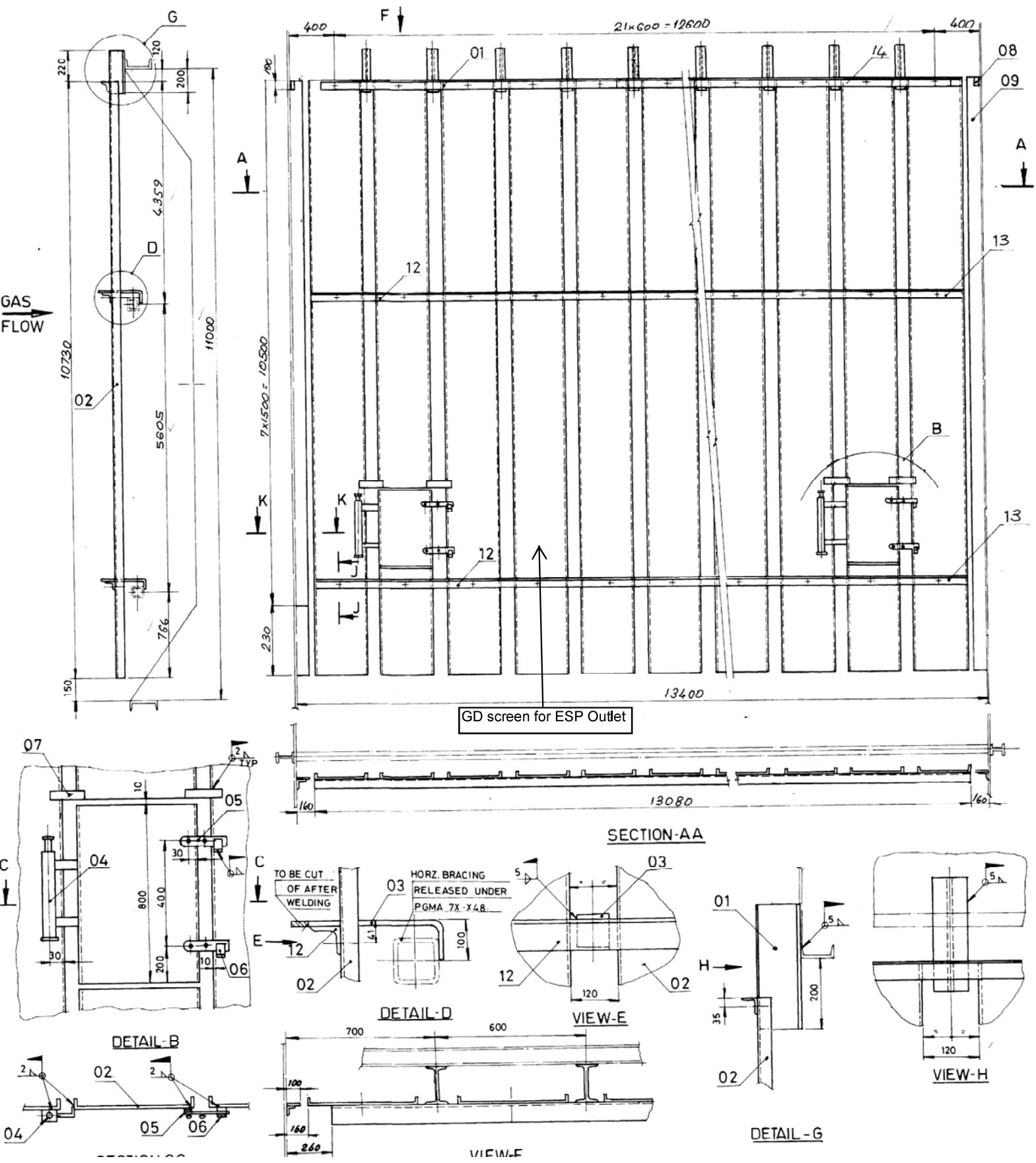
DUMMY PLATE : MOC- MS IS 2062, Consist Item 7 (490mm x 230mm x 2.5 mm) +  
Top hooking arrangement as shown in drawing

## TECHNICAL ANNEXURE

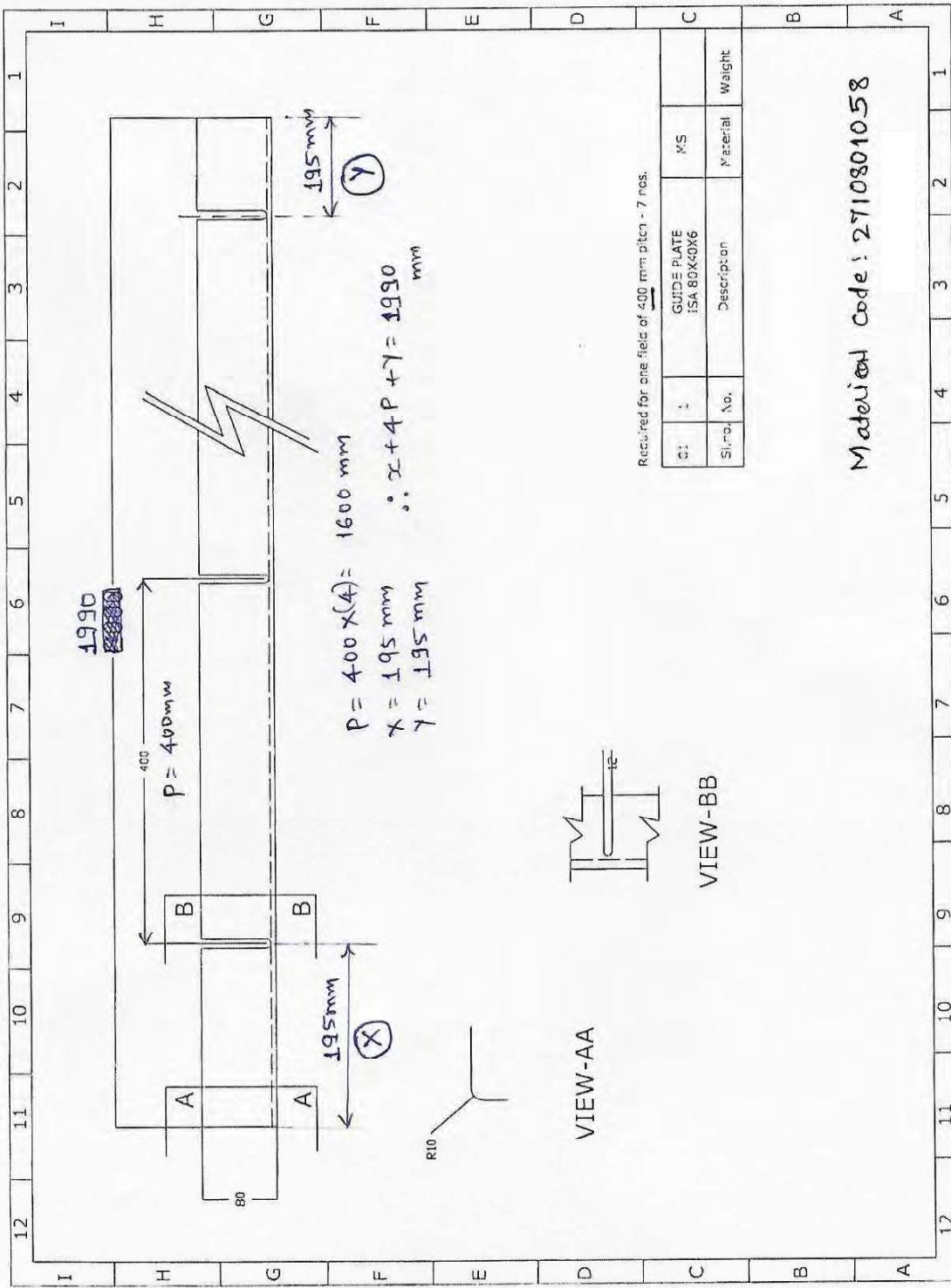
### **Material code: 710807006: GD screen for ESP outlet: Total 25 set**

- 1 Set = 7 nos (piece of vertical length 1500 mm & 490 mm width)
- GD screen sheet-1 at ESP outlet complete vertical screen sheet length approx. 10500 mm
- Profile of GD screen outlet plate: Refer Drawing Section AA
- MOC : MS IS 2062
- Thickness of screen sheet : 2.5 mm

P.T.O



Material Code: 2710801058 - SHOCK BAR TOP GUIDE ANGLE 400mm PITCH



**Material code: 2710802001 - COLLECTING ELECTRODE**

**TECHNICAL ANNEXURE**

Technical specifications for collecting electrode Material code 2710802001  
**FOR ESP TYPE FAA-7x45(45) -132-135-2:**



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- 1) Cross sectional shape for collecting electrode as given in Section N-N:
- 2) Nominal height of Collecting electrode plate: 13560 mm
- 3) Nominal width of collecting electrode: 750 mm
- 4) Material: Carton steel **Grade-A** -As per latest BHEL standard for **collecting electrode for Corten steel**
- 5) Collecting electrode thickness: 1.2 mm (+/- 0.02)
- 6) Surface: shot blasted
- 7) Surface roughness (Ra): 6.3 – 12.5  $\mu\text{m}$
- 8) Flatness tolerance:  $\pm 3$  mm over full length

<b>Chemical Composition (%) of CE (Finished Product)</b>		
<b>Element</b>	<b>Min</b>	<b>Max.</b>
<b>C</b>	0	0.12
<b>Si</b>	0.25	0.75
<b>Mn</b>	0.2	0.5
<b>P</b>	0.07	0.15
<b>S</b>	0.000	0.035
<b>Cr.</b>	0.30	1.25
<b>Cu</b>	0.25	0.55
<b>Ni</b>	0.00	0.65

**Raw steel suppliers are must be of Ms Bhusan Steel / Ms Jindal Steel / Ms Essar Steel / Ms Nippon steel / Ms Tata Steel / Ms SAIL / Ms RINL /Ms VIZAG make.**

- 9) **Surface Preparation:** All collecting electrode plates shall be shot blasted to Sa 2½ grade in accordance with ISO 8501-1 prior to erection/dispatch. The blasting shall be uniform over the entire surface including bends, flanges, and G-profile corrugations.
- 10) **Surface Roughness:** The finished surface roughness shall be in the range of Ra 6.3 to 12.5  $\mu\text{m}$ , measured as per ISO 8503-1.

### **Measurement & Acceptance Criteria for Surface roughness**

- Measuring instrument: Contact type Surface roughness tester (profilometer)
- Standard: ISO 4287 / ISO 8503
- Measurement locations: Minimum 3 readings per plate: One at top, middle, and bottom zone
- Acceptance: Average Ra value to lie within 6.3–12.5  $\mu\text{m}$
- **No single reading below 5.0  $\mu\text{m}$**

### **Functional Requirement**

The specified surface roughness is intended to ensure:

- Adequate dust layer formation
- Effective rapping performance
- Minimum re-entrainment of collected dust
- Reliable long-term ESP performance

### **Fitment:**

1. Each collecting electrode supplied shall be slotted at bottom in such a manner that the same shall fit with the shock bar such as the whole row of collecting electrodes (6 Nos., when installed), and shock bar shall stay mutually aligned with each other.
2. The slots for hooking at top of each collecting electrode shall match the existing / supplied / modified collecting electrode suspension system (CESS) at ESPs of SLPP.

**Deviation:** Any deviation from the above specification shall require prior written approval from GIPCL.

**Material code: 2710801001 DISCHARGE (EMITTING) ELECTRODES**

**TECHNICAL ANNEXURE**

**Technical specification for discharge (emitting) electrode FOR ESP TYPE FAA-7 X  
45 (45)-132-135-2:**

**Discharge (Emitting) electrode:**

- 1.** Type: Spiral with both side hooks
- 2.** Material: Stainless steel UHB 904 L
- 3.** Wire diameter: 2.7 mm dia.
- 4.** Free Shank Length (Straight Portion): 140 mm
- 5.** Projection of wire end beyond tube: Max. 1 mm
- 6.** Mean Diameter: 32 mm
- 7.** Total Turn: 52.5 Nos
- 8.** Crimping quality of tube with wire: No play allowed
- 9.** Surface quality at the free end from crimped end to start of coil: No tool mark is permitted
- 10.** Quality of Coil: Closely and uniformly coiled without any gap
- 11.** Alignment of one end w.r.t. other end:  $30^\circ$  Max.
- 12.** Spring Back Value: 350 mm Min.
- 13.** Retention Value: 20 Kg Min.
- 14.** Initial tension: 1000 gms Max.
- 15.** Tube & Type: OD X ID = 7 mm x 3 mm

<b>Chemical Composition (%) of EE (Finished Product)</b>		
<b>Element</b>	<b>Min</b>	<b>Max.</b>
<b>Mn</b>	0.00	2.0
<b>Cr.</b>	19.00	21.00
<b>Cu</b>	1.20	2.00
<b>Mo</b>	4.00	5.00
<b>Ni</b>	24.00	26.00
<b>Fe (Balance)</b>	48.00	50.00

**Material code: 710801039 RECTANGLE WASHER FOR COLLECTING PLATE**

**TECHNICAL ANNEXURE**

Material required for "fastening of collecting electrodes (CE)" with shock bar during replacement of ESP fields.

MOC: IS 2062

Rectangular washer plate for collecting plate 100 mm L x 70 mm W x 8 mm thick, centre hole of 16 mm

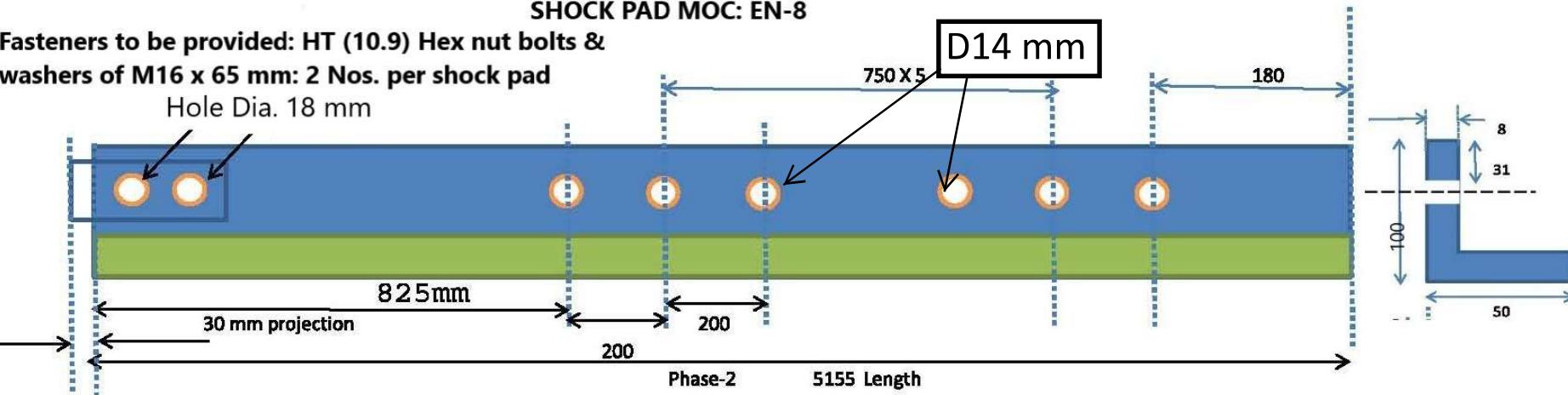
Length	100 mm
Width	70 mm
Thickness	8 mm
Centre Hole	16 mm

SHOCK BAR MOC: IS 2062

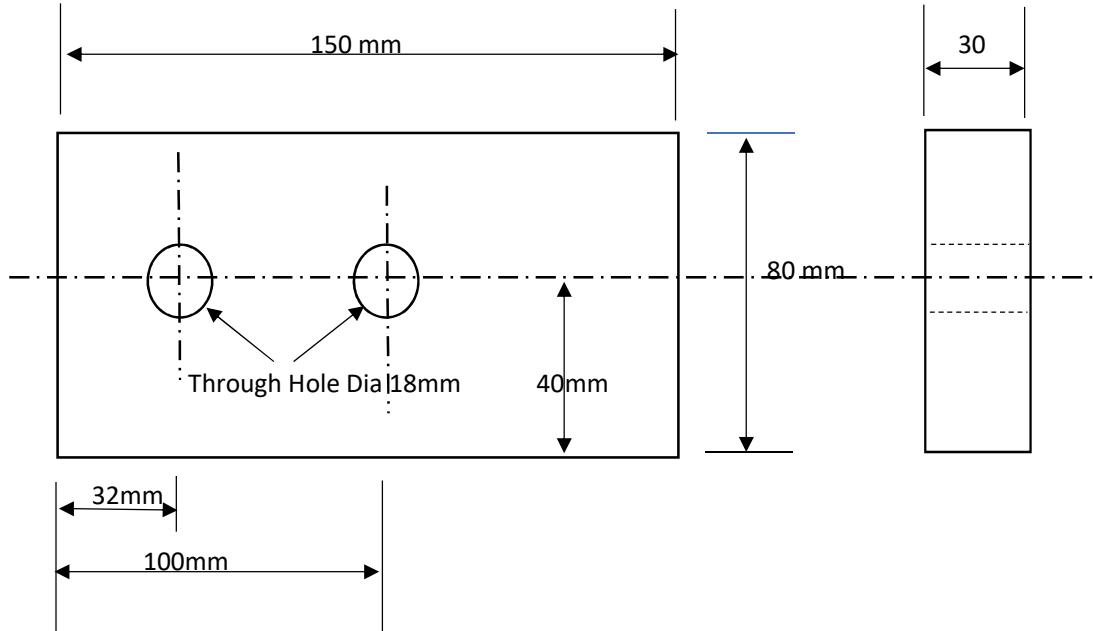
SHOCK PAD MOC: EN-8

Fasteners to be provided: HT (10.9) Hex nut bolts &  
washers of M16 x 65 mm: 2 Nos. per shock pad

Hole Dia. 18 mm



**Material Code: 2710802004 – SHOCKPAD**



**MOC: EN8**

1. Item Description: Shock Pad / Impact Pad
2. Material: EN8 Medium Carbon Steel conforming to BS 970 (or latest revision).  
Equivalent material: C45 (EN 10083) / IS 1570 Gr 2C
3. Chemical Composition (Typical)

Element	% by Weight
Carbon (C)	0.35 – 0.45
Manganese (Mn)	0.60 – 1.00
Silicon (Si)	0.10 – 0.40
Sulphur (S)	Max. 0.05
Phosphorus (P)	Max. 0.05

**4. Mechanical Properties (Normalized Condition)**

Tensile Strength	550 – 700 MPa
Yield Strength	Min. 280 MPa
Elongation	Min. 16 %
Hardness	170 – 210 HB

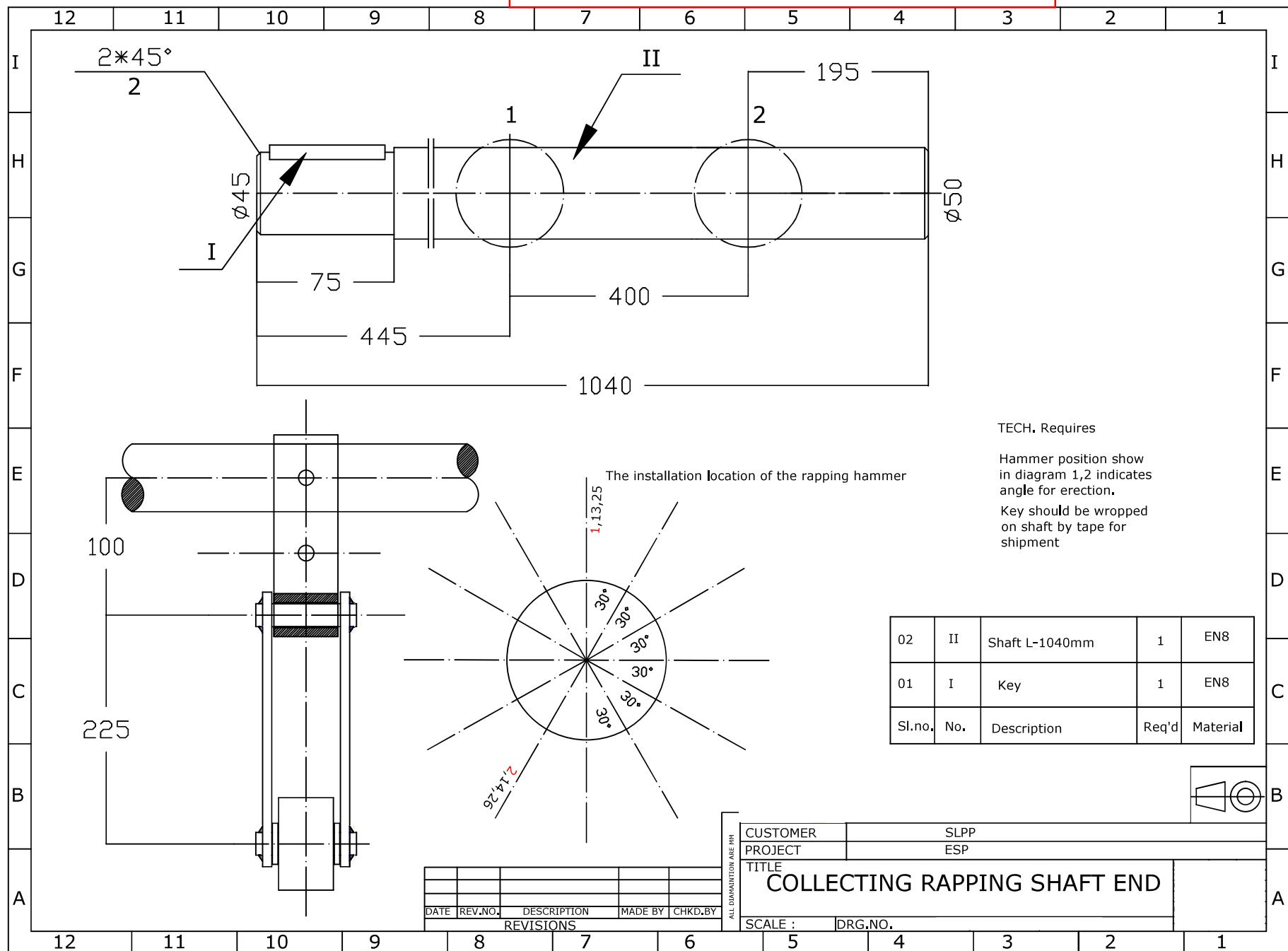
Mechanical properties to be certified by manufacturer.

**5. Supply Condition:**

Material shall be supplied in Normalized condition, free from internal defects, cracks, laminations, or surface flaws.

6. Heat Treatment: Normalizing to be carried out as per relevant standard to achieve uniform grain structure and consistent mechanical properties.
7. Surface Condition:
  - Surface shall be free from scale, rust, oil, grease, and sharp edges.
  - No surface cracks or visible defects permitted.
8. Dimensional Tolerances: As per approved GA / Fabrication Drawing. Flatness and parallelism to be maintained within acceptable machining tolerances.
9. Inspection & Testing:
  - Chemical and mechanical test certificates to be submitted.
  - Hardness testing may be carried out by GIPCL at Government approved laboratory, if required.
  - GIPCL reserves the right to inspect material at manufacturer's works.
10. Each shock pad shall be paint with Asian make/ Berger make Red oxide of DFT 45 micron with standard procedure as per paint supplier.

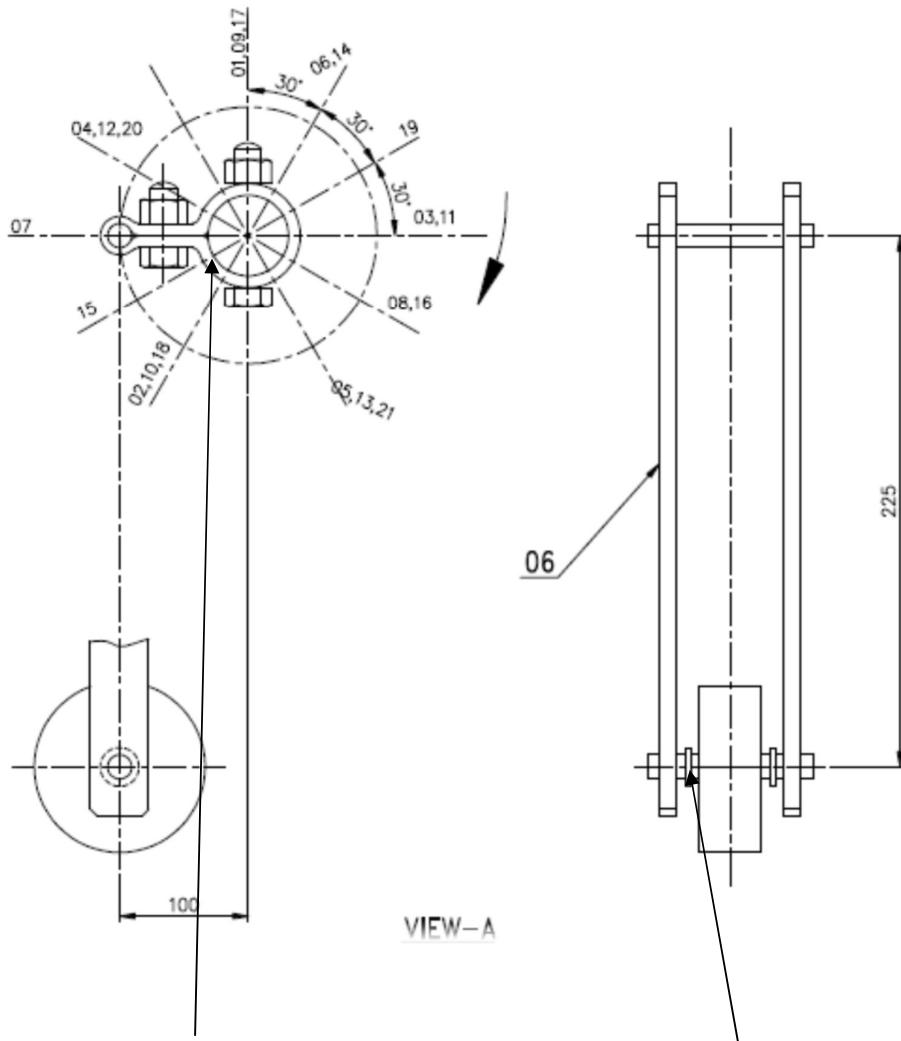
Material Code: **RAPPING SHAFT END FOR CERM**



**TECHNICAL ANNEXURE**

**SCOPE OF SUPPLY & DESCRIPTION**

710802036	OUTER ARM FOR COLLECTING RAPPING
710801006	INNER ARM DRG. 6172003021 FOR ESP
710801005	PLAIN BEARINGS DRG. 61720066 FOR ESP



**710801006: INNER ARM**

**710802036: OUTER ARM**

**710801006:** Inner arm **along with** HT Nut (M16) Bolt (M16 x 100)

**Material:** M.S. (IS 2062)

**Net Specific Weight:** 3.240 KGs

**710802036 :** Outer arm **along with** HT Nut (M16) Bolt (M16 x 100), Hammer Dia 150mm Width 60, Ct. To Ct. distance : 225 mm

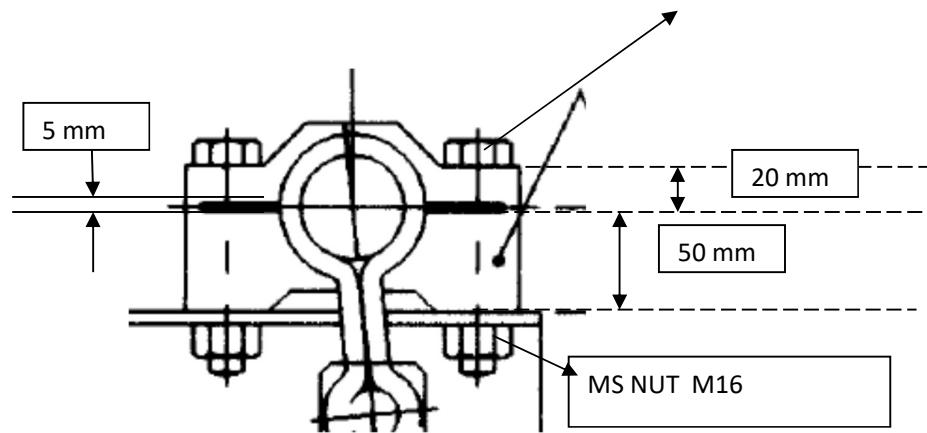
**Material:** M.S. (IS 2062)

**Net Specific Weight:** 8.002 KGs

**710801005 :** Plain Bearing 60 x160 **along with** 2set MS 4.6 Nut-M16 + Bolt-M16x 100 & finished Shim 0.63,1.6,2.0 of 60x 160

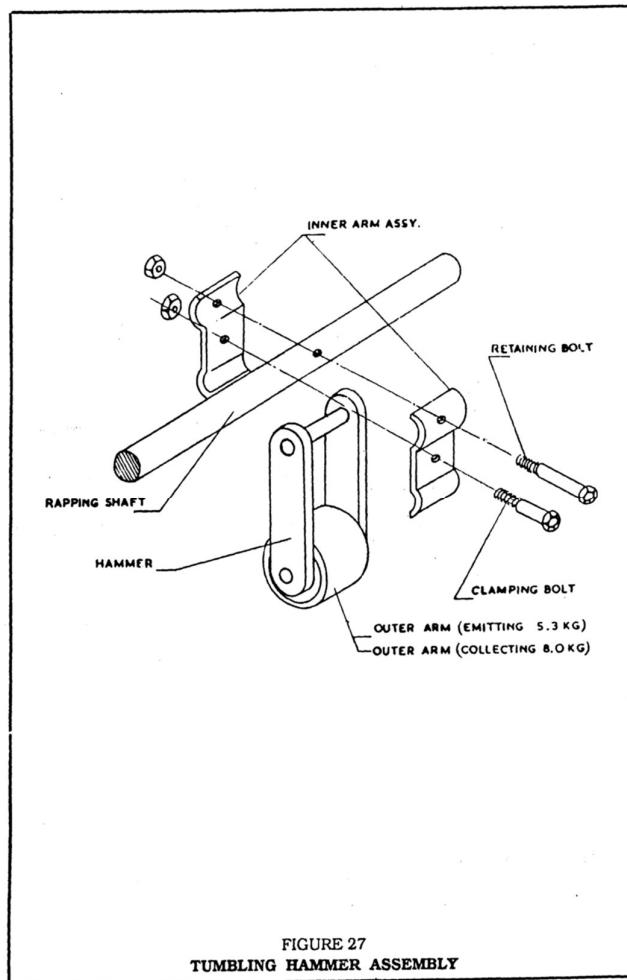
**Material:** M.S. (IS 2062) , **Net Specific Weight:** 3.889 KGs

MS BOLT 4.6 M16 x 100



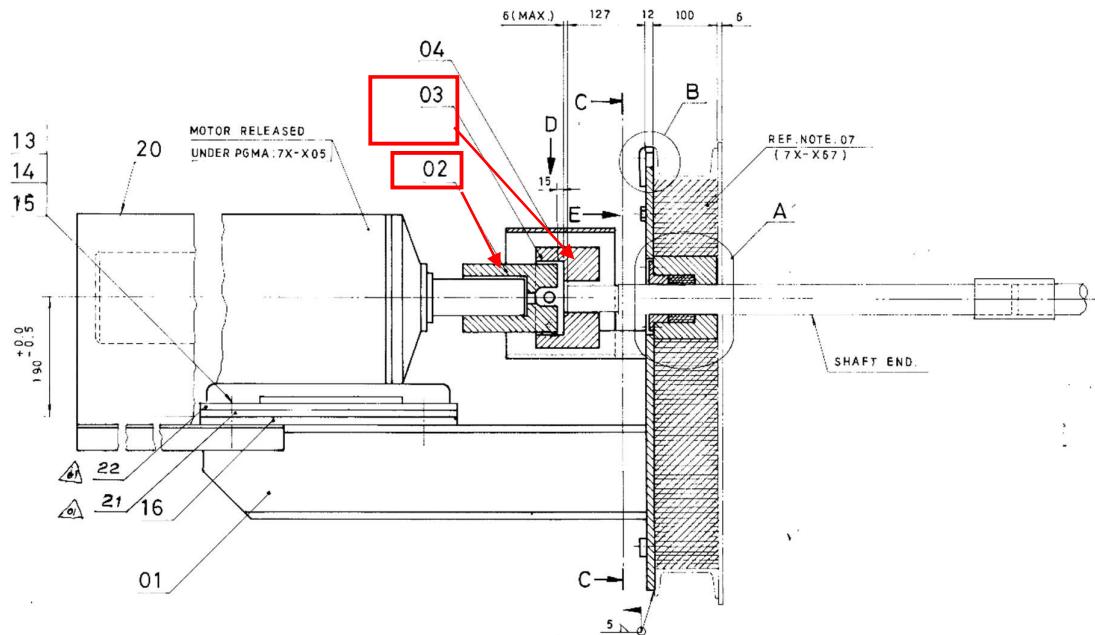
Including mentioned size shim & Fasteners as per description

**710801005: Plain Bearing 60 X 160**



Material Code: 2710802028, 2710802029 - CLUTCH & COUPLING OF CRM SYSTEM

TECHNICAL ANNEXURE

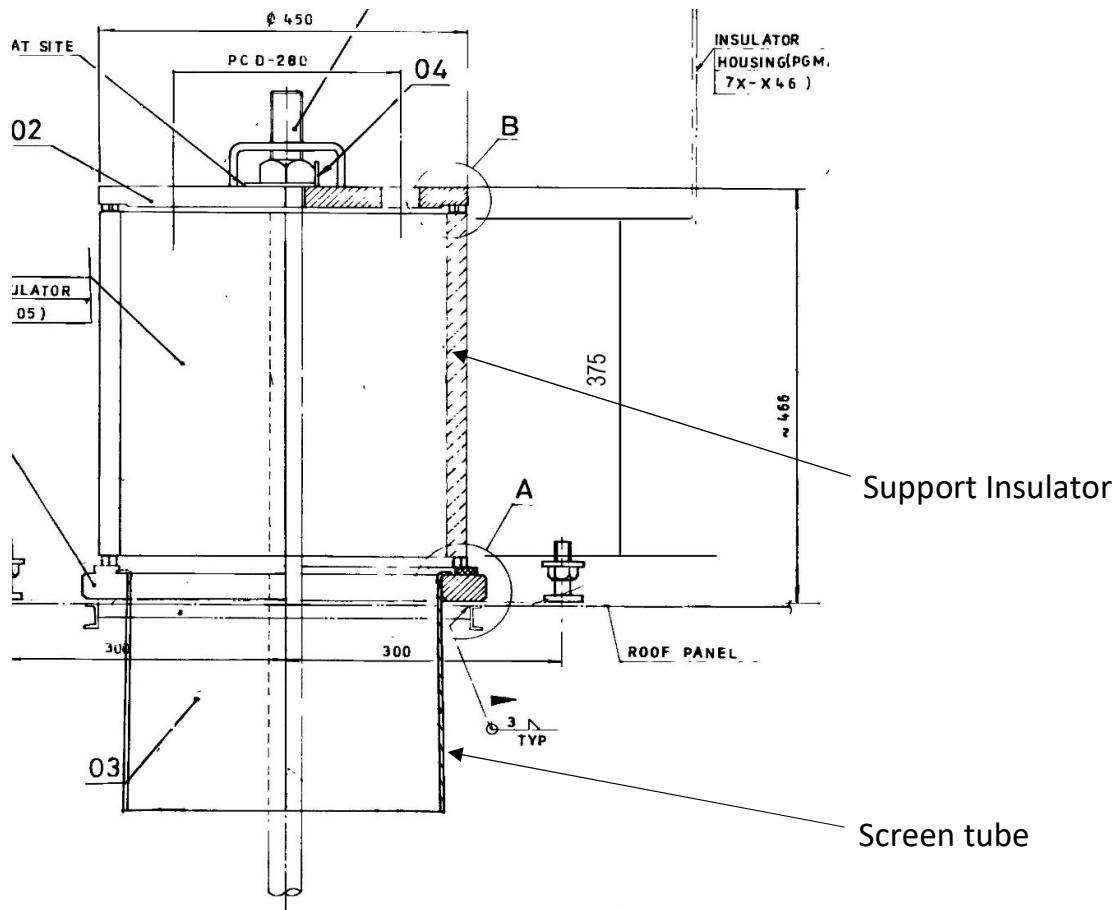


Red Marked	Material Description	Material Code
2	COUPLING FOR 0.33HP MOTOR OF CERM	2710802028
3	CLUTCH FOR SHAFT OF CERM	2710802029

Material Code: 710117002: Support Insulator, 710801033: Screen tube

## TECHNICAL ANNEXURE

Technical specification for Support Insulator FOR ESP TYPE FAA-6 X 45 (45)-126-135-2 & ESP TYPE FAA-7 X 45 (45)-132-135-2:



### 1. SCOPE

- This specification covers the design, manufacture, supply, inspection, testing and quality requirements of **cylindrical support insulators** intended for use in **high-voltage Electrostatic Precipitators (ESP)** for CFBC thermal power plants.
- The insulator shall be suitable for continuous operation under severe electrical, mechanical, thermal and environmental conditions prevailing in ESP installations.

## 2. SERVICE CONDITIONS

Parameter	Requirement
Type of service	ESP application
System Operation voltage	Up to 90 kV–110 kV DC (ESP operation)
Ambient temperature	Up to 55 °C
Operating temperature	250 to 350 °C
Atmosphere	Dust-laden, corrosive flue gases
Duty	Continuous

## 3. DESIGN & CONSTRUCTION

### 3.1 Type

Cylindrical porcelain support insulator, vertically mounted, designed to support ESP electrode system and electrically isolate it from grounded structure.

### 3.2 Support Insulator Material

- High alumina porcelain / ceramic with **minimum 52 % Al<sub>2</sub>O<sub>3</sub>** content.
- Homogeneous, dense, non-porous structure
- Compressive strength  $\geq$  500kN,

### 3.3 Surface Glaze

- Smooth, uniform, vitrified glaze at both internal and external surface of the insulator.
- Colour: Brown
- Glaze shall be free from cracks, pinholes, blisters and crawling
- Glaze shall be resistant to acidic and alkaline flue gas constituents
- Glazed (white or brown)
- 

### 3.4 End Faces

- End faces shall be flat and parallel and finely-ground.

## 5. QUALITY REQUIREMENTS

- Porosity shall be minimal; water absorption shall be within permissible limits
- No visible cracks, laminations, cavities or inclusions
- Uniform glaze thickness and finish

## 6. TESTING & INSPECTION

### 1. Routine Tests (100%)

- Visual inspection P.T.O.

- Dimensional verification
- Power frequency withstand test

## **2. Type / Sample Tests**

- DC voltage withstand test
- Thermal shock / temperature cycling test
- Porosity / water absorption test
- Mechanical compressive load test
- Glaze adhesion test

## **3. Acceptance Criteria**

- No flashover, puncture or visible damage
- No mechanical failure or glaze cracking

Test certificates shall be submitted by vendor.

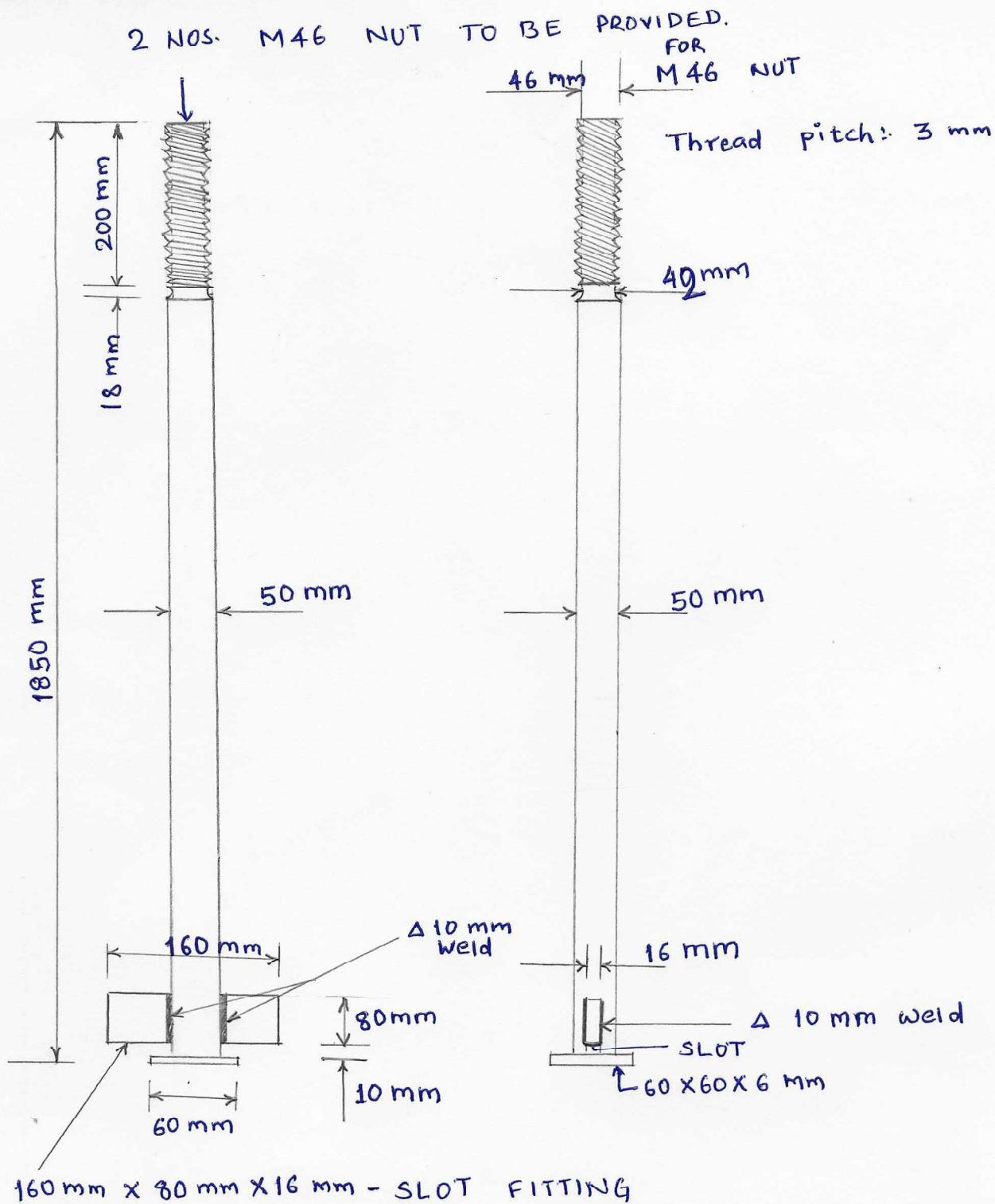
## **7. INSPECTION**

GIPCL reserves the right to inspect the insulators at manufacturer's works during any stage of manufacture and testing.

## **8. DOCUMENTATION**

The following documents shall be submitted:

- Dimensional drawings
- Material test certificates
- Routine and type test reports



SET Include: 1 Suspension Rod + 2 Nos M46 NUT on it

MATERIAL CODE: 710803028

M.O.C.: IS 2062

EMITTING FRAME SUSPENSION BOLT/ROD WITH NUT