

TENDER TERMS AND CONDITIONS
Supply of FASTENERS
[Enquiry No. 2122-009E, Dt. 06.05.2021 Due date 18.05.2021]

Tender Enquiry No	2122-009E
Enquiry date	Dt. 06.05.2021
Last time and date of tender submission	14:00 Dt. 18.05.2021
Tender opening time and date	15:00 Dt. 18.05.2021
Quotation Parts	Two-part
Item Description	FASTENERS
Delivery schedule (In days)	Within 60 days from PO date
Validity of offer (In days)	60 days from date of tender opening
Counter Offer	No counter offer is applicable in this tender
Quantity Variation	+/-10% may be acceptable with prior consent of BHEL in writing
Documents required along with supply of material	
Test Certificate and other Quality related documents	Required as per BPS/IS /TDCs/Drawings mentioned in list of items

Reverse auction will not be conducted in this tender. The Items are reserved for MSEs (micro and small). Order will be released only after receiving of required MSE documents UDYAM certificate. There is no counter offer in this tender enquiry. Rates quoted should be F.O.R. BHEL Goindwal basis. The offers quoted on other than F.O.R Goindwal basis will be rejected.

Quotation Submission

This tender is through e-procurement mode for supply of “Fasteners” as per specifications mentioned in below tender terms. Please ignore clause no. G1.2 in “General Contract Conditions (GCC) of MM tenders”, regarding instructions to bidder for submission of offer for e-procurement tender. Interested bidders / suppliers shall submit their offer through e-procurement mode at <https://eprocurebhel.co.in/>. Offers in any other mode will not be accepted. In case of any difficulty faced while registering on BHEL’s e-Procurement portal developed by NIC, queries may be addressed to 0120-4001002, 0120-4001005 and 0120-6277787; email: support-eproc@nic.in. These details are also available on ‘Contact Us’ page of the portal.

PRE-qualification Terms

Bidders should primarily be engaged in *manufacturing of fasteners* (Bolts/studs). BHEL may carry out evaluation of bidder’s capability. BHEL reserves the right to accept / reject any offer based on evaluation of bidder’s capability. For verification of data presented for pre-qualification bid, BHEL may decide to visit the bidder(s) works. Any fact found deviating from bids during evaluation shall make the bidder liable to be dis-qualified. **“Vendor has to submit one or more purchase orders of Bolts/studs with minimum cumulative value of Rs.4,00,000.00 (four lakh Only) as proof. PO date should be 01.05.2018 or afterwards”.**

Special Tender Terms

1. SCOPE OF SUPPLY:

Material shall be supplied as per the applicable latest Technical Delivery Conditions (TDC)/ Material Standard requirements/BPS/Drawing and other requirement as given in the Purchase Order/list of items. National & International material Standards shall have to be arranged by vendors themselves. The bidders has to arrange latest applicable IS standards by their own. **Comparison of rates quoted by vendors shall be done as per column A (L1 Comparison will be done as). Wherever unit of comparison is set, the quotation where bidders have quoted for both Studs and nuts (i.e. both items of set) shall only be considered. The material should be supply in assembled condition wherever unit of L1 Comparison is set. Wherever unit of L1 Comparison is no (number), the comparison will be done no (number) wise only.**

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Material shall be offered to third party inspection (TPI). The material shall be dispatched by vendor only after dispatch clearance from BHEL IVP (based on TPI report). TPI inspection charges will be borne by BHEL. The vendor has to arrange their own gauges for inspection.

Note that these Items are reserved for MSEs. Order will be released only after receiving of required MSE document UDYAM certificate.

Please take special attention of material type as stainless steel and class of fasteners in item Sl. No 1 to 20 and quote prices accordingly. For detail technical requirement please check applicable drawing/TDC/BPS/IS standard as mentioned in list of items.

2. LIST OF ITEMS:

Following items are there in this tender enquiry: -

Sl. No.	MATL_NO	DESCRIPTION	Material type	Drawings/Standard	Qty in No.	L1 Comparison will be done as (A)
1	964659380000	FT STUD-1-1/8"-8UN-2A-220-B8M	Stainless steel	3VF93323248/00	22	Set
2	964656530000	HEX NUT-1.1/8"-8UN-2B-GR.8M	Stainless steel	3V000623249/00	44	
3	964658940000	FT STUD-M33x3.5x220 -B8M	Stainless steel	3V000825897/01	40	Set
4	964658970000	NUT -M33x3.5 - 8M	Stainless steel	4V000627368/00	80	
5	964658930000	FT STUD-M24x3x150 -B8M	Stainless steel	3V000725897/01	100	Set
6	964658960000	NUT -M24x3 - 8M	Stainless steel	4V000727368/00	200	
7	964656410000	FT STUD-7/8"-9UNC-2A-150-B8M	Stainless steel	3V000723248/01	3600	Set
8	964656510000	HEX NUT-7/8"-9UNC-2B-GR.8M	Stainless steel	3V000423249/00	7200	
9	964656400000	FT STUD-3/4"-10UNC-2A-133-B8M	Stainless steel	3V000623248/01	900	Set
10	964656500000	HEX NUT-3/4"-10UNC-2B-GR.8M	Stainless steel	3V000323249/00	1800	
11	964656390000	FT STUD-3/4"-10UNC-2A-120-B8M	Stainless steel	3V000523248/01	2650	Set
12	964656500000	HEX NUT-3/4"-10UNC-2B-GR.8M	Stainless steel	3V000323249/00	5300	
13	964658950000	EYE BOLT M24X195X60-B8M	Stainless steel	3V000135002/01	6	Set
14	964658960000	NUT -M24x3 - 8M	Stainless steel	4V000727368/00	6	
15	964656440000	FT STUD-1"-8UNC-2A-170-B8M	Stainless steel	3V001023248/01	100	Set
16	964656520000	HEX NUT-1"-8UNC-2B-GR.8M	Stainless steel	3V000523249/00	200	
17	964656380000	FT STUD-5/8"-11UNC-2A-118-B8M	Stainless steel	3V000423248/01	2000	Set
18	964656490000	HEX NUT-5/8"-11UNC-2B-GR.8M	Stainless steel	3V000223249/00	4000	
19	964657710000	EYE BOLT-5/8"x90 -B8M	Stainless steel	3V000625684/00	50	Set
20	964656490000	HEX NUT-5/8"-11UNC-2B-GR.8M	Stainless steel	3V000223249/00	50	
21	412381006000	HEX HD SCRU-M10x60 -8.8-IS1364P2		SPECN IS-1364(P-2), BPS 41238	2500	no
22	960016940000	GREASE NIPPLE-M 6 -IS4009-P2-A		GREASE NIPPLE AM-6 IS:4009/1981 PART-II TYPE-A.	1000	no
23	415011402500	PL KEY-14x9x25 -IS2048-A		IS2048-A, BPS-41501	200	no
24	960017760000	GREASE NIPPLE-M10x1 -IS4009P2- A		IS4009P2- A	500	no
25	412381296500	HEX HD SCRU-M12x65 -8.8-IS1364		SPECN IS-1364(P-2), BPS 41238	800	no
26	964650030000	BOLT-M24x75 -B7-0016		3V001620728/00	60	no
27	411179620500	FT STUD-M16x205 -B7-CAD		BPS 41117	120	Set
28	413020001600	THIN NUT-M16 -CL5-IS1364P4		SPECN IS-1364(P-4), BPS 41302	240	

Note- The L1 evaluation will be done as per Set wise or no wise as per unit of L1 Comparison mentioned in column A of above table, so please take special attention while quoting prices in Part-II (BOQ).

3. PACKAGING & SUPPLY

All material has to be dispatched in packing boxes only i.e. wooden or carton or cardboards with material code, description, grade and quantity. Preferable is to supply no of packing boxes with small quantities e.g. if 500 Bolts are to be supplied then it may be supplied in 10 boxes containing 50Pcs. Box must have TAG containing Purchase Order No., Material Code, Material Description (as mentioned in PO) along with Unit weight of each item and Total weight of Box and Total Quantity in Box. No cost for these boxes will be given separately and must be included in prices only.

It should be noted that where Bolts/Studs are mentioned in sets with Nuts, Supply must be done in sets and in assembled condition only otherwise BHEL can reject the material. Gate receipt will be given to transporter if Test Certificates and Invoices with proper material identification are supplied.

4. VALIDITY OF OFFERS AND CONTRACT:

The offers shall be kept open for acceptance for **60 days** from the date of opening of the tender. In case of extension of tender opening date, the validity shall be suitably revised.

5. DELIVERY SCHEDULE:

The material shall be supplied within 60 days from the date of purchase order. If supplier fails to supply items within PO delivery date, BHEL reserves the right to cancel the PO and risk purchase will be initiated against failed supplier as per BHEL risk purchase guidelines. Vendor shall be required to complete the order as per the BHEL schedule requested.

6. PREFERENCE TO MAKE IN INDIA

This procurement shall be governed by notification no. P-45021/2/2017-PP (BE-II) dated 16.09.2020 of Government of India issued by DPIIT and subsequent circulars issued afterwards. Accordingly, the minimum local content, the margin of purchase preference and the procedure for purchase preference to make in India shall be adhered.

7. PREVENTIVE CHECKS TO ELIMINATE SUSPECTED CARTEL FORMATION

The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.

8. RISK PURCHASE CLAUSE:

BHEL at its option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the supplier either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated as per contract delivery terms. The supplier shall be liable for losses, which BHEL may sustain by way of such risk purchases.

The value shall be calculated as follows:

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

A= Value of Balance scope of Supply (*) as per rates of new contract

B= Value of Balance scope of Supply (*) as per rates of old contract being paid to the supplier at the time of termination of contract i.e. inclusive of PVC, if any.

H = Overhead Factor shall be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

* Balance Scope of Supply: Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Supply for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

9. RESTRICTIONS UNDER RULE 144(XI) OF THE GENERAL FINANCIAL RULES (GFRs), 2017

All provisions of Order No. F.No.6/18/2019-PPD of Department of Expenditure (DoE) shall be applicable for this tender enquiry (Order copy is available at <https://doe.gov.in/procurementpolicy-divisions>). Accordingly, any bidder from a country which shares a land border with India (except the countries to which the Govt. of India has extended lines of credit or in which the Govt. of India is engaged in development projects for which list is available at <https://www.mea.gov.in/>) will be eligible to bid in this tender only if the bidder is registered with the Competent Authority as specified in Annex I of the said Order of DoE.

Updated list of the countries to which lines of credit have been extended or in which development projects are undertaken are available on the Ministry of External affairs website (<https://www.mea.gov.in/>)

For the purpose of this order, definition of Bidder from a country which shares a land border with India shall be same as defined in the Annex III of the said order.

Registration with the competent authority as stipulated in the said order is responsibility of bidder. Bidder has to submit a certificate certifying following along with offer:

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that bidder (.... Name of Bidder) is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that bidder (.....Name of bidder) fulfils all requirements in this regard and is eligible to be considered"

If the bidder is from such country which shares a land border with India evidence of valid registration by the Competent Authority shall also be attached along with offer."

These Special terms & conditions and GCC collectively are the part of tender terms and conditions All Special terms will overrule GCC.



General Contract Conditions (GCC) of MM Tenders

BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,
Goindwal Sahib, Dist. Tarn Taran,
Punjab-143422 (INDIA)

TABLE OF CONTENTS

1. INSTRUCTION TO BIDDER.....	2
2. SCOPE OF SUPPLY	2
3. PRICE BASIS.....	3
4. DISCREPANCY IN WORDS AND FIGURES.....	3
5. EVALUATION IN CASE OF MORE THAN ONE L-1 BIDDER	3
6. REVERSE AUCTION.....	4
7. VALIDITY OF OFFERS.....	4
8. SUPPLIED MATERIAL ADJUSTMENT	4
9. DELIVERY SCHEDULE.....	4
10. LIQUIDATED DAMAGES (LD) FOR LATE DELIVERY	4
11. PAYMENT TERMS.....	5
12. TAXES & DUTIES	5
13. LIABILITY UNDER REVERSE CHARGE (RCM)	6
14. ACCESS TO MANUFACTURING PREMISES.....	6
15. INSPECTION	6
16. GUARANTEE / WARRANTEE AND CORRESPONDING REPAIR / REPLACEMENT OF GOODS	7
17. LOI (LETTER OF INTENT).....	7
18. SUB-CONTRACT.....	7
19. RISK PURCHASE	7
20. FORCE MAJEURE	7
21. CLARIFICATIONS.....	8
22. PREFERENCES FOR MICRO AND SMALL ENTERPRISES (MSEs)	8
23. PREFERENCE TO MAKE IN INDIA.....	9
24. DISPUTES.....	9
25. JURISDICTION	9
26. BANNED FIRMS.....	9
27. FRAUD PREVENTION POLICY	9
28. PREVENTIVE CHECKS TO ELIMINATE SUSPECTED CARTEL FORMATION .	10
29. SUSPENSION OF BUSINESS DEALINGS WITH DEFAULTERS	10
30. GENERAL.....	11



1. INSTRUCTION TO BIDDER

Quotations shall be submitted before due date and time. Late offers are liable to be rejected, so please ensure to submit bid well within due date and time. Techno-commercial part will be opened on due date.

Based on evaluation of techno-commercial offers, Price bids of bidders who qualify from techno-commercial evaluation shall be opened. BHEL may decide to open the Price bid same day at 1700 hrs. If not opened on the same day, all qualifying bidders shall be notified for date of opening of Price bids by email/fax/post/courier/E-procurement system generated email.

1.1 Instruction To Bidder (In case of Non-E-Procurement / Paper/ Manual/ Hard Copy based tenders)

Sealed Tenders can be dropped in the tender box labeled as 'Tender box for MM contracts'. This tender box is located at the entrance of Admin block BHEL Goindwal. Fax (01859-222061) / E-Mail (tendermm_ivp@bhel.in) offers received in time shall be considered only when such offers are complete in all respects. In case of bulky tenders, please handover quotation to Sh. Rakesh Kumar/ SDGM - Head-MM or Sh. Sumeet Bansal / Sr. Manager - MM [Contact: 01859 224 615 / 628]. Bid can be send to following address:

**BHEL, Industrial Valve Plant,
#433, Industrial Complex,
Goindwal Sahib, Distt. Tarn Taran,
Punjab-143422.**

1.2 Instruction to bidder (In case of E-Procurement)

1. Interested bidders / suppliers shall submit their offer through e-procurement mode at <https://eprocurebhel.co.in/>.
2. Offers in any other mode will not be accepted.
3. Procedure for Submission of Tender is available in the "Bidder Manual Kit" at E-tender portal <https://eprocurebhel.co.in/> only.
4. In case of any difficulty faced while registering on BHEL's e-Procurement portal developed by NIC, queries may be addressed to 0120-4001002, 0120-4001005 and 0120-6277787; email: support-eproc@nic.in. These details are also available on 'Contact Us' page of the portal.
5. Before uploading scanned documents if any, the bidders shall sign on all the statements, documents, certificates uploaded by him, owning responsibility for their correctness / authenticity.
6. **Disclaimer clause:** Neither the Organization (Bharat Heavy Electricals Ltd.) nor the service provider is responsible for any failure of submission of bids due to failure of internet or other connectivity problems or reasons thereof.

2. SCOPE OF SUPPLY

Material shall be supplied as per the applicable latest Technical Delivery Conditions (TDC)/ Material Standard requirements/BPS/Drawing and other requirement as given in the Tender Enquiry. National & International material Standards shall have to be arranged by vendors themselves. Latest applicable revisions of standards/procedures to be referred.

All required tests as called in referred material standard/BHEL/TDC/drawing etc. shall be carried out by vendor at no extra cost. Material Test Certificates (MTC), inspection reports and Compliance/Guarantee Certificate are to be provided along with the supplies.

3. PRICE BASIS

1. Order of enquiry item sl. no. shall be maintained in the quotation.
2. The rates quoted shall be firm and fixed. No price variation is proposed and allowed.
3. Rates quoted should be F.O.R. Goindwal basis. If bidder has quoted Ex-works, loading shall be done as per BHEL discretion for tender evaluation.

Variation in GST or any other statutory levies during contractual delivery period shall be to BHEL's account.

4. DISCREPANCY IN WORDS AND FIGURES

1. If, in the price structure quoted for the required goods/ services/ works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
2. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
3. If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (a) and (b) above.
4. If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.
5. Bids should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else shall be liable for rejection.
6. All overwriting/cutting, etc will be numbered by bid opening officials and announced during bid opening.

5. EVALUATION IN CASE OF MORE THAN ONE L-1 BIDDER

In the course of evaluation, if more than one bidder happens to occupy L1 status, effective L1 will be decided by soliciting discounts from the respective L1 bidders.

In case more than one bidder happens to occupy the L1 status even after soliciting discounts, the L1 bidder shall be decided by a toss / draw of lots, in the presence of the respective L1 bidder(s) or their representative(s).

Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.

6. REVERSE AUCTION

BHEL will declare in NIT to go for Reverse Auction (RA) or not. If RA is applicable in NIT, then following is to be considered:

BHEL shall be resorting to Reverse Auction (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among all the techno-commercially qualified bidders.

Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.

7. VALIDITY OF OFFERS

The offers shall be kept open for acceptance 'for number of days mentioned in special terms and conditions' from the date of opening of the tender. In case of tender extension, the bid validity shall be considered from the date of tender opening.

8. SUPPLIED MATERIAL ADJUSTMENT

Item/s pending in previous PO has to be billed in previous PO only. Otherwise, BHEL will be free to adjust the supplies in previous PO. Any implication of tax will be on supplier's account. For this it is desirable that vendor should reconcile the pending PO statement every month/frequently with BHEL. Vendor can also view these details at Portal (<https://trichy.bhel.com/mm/index.jsp>).

9. DELIVERY SCHEDULE

Supplies shall be affected and completed as per schedule mentioned in special terms and conditions. **Further, BHEL may release delivery schedule from time to time based upon our requirement with mutual understanding.** Vendor shall be required to complete the order as per the BHEL schedule requested. Commencement of delivery period shall be reckoned from the date of PO / LOI or any other agreed milestone.

10. LIQUIDATED DAMAGES (LD) FOR LATE DELIVERY

Time is the essence of the contract'. As such, delivery of goods specified in the Purchase Orders released under the scope of this contract shall be made within the time limit prescribed therein. Penalty for late delivery will be applicable @0.5% of the undelivered portion per week of the delay or part thereof subject to a maximum of 10% of the undelivered portion.

In case of Ex-works delivery terms for indigenous supplies, the document date (Invoice/Challan date) in Goods Receipt (GR) document shall be reckoned for LD deduction. In case of FOR Delivery terms for Indigenous supplies, the posting date in GR document shall be reckoned for LD deduction.

If any vendor does not accept LD ½% **of the supply for each week of delay subject to a maximum of 5%**, their offer is likely to be rejected by BHEL and the price bid shall not be opened. Bidders accepting for 10% LD shall not be loaded on account of LD. However, bidders who offer any other %

LD [between 5% to 10%] shall be loaded @ % deviation from 10% and their accepted %. e.g. If a bidder accepts for a max of 7% LD only, their offer would be loaded @ 3% ($10 - 7 = 3$).

BHEL reserves the right to receive or not receive the material after the due date of PO. Applicable GST shall also be recovered from suppliers/contractors on LD amount. For this Debit note will be issued by BHEL indicating the respective supply invoice number.

11. PAYMENT TERMS

- Due payment against supplies received shall be due after 30 days of receipt and acceptance of material and shall be paid within next 15 days' period. In case of any deviation from standard payment term mentioned, BHEL at its discretion may load on the item price at "Base rate of SBI (as applicable on the date of bid opening; Techno-commercial bid opening) + 6% shall be considered for loading for the period of relaxation sought by bidders.
- Documents to be submitted (if applicable)
 - Tax invoice (Invoice shall be GST compliant and should contains all the required information such as GST No, HSN code etc.)
 - Transporter copy along with material/consignment.
 - Material Test Certificates (MTC) and
 - Compliance Certificate.
- GST registration number is to be submitted by qualified vendor as per GST law.
- It is mandatory to mention proper material codes in the invoices and separate invoices to be raised for different POs.
- BHEL releases payment through EFT mode ONLY. Necessary details may please be submitted by filling required format before release of payment.**

12. TAXES & DUTIES

Payment of GST portion will be released to vendor only upon completion of statutory requirement and further subject to following:

- Vendor declaring such invoice in his GSTR-1 and
- Receipt of goods and Tax invoice by BHEL and
- Confirmation of payment of GST thereon by vendor on GSTN portal.
- Above is subject to receipt of goods/service and tax invoice thereof along with vendor declaring invoice in his return and paying GST within timeline prescribed for availing ITC by BHEL.

Following may please be noted for availing Input Tax Credit (ITC) by BHEL:

- Since ITC can be availed only when BHEL is in possession of GST Tax invoice and after receipt of goods. Thus, vendor to ensure timely dispatch of goods and Tax invoice. It may be noted that in case of any delay in receipt of Tax Invoice and/or receipt of goods, the ITC availment by BHEL will get delayed thus entailing additional cash outflow & may even get denied if ITC availment timelines are breached.
- Further ITC can be availed only when vendor has declared such invoice in his outward supply Return GSTR-1 and after GST thereon has been paid by him at the time of filing of monthly Return.

3. If GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount shall be recoverable from vendor along with interest levied/leviable on BHEL.
4. Further, in case vendor delays declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law shall be recoverable from vendor/contractor along with interest levied/leviable on BHEL.

13. LIABILITY UNDER REVERSE CHARGE (RCM)

Any GST liability arising on BHEL under Reverse Charge (RCM) before actual receipt of goods and/ or Invoice thereof would be subject to recovery of Interest leviable for the period between the date of such liability and actual date of eligibility of ITC based on receipt of goods, receipt of Invoices and other conditions specified in GST Law as applicable.

14. ACCESS TO MANUFACTURING PREMISES

While Purchase Orders placed on the vendor are under execution, authorized representatives of BHEL shall be allowed free access to the manufacturing facilities for the purpose of inspection or monitoring the progress of purchase orders. This access will also be extended to representatives of BHEL's customers accompanying the authorized representative/s of BHEL (which shall be intimated in advance), if our contractual requirements with our customers call for the same.

15. INSPECTION

1. The seller shall give adequate notice, of 1 week or as mutually agreed period, in writing to the Purchaser about the date and place at which the goods will be ready for inspection/ testing, as provided for in the contract.
2. Purchaser or his authorized representative shall be entitled to carry out inspection of material and workmanship/Surveillance Audit at Seller's premises or at his sub-contractor's premises at all reasonable times during execution of contract; Such inspection, examination and testing, if made, shall not absolve the Seller from his obligations under the contract. No additional charges shall be claimed for such inspections. Moreover, all required infrastructure (testing, tools etc) have to be arranged by supplier.
3. Any inspection carried out before supply by vendor/incoming stage at BHEL notwithstanding, if any defect/non-conformity is noted during processing, the same shall be attended/replaced by vendor at no extra cost.
4. BHEL representative from unit or CQ is authorized to carry out audits along with TPIA at vendor's works before clearing the items for dispatch.
5. Necessary tooling including thread gauges etc. have to be arranged by vendor. Only in exceptional cases, based on BHEL discretions item/nature, BHEL may consider request to provide gauges if available with BHEL. But in no case this shall be linked with delivery of material.

16. GUARANTEE / WARRANTEE AND CORRESPONDING REPAIR / REPLACEMENT OF GOODS

Goods shall comply with the specifications for material, workmanship and performance. Vendor shall give a guarantee / warrantee of 18 months from the date of dispatch or 12 months from date of receipt, against manufacturing defects, whichever is earlier. In case of non-acceptance of this term, bid will be rejected.

If the material is rejected due to defective workmanship during inspection or at the time of actual use, within the guarantee / warrantee period, the rejected material shall be replaced by the supplier. Corresponding quantity shall be treated as unsupplied against respective purchase order till replacement is received at BHEL. If the material is found defective and rejected during use for which payment has already been released the rejected quantity shall be supplied free of cost by the vendor within a month of intimation of the rejection by BHEL.

Lifting of rejected material is under Supplier's scope. BHEL will inform related invoice, quantity etc. to supplier. Supplier is expected to give the plan to lift and advance intimation when visiting to lift the material. Material should be lifted within one month from date of intimation. After one month BHEL will not be responsible for rejected material. BHEL may decide to send the rejected material on to Pay basis to supplier. Any leniency/ unresponsiveness/delay on part of supplier may lead to appropriate action by BHEL. Any request to postpone in written may be considered but replacement should not be linked with lifting of material.

17. LOI (LETTER OF INTENT)

BHEL may issue LOI prior to the PO for any reason whatsoever. The LOI in such cases is to be treated as PO for all practical purposes and all the Terms & Conditions of the tender shall be applicable from the date of issue of LOI.

18. SUB-CONTRACT

The purchase order or any part thereof shall not be sub-contracted, assigned or otherwise transferred without previously obtaining the BHEL's consent in writing.

19. RISK PURCHASE

BHEL shall be entitled to terminate the contract/pending POs at any stage and to purchase elsewhere at the risk and cost of the vendor, either the whole of the goods or any part thereof which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid. Vendor shall be liable for the losses, which BHEL may sustain by way of such risk purchase.

20. FORCE MAJEURE

If at any time during the continuance of the contract, the performance in which or in any part by either party of any obligations under the contract are prevented or delayed by reason of any war, hostilities, acts of public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine restrictions, or acts of God (hereinafter referred to "an events" then provided the

notice of happening of any such event is given by either party to the other within 21 days of the occurrence thereof, neither party shall by reason of such event be entitled to terminate the contract nor shall either party have any claim for damages against the other in respect of such non-performance and delay in performance and delivery under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist. If the performance in whole or part of any obligation under the contract is prevented or delayed by reason of any such event, claims of extension of time shall be granted for periods considered reasonable by BHEL subject to prior notification by the vendor to BHEL of the particulars of the event and supply to BHEL, if required, of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed a waiver of time in respect of remaining deliveries.

21. CLARIFICATIONS

The correspondence exchanged against the tender from both tenderer and BHEL through email/e-procurement are considered as valid document legally though it is not signed. It is treated as valid confirmations made on behalf of the respective company and very much comes under the legal ambit of the business transaction and hence it is binding on both the parties to the business. Any transaction pertaining to the tender from both the parties of business done round the clock irrespective of the office or business hours of the companies, are valid legally and binding on both the parties. This applies to the extent only in such cases where deadline time for transaction is not specifically declared by either or both the parties to the business.

22. PREFERENCES FOR MICRO AND SMALL ENTERPRISES (MSEs)

Preferences as mentioned in “Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012” & “Public Procurement Policy for Micro and Small Enterprises (MSEs) Amendment Order, 2018”, or as per latest guidelines issued by government shall be given to Micro and Small enterprises.

Main points which are mentioned in the above orders are as follows:

- 25% Procurement of the tender value shall be made from MSE (Micro, Small Enterprises) firms.
- 25% of the 25% quantity (i.e. 6.25% of the tender quantity) offered to the MSE's shall be reserved for MSE's owned by SC/STs. Failure to participate by any MSE owned by SC/ST's; this 6.25% quantity shall be procured from other MSEs.
- 3% from within the 25% quantity offered to the MSE's shall be reserved for women owned MSE's. Failure to participate by any MSE owned by women; this 3% quantity shall be procured from other MSEs.
- EMD shall be exempted for MSE's. All these benefits are subject to production of all statutory documents
- In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise and such Micro and Small Enterprise shall be allowed to supply up to 25 per cent of total

tendered value. In case of more than one such Micro and Small Enterprise, the supply shall be shared proportionately (to tendered quantity).

MSE suppliers can avail the intended benefits only if they submit along with the offer Udyam Registration Certificate or UAM (Udyog Aadhaar Memorandum) or attested copies of EM II certificate having deemed validity (five years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with attested copy of a CA certificate (Format enclosed at Annexure-1, where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non-submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents is not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer. **Udyam Certificate / UAM need not required to be notarized or attested.**

23. PREFERENCE TO MAKE IN INDIA

For this procurement, the local content to categorize a supplier as a Class-I local supplier / Class-II local supplier / Non-local supplier and purchase preference to Class I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.

24. DISPUTES

In the event of any dispute and/or difference arising between the Vendor and BHEL as to interpretation and/or execution of the contract and/or the respective rights and liabilities of the parties, such disputes and/or differences shall be referred to the sole arbitrator nominated by BHEL. The provisions of the Indian Arbitration Act and the rules there under shall apply to such arbitration. The award passed by the arbitrator shall be final and conclusively binding on all the parties.

25. JURISDICTION

The court of the place from where the purchase order is issued during the contractual period shall alone have jurisdiction to decide any dispute arising out of or in connection with the purchase order.

26. BANNED FIRMS

The offers of the bidders who are on the banned list as also the offer of the bidders, who engage in the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL website www.bhel.com.

27. FRAUD PREVENTION POLICY

The Bidder along with its associate / collaborators / sub-contractors / sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website

<http://www.bhel.com> and shall immediately bring to the notice of BHEL management about any fraud or suspected fraud as soon as it comes to their notice.

28. PREVENTIVE CHECKS TO ELIMINATE SUSPECTED CARTEL FORMATION

The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.

29. SUSPENSION OF BUSINESS DEALINGS WITH DEFAULTERS

The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.

1.0 Integrity commitment, performance of the contract and punitive action thereof:

1.1. Commitment by BHEL:

BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in a transparent and fair manner, and with equity.

1.2. Commitment by Bidder/ Supplier/ Contractor:

1.2.1. The bidder/ supplier/ contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India.

1.2.2. The bidder/ supplier/ contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by Govt. of India/ BHEL.

1.2.3. The bidder/ supplier/ contractor will perform/ execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business/ money/ reputation, to BHEL.

If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, then, action may be taken against such bidder/ supplier/ contractor as per extant guidelines of the company available on www.bhel.com and/or under applicable legal provisions

30. GENERAL

1. BHEL will not be bound by any power of attorney granted by the vendors or by changes in the composition of the firm made subsequent to the execution of the contract. They may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the vendor concerned.
2. BHEL reserves the right to extend the due date of opening, which shall be informed. Validity of offer shall be deemed to be revised accordingly.
3. BHEL reserves the right to accept or reject any part or whole of the tender of a bidder by assigning a valid reason thereof. BHEL reserves the right to cancel the tender without assigning any reason thereof and without any obligation before any commitment.
4. Acceptance of all terms and conditions, in the form of signed copy of T&C or confirmation separately written, shall be submitted along with quotation. If nothing is mentioned, it shall be concluded that terms and conditions are acceptable.
5. BHEL may increase/decrease item/s based on BHEL requirement before price bid opening. Suitable price implication may be asked from suppliers.
6. BHEL may drop item/items from tender at any stage of tender before placing PO. BHEL may also delete PO with consent with supplier within delivery date of PO.
7. After releasing PO, it is assumed that supplier has accepted PO if we do not receive acknowledgement from supplier within 5 days of date of PO.
8. In case of unscheduled holiday on opening day of tender, the next working day will be treated as scheduled prescribed day of opening of tender.
9. On the due date of tender opening, only technical bids will be opened. The opened technical bids will be evaluated by us and clarifications required, if any, will be called for from the bidders on technical and commercial points. If no reply is received from the vendor for the clarification raised by BHEL with in the final cut-off date, those vendors offer will be processed with the documents available / submitted against this tender. Offers not meeting the required specification and technical condition will be summarily rejected. The price bids of technically suitable bidders will be opened on a later date with prior intimation to techno-commercially suitable bidders.
10. Ranking L-1, L-2 etc. shall be done for individual item for the techno-commercially acceptable offers on landed cost to BHEL, IVP Goindwal basis and BHEL reserves the right to place order for individual items with different vendors.
11. BHEL reserves the right to negotiate with L1 vendor or re-float the tender for items where, L1 price is not the lowest acceptable price; BHEL reserves the right to increase or decrease the tender quantity.
12. If supplier is mentioning delivery destination within state/ outside state depending upon his location of factory, Free on Road etc. these are assumed as on FOR Goindwal. If supplier is wishing to give delivery on Ex works basis, then he has to clearly mention about it.
13. The bidder has to keep track of any changes by viewing the addendum / Corrigendum's issued by the Purchaser on time-to- time basis in the E-Procurement platform. The Company calling for tenders shall not be responsible for any claims/problems arising out of this.
14. Any term in special tender terms and conditions will supersede the GCC.

DRAWING No. 3-V-0000-23249													
SL. No.	DRAWING No.	COMP. CODE	MATL. SPECN.	S		e		m		øD	MATL. MARK	NET WT. (Kg.)	
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.				
01	3-V-F522-23249/02	96 456 888 0000	ASTM A194 – Gr.7	36.52	35.41	42.16	40.37	22.47	21.16	7/8”-9 UNC -2B	GR.7	0.11	
02	3-V-F523-23249/02	96 456 889 0000	ASTM A194 – Gr.7	31.75	30.78	36.65	35.10	19.25	18.03	3/4”-10 UNC -2B	GR.7	0.08	
03	3-V-F524-23249/02	96 456 890 0000	ASTM A194 – Gr.7	41.28	40.01	47.65	45.62	25.70	24.28	1”-8 UNC -2B	GR.7	0.17	
04	3-V-F525-23249/02	96 456 891 0000	ASTM A194 – Gr.7	50.80	49.23	58.65	56.11	31.78	30.15	1.1/4”-8 UN -2B	GR.7	0.27	
05	3-V-F526-23249/02	96 456 892 0000	ASTM A194 – Gr.7	46.02	44.60	53.16	50.85	29.93	27.41	1.1/8”-8 UN -2B	GR.7	0.22	
06	3-V-0001-23249	96 465 648 0000	ASTM A194 – Gr.8M	22.22	21.59	25.65	24.61	12.80	11.79	1/2”-13 UNC -2B	GR.8M	0.02	
07	3-V-0002-23249	96 465 649 0000	ASTM A194 – Gr.8M	26.97	26.19	31.17	29.85	16.03	14.91	5/8”-11 UNC -2B	GR.8M	0.03	
08	3-V-0003-23249	96 465 650 0000	ASTM A194 – Gr.8M	31.75	30.78	36.65	35.10	19.25	18.03	3/4”-10 UNC -2B	GR.8M	0.08	
09	3-V-0004-23249	96 465 651 0000	ASTM A194 – Gr.8M	36.52	35.41	42.16	40.37	22.47	21.16	7/8”-9 UNC -2B	GR.8M	0.11	
10	3-V-0005-23249	96 465 652 0000	ASTM A194 – Gr.8M	41.28	40.01	47.65	45.62	25.70	24.28	1”-8 UNC -2B	GR.8M	0.17	
11	3-V-0006-23249	96 465 653 0000	ASTM A194 – Gr.8M	46.02	44.60	53.16	50.85	29.93	27.41	1.1/8”-8 UN -2B	GR.8M	0.22	
12	3-V-0007-23249	96 465 654 0000	ASTM A194 – Gr.8M	50.80	49.23	58.65	56.11	31.78	30.15	1.1/4”-8 UN -2B	GR.8M	0.27	
13	3-V-0008-23249	96 465 847 0000	ASTM A194 – Gr.2HM	22.22	21.59	25.65	24.61	12.80	11.79	1/2”-13 UNC -2B	GR.2HM	0.02	
14	3-V-0009-23249	96 465 848 0000	ASTM A194 – Gr.2HM	26.97	26.19	31.17	29.85	16.03	14.91	5/8”-11 UNC -2B	GR.2HM	0.03	
15	3-V-0010-23249	96 465 849 0000	ASTM A194 – Gr.2HM	31.75	30.78	36.65	35.10	19.25	18.03	3/4”-10 UNC -2B	GR.2HM	0.08	
16	3-V-0011-23249	96 465 850 0000	ASTM A194 – Gr.2HM	36.52	35.41	42.16	40.37	22.47	21.16	7/8”-9 UNC -2B	GR.2HM	0.11	
17	3-V-0012-23249	96 465 851 0000	ASTM A194 – Gr.2HM	41.28	40.01	47.65	45.62	25.70	24.28	1”-8 UNC -2B	GR.2HM	0.17	
18	3-V-0013-23249	96 465 852 0000	ASTM A194 – Gr.2HM	46.02	44.60	53.16	50.85	29.93	27.41	1.1/8”-8 UN -2B	GR.2HM	0.22	
19	3-V-0014-23249	96 465 853 0000	ASTM A194 – Gr.2HM	50.80	49.23	58.65	56.11	31.78	30.15	1.1/4”-8 UN -2B	GR.2HM	0.27	
20	3-V-0015-23249	96 465 940 0000	ASTM A194 – Gr.8M	55.57	53.8	64.16	61.37	35.0	33.27	1.3/8”-8 UN -2B	GR.8M	0.42	

NOTE:

1. FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURE.

2. SUITABLE OIL PRESERVATIVE SHALL BE APPLIED.

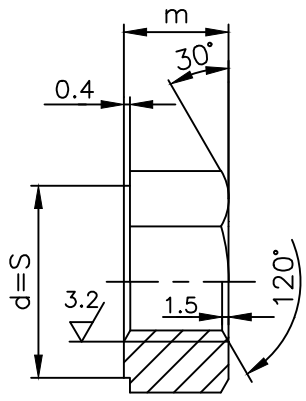
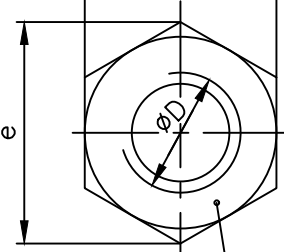
REV	DATE	ALTERED	R.P.SINGH
05	03.03.21	CHD & APPD	SAMEER & SSK

SL. No. 20 INCLUDED.

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT			
	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.	DRN M.SRINIVASAN	N.OF VAR.
DEPT VL		CHD N.DHANAPAL	
CODE 320		APPD A.VISWANATHAN	
TITLE	HEX NUT	CARD CODE U 01	REV 05

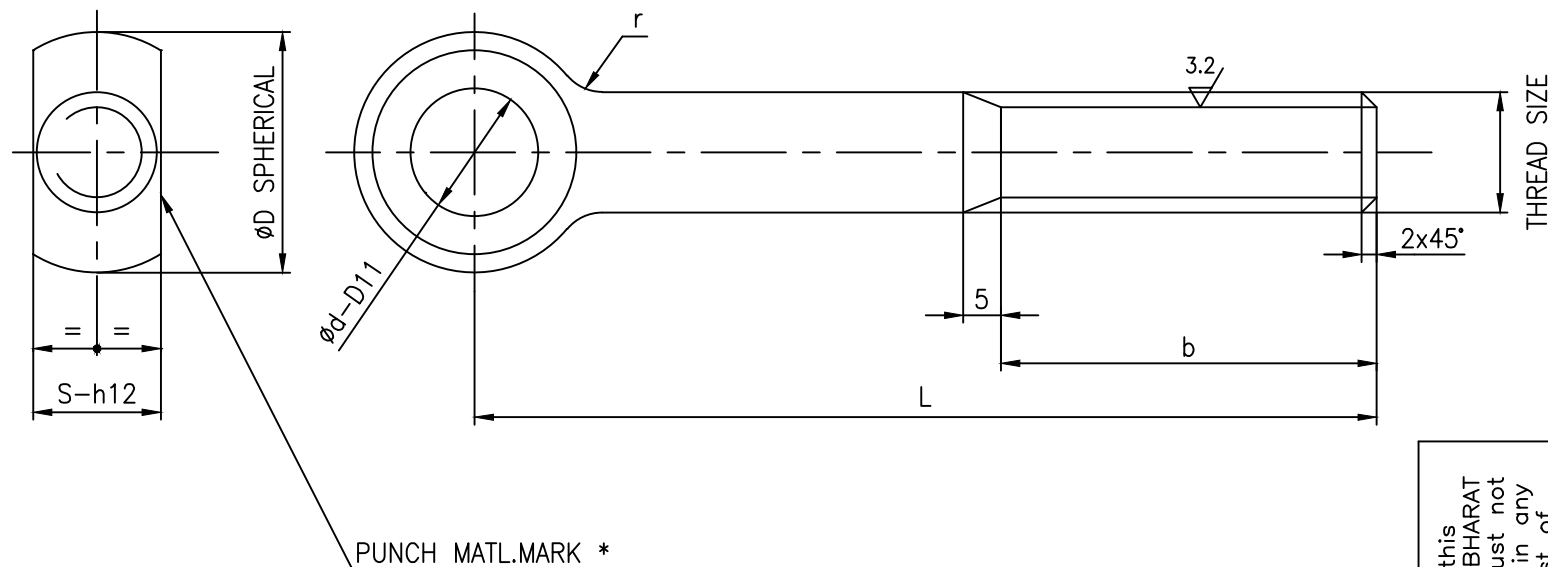
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NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No



STAMP MAT. MARK (REF. TABLE) MAKERS MARK.

SL. No.	DRAWING NUMBER	MATERAIL CODE	MATL.SPECN.	THREAD SIZE	NET Wt.(kg)	DIMENSIONS						* MATL. MARK	APPLICABLE VALVES
						L	b	r	S-h12	ød-D11	øD		
01	3-V-0001-25684	96 465 773 0000	ASTM A193-B8M CL.2. CERTIFY	1/2"-13UNC-2A	0.061	50	30	6	14	13.5	25	B8M	2"-150C
02	3-V-0002-25684	96 465 774 0000		1/2"-13UNC-2A	0.07	60	30	6	14	13.5	25	B8M	2" & 3"/150C 3"/300C
03	3-V-0003-25684	96 465 775 0000		1/2"-13UNC-2A	0.08	75	40	6	14	13.5	25	B8M	3" & 4"-600C
04	3-V-0004-25684	96 465 776 0000		1/2"-13UNC-2A	0.09	90	30	6	14	13.5	25	B8M	2"-600C
05	3-V-0005-25684	96 465 777 0000		5/8"-11UNC-2A	0.16	75	38	6	17	17	32	B8M	4"/150C 4"/300C
06	3-V-0006-25684	96 465 771 0000		5/8"-11UNC-2A	0.18	90	38	6	17	17	32	B8M	6",8" & 12"/150C 6" & 8"-300C
07	3-V-0007-25684	96 465 778 0000		5/8"-11UNC-2A	0.20	100	38	6	17	17	32	B8M	10"/150C & 10"/300C
08	3-V-0008-25684	96 465 779 0000		5/8"-11UNC-2A	0.22	110	40	6	17	17	32	B8M	4"-900C
09	3-V-0009-25684	96 465 780 0000		5/8"-11UNC-2A	0.26	130	50	6	17	17	32	B8M	14",16" & 20"/150C
10	3-V-0010-25684	96 465 781 0000		5/8"-11UNC-2A	0.31	160	50	6	17	17	32	B8M	24"/150C
11	3-V-0011-25684	96 465 845 0000		5/8"-11UNC-2A	0.28	140	50	6	17	17	32	B8M	10"/300C

DIMENSIONS	h12	D11
10 TO 18	0	+0.160
	-0.180	+0.050



REV 02	DATE 07.07.18	ALTERED R.P.SINGH	REV 01	DATE 22.05.17	ALTERED T.SANGEETHA
		CHD & APPD SSK & KRS			CHD & APPD SSK & KRS
	SL. No. 11 INCLUDED			MATL.MARK B8M WAS B8	

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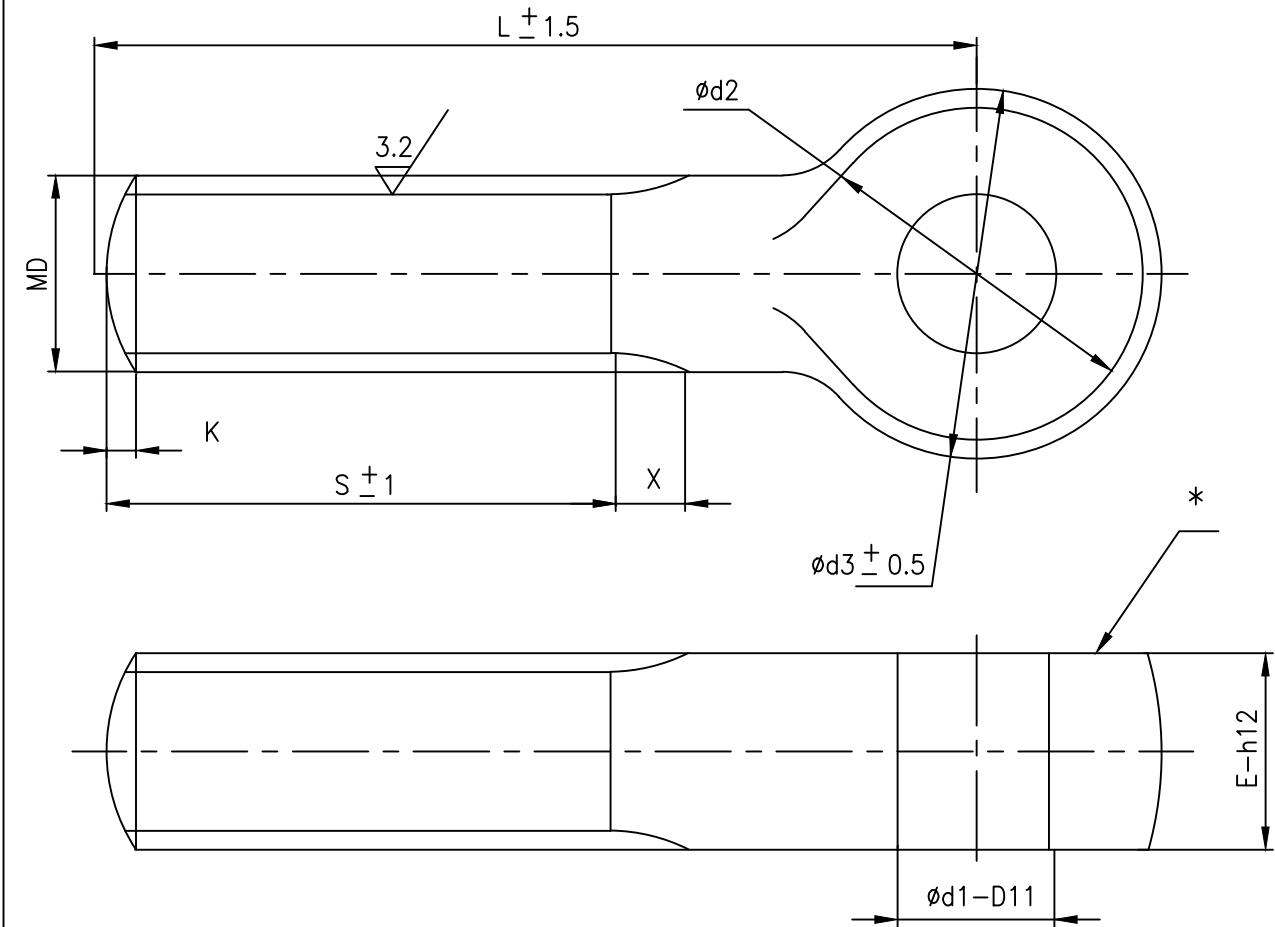
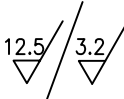
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
 365-121 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.					DRN	NAME R.ANITHA	SIGN	DATE 10.09.16	NO.OF VAR. — —
					CHD	S.SATHEESKUMAR		10.09.16	
					APPD	K.RAJASEKARAN		10.09.16	
DEPT VL		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS —	
CODE 320		NTS.	—	CAD:C325684					
TITLE EYE BOLT				CARD CODE U 01	DRAWING NO. 3-V-0000-25684				REV 02

NOTES:

1. EYE BOLT TO BE MADE OUT OF FORGING.

3-V-0000-35002
DRAWING NO.

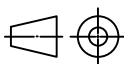
Sl. No.	DRAWING NUMBER	MATERIAL CODE	MATERIAL SPECIFICATION	SIZE	DIMENSIONS										
					MD	ød1	ød2	ød3	L	S	E	K	X	WEIGHT	SIZE/RATING
01	3-V-0001-35002/1	964658950000	ASTM A193-B8M CL2, CERTIFY	M24X195X60	M24	26	37	45	195	60	25	2.5	5	0.8	350/600
02	3-V-0002-35002/1	964658980000		M20X140X60	M20	21	36	40	140	60	22	2.5	5	0.44	800/150
03	3-V-0003-35002/1	964658990000		M20X150X60	M20	21	36	40	150	60	22	2.5	5	0.47	300/300



NOTES:

- 1. EYE BOLT SHOULD BE MADE OUT OF FORGING.
- 2. * PUNCH MATERIAL MARK "B8M"
- 3. QUALITY REQUIREMENTS SHALL BE AS PER LATEST TDC.
BLACKENING SHALL BE DONE INSTEAD OF CADMIUM PLATING.

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.					DRN	NAME R.P.SINGH	SIGN	DATE 29.10.18	NO.OF VAR.
					CHD	S.SATHEESKUMAR		29.10.18	
					APPD	K.RAJASEKARAN		29.10.18	
DEPT VL			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE 320			N T S	REF.TABLE					
TITLE					CARD CODE	DRAWING NO.			REV
EYE BOLT					U 01	3-V-0000-35002			01

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REV	DATE	ALTERED	R.P.SINGH
01	26.06.20	CHD & APPD SAMEER & SSK	
MATL. SPECIFICATION UPDATED.			

ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / QP.

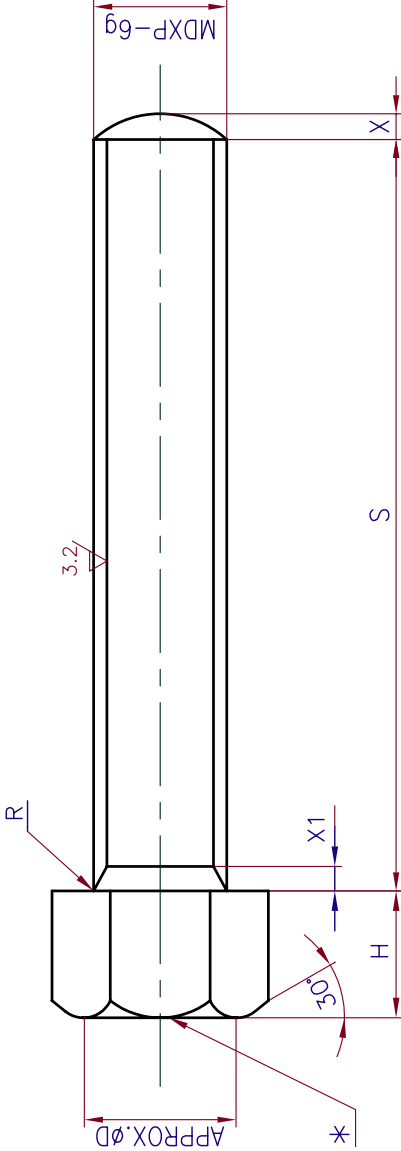
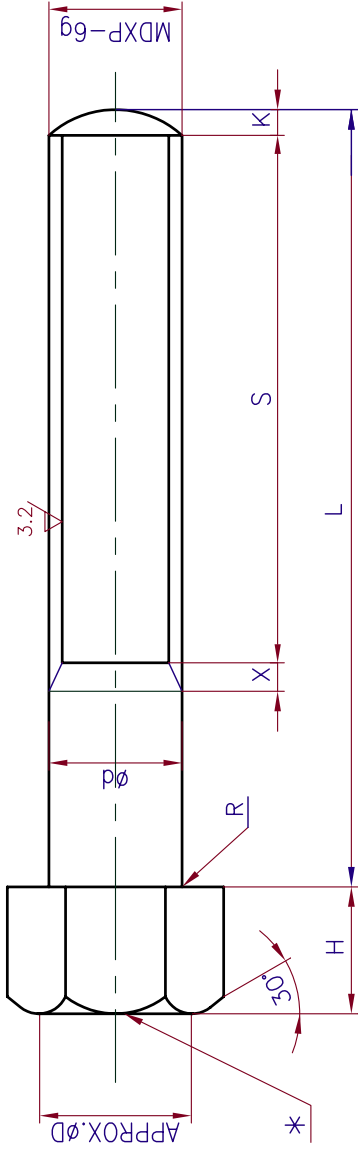
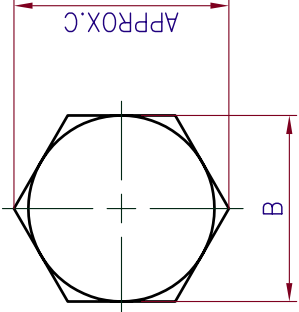
11/8ZL0Z-0000-A-3
DRAWING NO.

12.5 / 3.2 / 

SL No.	DRAWING NO.	COMP. CODE	MATL. SPECN.	DIMENSIONS														NET WT (Kgs)	REMARKS
				MD	P	L	S	H	K	X	X1	R	ød	øD	B	C			
01	3-V-0001-20728/02	964524380000	ASTM A193 B7 CERTIFY	M16	2	70	70	10	-	4	6	0.6	16	23	24	27.7	0.14		
02	3-V-0002-20728/02	964524390000		M39	4	120	80	25	4	8	-	1.2	39	57.5	60	69.3	1.73		
03	3-V-0003-20728/02	964524400000		M14	2	120	30	10	2	4	-	0.6	14	20	21	24.2	0.11		
04	3-V-0004-20728/02	964526840000		M5	0.8	25	25	3.5	-	2	2	0.2	5	7	8.3	9.2	0.01		
05	3-V-0005-20728/02	964528590000		M30	3.5	80	45	19	4	7	-	1.0	30	44	46	53.1	0.57		
06	3-V-0006-20728/02	964529810000		M20	2.5	70	50	13	5	5	-	0.8	20	29	30	34.6	0.27		
07	3-V-0007-20728/02	964530600000		M6	1	16	16	4	-	2	3	0.25	6	9.8	10	11.5	0.01		
08	3-V-0008-20728/02	964531710000		M20	2.5	95	40	13	5	5	-	0.8	20	29	30	34.6	0.33		
09	3-V-0009-20728/03	964531720000		M24	3	85	50	15	6	6	-	0.8	24	34	36	41.6	0.40		
10	3-V-0010-20728/02	964605960000		M8	1.25	20	20	5.5	-	2.5	3.75	0.5	8	12.6	13	15.0	0.011		
11	3-V-0011-20728/02	964605970000		M8	1.25	25	25	5.5	-	2.5	3.75	0.5	8	12.6	13	15.0	0.012		
12	3-V-0012-20728/02	964532250000		M24	3	120	60	15	6	6	-	0.8	24	34	36	41.6	0.55		
13	3-V-0013-20728/02	964533230000		M36	4	100	60	23	4	8	-	2	36	53	55	63.5	1.30		
14	3-V-0014-20728/01	964534120000		M16	2	120	70	10	4	4	-	0.6	16	23	24	27.7	0.22		
15	3-V-0015-20728	964535410000		M16	2	20	20	10	-	4	6	0.6	16	23	24	27.7	0.04		
16	3-V-0016-20728	964650030000		M24	3	75	40	15	6	6	-	0.8	24	34	36	41.6	0.34		
17	3-V-0017-20728	964535780000		M20	2.5	110	60	13	5	5	-	0.8	20	29	30	34.6	0.38		
18	3-V-0018-20728	964535900000		M36	4	130	80	23	4	8	-	2	36	53	55	63.5	1.54		

NOTES:

- * PUNCH MATERIAL MARK B7 FOR A193 B7.
- QUALITY REQUIREMENTS SHALL BE AS PER LATEST TDC.5:164



IN CASE OF FULL THREAD

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

RETRACED WITH REV.10 DATED 01.02.03



BHARAT HEAVY ELECTRICALS LTD.,
UNIT: HIGH PRESSURE BOILER PLANT.
TIRUCHIRAPALLI-620014.

NAME	SIGN	DATE	NO.OF VAR.
V.BAIRAVAN		01.02.03	
K.RAJASEKARAN		01.02.03	
M.RAJAKUMAR		01.02.03	

DEPT	VL	SCALE	WEIGHT (KG).	REFERENCE INFORMATION	NO. OF ITEMS
CODE 320		/	-	PT-42 CAD REF.3V020728	
TITLE	CARD CODE	DRAWING NO.	REV		
BOLT	U 01	3-V-0000-20728	11		

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REV	DATE	ALTERED VB	REV	DATE	ALTERED VB
11	27.04.05	CHD & APPD KRS & MRK	10	01.02.03	CHD & APPD

SL. NO.17 INCLUDED.

SL. NO.18 INCLUDED.

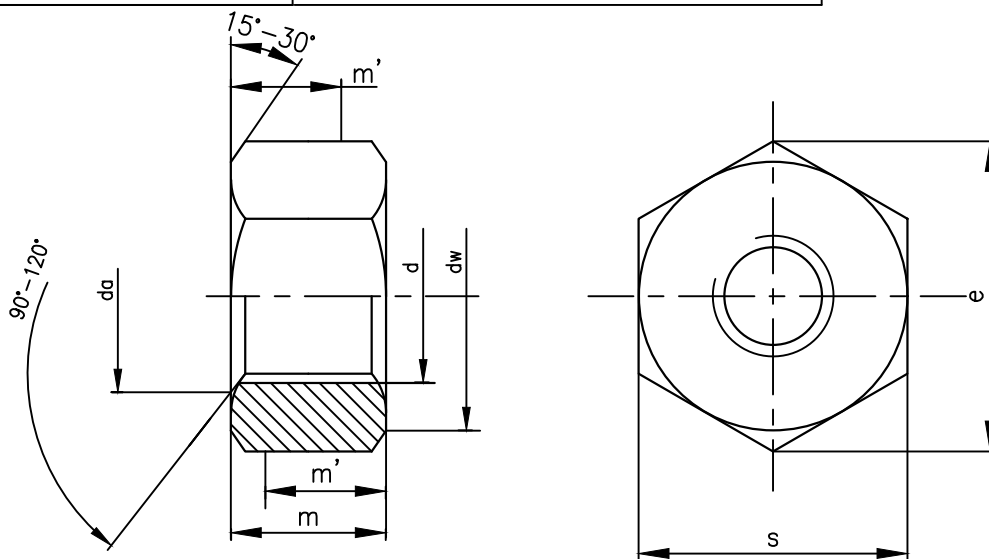
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.

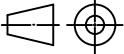
DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED	BY	DATE	ALTERED
01	29.10.18	CHD & APPD SSK & KRS			CHD & APPD
MATERIAL SPECIFICATION CHANGED FROM B8MA TO Gr.8M					
GROUP No. 0006 & 0007 ADDED					



NOTE:- FOR OTHER DIMENSIONS/DETAILS REFER IS:1364.

MATERIAL CODE	DRAWING NO	Thread Size	da		dw	e	m		m'	S		WEIGHT
		d	Min	Max	Min	Min	Max	Min	Min	Max	Min	
964658380000	4-V-0001-27368	M10	10	10.8	14.6	17.77	10	9.64	7.7	16	15.73	0.0108
964658390000	4-V-0002-27368	M20	20	21.6	27.7	32.95	20.7	19.40	15.5	30	29.16	0.0645
964658400000	4-V-0003-27368	M27	27	29.16	38	45.2	24.7	22.6	18.1	41	40	0.185
964658410000	4-V-0004-27368	M30	30	32.4	42.7	50.85	30.7	29.10	23.3	46	45	0.253
964658440000	4-V-0005-27368	M12	12	13.0	16.6	20.03	12	11.57	9.30	18	17.73	0.0165
964658970000	4-V-0006-27368	M33	33	35.6	46.6	55.37	33	31.4	25.1	50	49	0.30
964658960000	4-V-0007-27368	M24	24	25.9	33.2	39.55	24.2	22.9	18.3	36	35	0.11

	HEXAGON NUT		ASTM A194 Gr.8M, CERTIFY						
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME R.P.SINGH	SIGN	DATE 16.04.18	NO.OF VAR
					CHD	S.SATHEES		16.04.18	
					APPD	K.RAJASEKARAN		16.04.18	
DEPT VL			SCALE NTS	WEIGHT (KG). REFER TABULATION	REFERENCE INFORMATIONS ---				NO. OF ITEMS
CODE 320									
TITLE HEX NUT				CARD CODE U 01	DRAWING NO. 4-V-0000-27368				REV 01

Size A4



PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 41117

Rev. No. 02

PAGE 1 OF 2

STUD BOLTS FOR TEMPERATURE USE

(For medium of Temperature upto 425°C)

1.0 SCOPE

Covers the requirements for Stud Bolts for use in medium of temperature 425°C in the size range M12 to M39x3.

2.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and preferred sizes	Fig 1 & Table 1 of this standard	
Preferred length size combination	Table 1 of this standard	
Tolerance	Product grade	A
	Indian Standard	IS: 1367 (Part 2)
Thread	Pitch	Table 1 of this standard
	Tolerance	6g
	Indian Standard	IS 4218 (Part 3, 5 & 6)
Material	Steel according to ASTM A193 - B7 Certified in quenched and tempered condition	
Manufacture	Thread rolling up to M24	
Mechanical Properties	As specified in ASTM A193-B7	
Marking	All studs shall be stamped B7 on any one side	
General requirements	Studs shall comply with TDC:5:164 in respect of requirements not covered in this standard except for cadmium plating.	

2.1 Referred standards (Only current versions are applicable)

IS 1367 Part 2	Technical supply conditions for threaded steel fasteners
IS 1368	Dimensions for ends of parts with external ISO metric threads
IS 4218 Part 3,5 & 6	ISO metric screw threads
ASTM A193	Specification for alloy steel and stainless steel bolting material for high temperature service
TDC:5:164	TDC for alloy steel studs to specification ASTM SA193 Gr B7 / B7m / B16 oil field equipment

3.0 DESIGNATION

A Grade 'A' Stud to this standard of thread size M16 and nominal length 90mm shall be designated as:

3.1 On Drawings

i) Material Specification column	A193 - B7
ii) Description Column	STUD BOLT GR A T425 M16x90
iii) Drawing Number Column	BPS 41117
iv) Material Code column:	4111716090

Revisions

Brought upto date

Approved

STANDARDS SECTION
CONTRACT ENGINEERING AND CO-ORDINATION
HPBP, TIRUCHIRAPPALLI

Rev. No. 02

Amd. No.

Reaffirmed

Prepared

Issued

Dt of 1st Issue

Dt. JUN. 1997

Dt.

Year

STANDARDS

STANDARDS

DEC 1986

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3.2 Ordering Description

For placing indents, issuing enquiries and on purchase order, Ordering Description given below shall be followed.

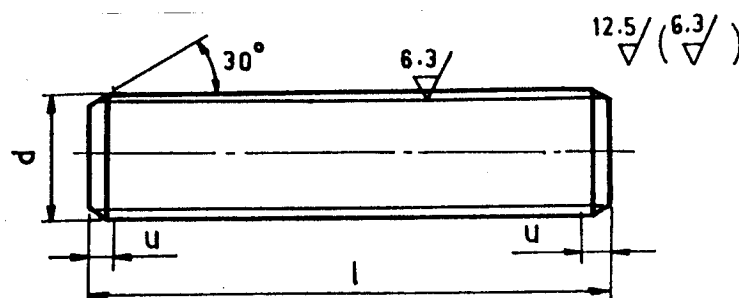
Stud M16x90 - BPS: 41117 A - ASTM A193-B7

4.0 ADDITIONAL INFORMATION

4.1 Copies of this standard and TDC:5:164 shall be enclosed along with the purchase order

FIG. 1, DIMENSIONS FOR STUD BOLTS

(All dimensions are in millimetres)



'u' according to IS:1368

TABLE 1 PREFERRED LENGTH - SIZE COMBINATION FOR STUD BOLTS

(All dimensions are in millimetres)

Thread Size d	Nominal Length (l)																	
	60	70	80	90	100	110	120	130	140	150	160	170	180	200	225	240	250	280
	Weights																	
M12		62	70.9															
M16				135.9	151.7		183.3	*									357.1	
M20				221.9			280.9		303									
M24							390.4			496.9			603.4					
(M27)									591.4				770.8					
M30									722.9		832.4							
(M33)													1208.6					
(M39x3)														1875.7				

Note:

1. Preferred lengths are in between the stepped bold lines
2. Weights are given in Kg per 1000 numbers only
3. Sizes in brackets are non-preferred



PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 41302

Rev. No. 02

PAGE 1 OF 2

HEXAGON THIN NUTS, PRODUCT GRADE 'B'

(Product Class 05)

1.0 SCOPE

Covers the requirements of hexagon thin nuts in the size range M33, to M39x3.

2.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and preferred sizes	Fig 1 & Table 1 of this standard	
Tolerance	Product grade	B for nuts with d > M16
	Indian Standard	IS: 1367 (Part 2)
Thread	Pitch	Table 1 of this standard
	Tolerance	6H
	Indian Standard	IS 4218 (Part 3, 5 & 6)
Material	Steel	
Mechanical Properties	Property class	05
	Indian Standard	IS: 1367 (Part 6)
Sampling and Acceptability	Indian Standard	IS: 1367 (Part 17)
General requirements	Nuts shall comply with IS: 1364 Part 4 in respect of requirements not covered in this standard.	

2.1 Referred standards (Only current versions are applicable)

IS 1364 (Part 4)	Specification for hexagon head bolts, screws and nuts of product grade A&B
IS 1367 (Part 2, 6 & 17)	Technical supply conditions for threaded steel fasteners
IS 4218 (Part 3, 5 & 6)	ISO metric screw threads

3.0 DESIGNATION

A Grade 'B' hexagon Thin Nut to this standard of thread size M39x3 shall be designated as :

3.1 On Drawings

i) Material Specification column	-----
ii) Description Column	HEX THIN NUT GR B M39x3 - 05
iii) Drawing Number Column	BPS 41302
v) Material Code column	4130200039

Revisions Brought upto date •			Approved STANDARDS SECTION CONTRACT ENGINEERING AND CO-ORDINATION HPBP, TIRUCHIRAPPALLI		
Rev. No. 02	Amd. No.	Reaffirmed	Prepared	Issued	Dt of 1st Issue
Dt. JUN 1997	Dt.	Year	STANDARDS	STANDARDS	DEC 1986

3.2 Ordering Description

For placing indents, issuing enquiries and on purchase order, the Ordering Description given below shall be followed. (Typical example)

- i) HEXAGON THIN NUT M33 BPS: 41302-05 for nuts with $d = M33$
- ii) HEXAGON THIN NUT M39x3 BPS: 41302 for nuts with $d \geq M36 \times 3$

4.0 ADDITIONAL INFORMATION

- 4.1 The hardness value in Table 4 of IS: 1367 (Part 6) for coarse pitch series shall be applicable for thread sizes $\geq M36 \times 3$
- 4.2 Copies of this standard shall be enclosed along with purchase order

FIG 1 DIMENSIONS FOR HEXAGON THIN NUTS
(All dimensions are in millimetres)

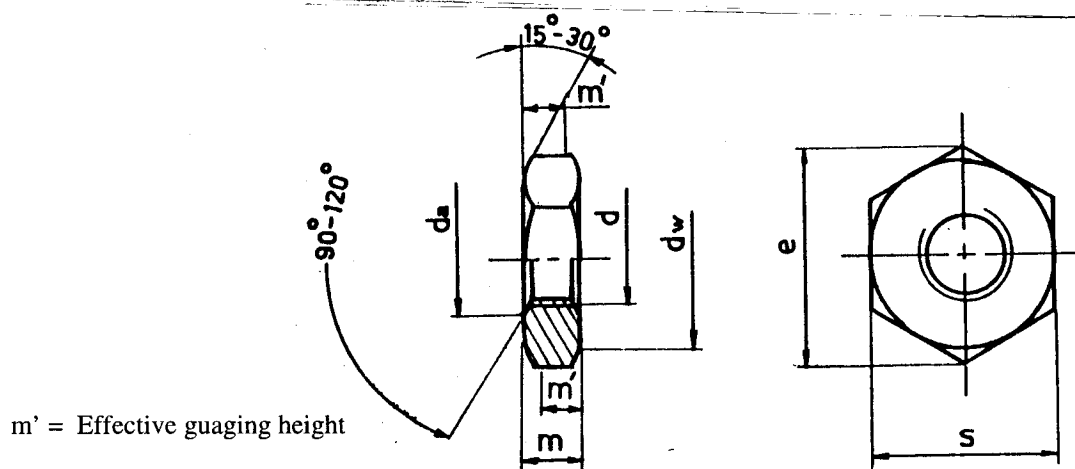


TABLE 1
(All dimensions are in millimetres)

Thread Size d)	(M33)	M36x3	(M39x3)
P(Pitch)	3.50	3.00	3.00
d_a Min	33.00	36.00	39.00
Max	35.64	38.90	42.10
d_w Min	46.67	51.10	56.00
e Min	55.37	60.79	66.44
m Max	17.00	18.00	20.00
Min	15.90	16.90	18.70
m' Min	12.70	13.50	14.96
s Max	50.00	55.00	60.00
Min	49.00	53.80	58.80
Weight			251.00

NOTE:

- 1. Sizes in brackets are non-preferred
- 2. Weights are given in Kg per 1000 numbers only



PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS:41501

PAGE : 1 OF 5

Based on IS: 2048

PARALLEL KEYS – TYPE–A

1.0 SCOPE:

Covers the requirements for keys with bolt ends round (type A)

2.0 SPECIFICATION AND REFERENCES STANDARDS

Dimensions and tolerances	Table 1 of this standard	
Preferred length and Size combination	Table 2 of this standard	
Material	Steel of tensile strength not less than 600 MPa	
Finish	Natural finish	
Sampling and Acceptability	Indian standard	IS: 6821
General requirements	Keys shall comply with IS :2048 in respect of requirement not covered in this standards	

2.1 Referred standards (only the current version are applicable)

IS: 2048 Specification for parallel keys and keyways

IS: 6821 Methods for sampling non-threaded fasteners

Revisions			Approved Standing Committee		
Rev. No.	Amd. No.	Reaffirmed	Prepared	Issued	Dt of 1st Issue
Dt.	Dt.	Year	Standards	Standards	06.11.2013



PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS:41501

PAGE : 2 OF 5

3.0 DESIGNATION:

A parallel key to this standard of width 12mm, height 8mm and length 56mm shall be designated as:

3.1 On Drawings:

- 1) material specification column : IS: 2048-A
- 2) Description column : KEY PRL RND END 12X8X56
- 3) Drawing number column : 4150108056
- 4) Material code column : 4150112056

3.2 Ordering Description:

For placing indents, issuing enquiries and on purchase order, the ordering Description given below shall be followed:

parallel key A 12x8x56

4.0 ADDITIONAL INFORMATION:

- 4.1 for keyways to these keys refer IS: 2048 or AA 023 15 08.

Revisions			Approved		
Rev. No.	Amd. No.	Reaffirmed	Prepared	Issued	Dt of 1st Issue
Dt.	Dt.	Year			

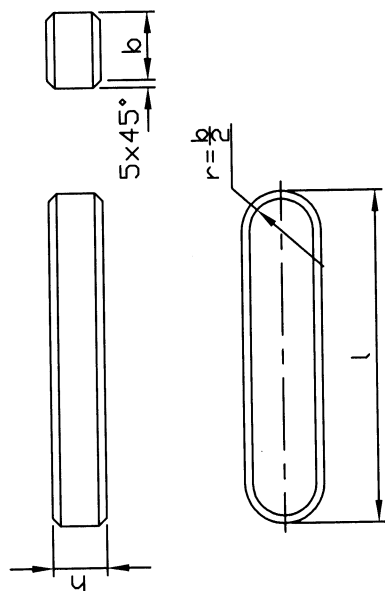


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HPBP TIRUCHIRAPALLI

PAGE : 3 OF 5

TABLE 1— DIMENSIONS FOR PARALLEL KEYS



NOTE:

```
* 1.Tolerance on 'h':
square section-h9
rectangular section-h11
```

ALL DIMENSIONS ARE IN MILLIMETRES

[illegible]

Revisions			Approved		
Rev. No.	Amd. No.	Reaffirmed	Prepared	Issued	Dt of 1st Issue
Dt.	Dt.	Year			

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PLANT STANDARD

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BPS:41501

PAGE : 4 OF 5

TABLE 2- PREFERRED LENGTH-SIZE COMBINATION FOR PARALLEL KEYS

(ALL DIMENSIONS ARE IN MILLIMETERS)

Preferred length (l)	2x2	3x3	4x4	5x5	6x6	8x7	10x8	12x8	14x9	16x10	18x11	20x12	22x14	25x14
10														
12			1.402											
14														
16														
18														
20				3.709	5.286			13.1						
22														
25				4.719		10.245			21.6					
28			3.412											
32					8.676			22.16						
36										41.0				
40				7.639	10.936				36.63		56.7	66.0		
45						19.045								
50										58.49				
56					15.436									
63									59.33					
70														
80									76.13					205.3
90														
100														
110														
125														
140														

WEIGHTS

Revisions

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PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS:41501

PAGE : 5 OF 5

TABLE 2- PREFERRED LENGTH-SIZE COMBINATION FOR PARALLEL KEYS (CONT.)

(ALL DIMENSIONS ARE IN MILLIMETERS)

Preferred length (l)	22X14	25X14	28X16	32X18	36X20	40X22	45X25	50X28	56X32	63X32	70X36	80X40	90X45	100X50
63														
70														
80		205.3												
90														
100														
110														
125														
140														
160														
180														
200														
220														
250														
280														
320														
360														
400														

WEIGHTS

NOTE:

1. weights are given in kg per 1000 numbers only.
2. for stocked sizes refer BPS components book-let.
3. Preferred length are in between the stepped bold lines.

Revisions			Approved		
Rev. No.	Amd. No.	Reaffirmed	Prepared	Issued	Dt of 1st Issue
Dt.	Dt.	Year			



PLANT STANDARD

H P B P TIRUCHIRAPALLI

BPS : 41238

PAGE : 1 OF 4

Based on IS: 1364 (PART-2)

HEXAGON HEAD SCREWS, PRODUCT GRADE A

(Property Class 8.8)

1.0 SCOPE

Covers the requirements for Hexagon head screws in the size range M6 to M16.

2.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and preferred sizes	Table 1 of this standard	
Preferred length size combination	Table 2 of this standard	
Tolerance	Product grade	A
	Indian Standard	IS: 1367 (PART 2)
Thread	Pitch	Coarse
	Tolerance	6g
	Indian Standard	IS: 4218 (Part 3,5 & 6)
Material	Steel	
Mechanical properties	Property class	8.8
	Indian Standard	IS: 1367 (PART 3)
Sampling and Acceptability	Indian Standard	IS: 2614
General requirements	Screws shall comply with IS: 1364 in respect of requirements not covered in this standard	

2.1 Referred standards (only the relevant parts of current versions are applicable)

IS: 1364 Specifications for hexagon head bolts, screws & nuts of (Part2) product grade A&B, Part 2 Hexagon screws.

IS: 1367 Technical supply conditions for threaded steel fasteners.

IS: 2614 Methods for sampling for fasteners.

IS: 4218 ISO Metric screw threads.

Revisions

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Dt.

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STANDARDS
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PLANT STANDARD

H P B P TIRUCHIRAPALLI

BPS : 41238

PAGE : 2 OF 4

3.0 DESIGNATION

A grade A Hexagon head screw to this standard of thread size M16 and Nominal length 35mm shall be designated as:

3.1 On drawings:

- i) Material specification column : IS: 1364
- ii) Description column : SCRU HEX. GR. A 8.8 M16x35
- iii) Drawing Number column : 4123816035
- iv) Material code column : 4123816035

3.2 Ordering description

For placing indents, issuing enquiries and on purchase order, the Ordering Description given below shall be followed.

Hexagon head screw M16x35 IS: 1364 (Part 2) – 8.8.

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Revisions			Approved		
Rev. No.	Amd. No.	Reaffirmed	Prepared HPBP TIRUCHY	Issued STANDARDS ENGG.	Dt of 1st Issue
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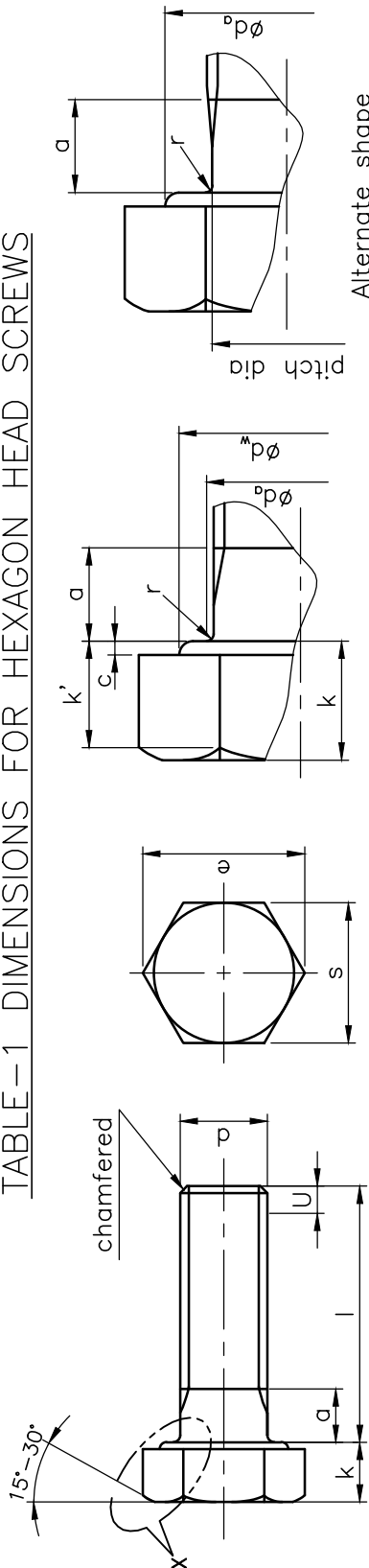
PLANT STANDARD

H P B P TIRUCHIRAPALLI

BPS : 41238

PAGE : 3 OF 4

TABLE-1 DIMENSIONS FOR HEXAGON HEAD SCREWS



Alternate shape

k' = Effective gauging height.

DETAIL-X

u according to CE of IS: 1368. 'Dimensions of ends of bolts and screws'.

(All dimensions are in mm)

Thread size d	a* Max.	c		da Max.	dw Min.		e Min.		k		k' Min.	r Min.	s	
		Min.	Max.		+	++	+	++	+	++			Max.	Min. + ++
M6	3	0.15	0.5	6.8	8.9	8.7	11.05	10.89	3.85	4.15	2.63	0.25	10	9.78
M8	3.75	0.15	0.6	9.2	11.6	11.4	14.38	14.20	5.15	5.45	3.54	0.4	13	12.73
M10	4.5	0.15	0.6	11.2	14.6	14.4	17.77	17.59	6.22	6.58	4.28	0.4	16	15.73
M12	5.25	0.15	0.6	13.7	16.6	16.4	20.03	19.85	7.32	7.68	5.05	0.6	18	17.73
M16	6	0.2	0.8	17.7	22.5	22	26.75	26.17	9.82	10.18	6.8	0.6	24	23.67

* a Min – not less than 1P (Pitch); + for $1 \leq 10d$ or 150mm; ++ for $1 > 10d$ or 150mm.

Revisions			Approved		
Rev. No.	Amd. No.	Reaffirmed	Prepared HPBP TIRUCHY	Issued STANDARDS ENGG.	Dt of 1st Issue
Dt.	Dt.	Year			



PLANT STANDARD

H P B P TIRUCHIRAPALLI

BPS : 41238

PAGE : 4 OF 4

**TABLE-2 PREFERRED LENGTH SIZE COMBINATION
FOR HEXAGON HEAD SCREWS**

(All dimensions are in mm)

Nom.	Length 'l'				Thread size d				
	$\leq 10d$ or 150mm		$>10d$ or 150mm		M6	M8	M10	M12	M16
	Min.	Max.	Min.	Max.					
6	5.76	6.24							
8	7.71	8.29							
10	9.71	10.29							
12	11.65	12.35				10			
16	15.65	16.35					21.4		
20	19.58	20.42			6.3	12.5	23.4		
25	24.58	25.42				14.3	25.9	37	
30	29.58	30.42					28.9	41	78.4
35	34.5	35.5	33.75	36.25				45.4	85.1
40	39.5	40.5	38.75	41.25				49.9	92.2
45	44.5	45.5	43.75	46.25			38.20		100
50	49.5	50.5	48.75	51.25					108
55	54.4	55.6	53.5	56.5					
60	59.4	60.6	58.5	61.5					123
65	64.4	65.6	63.5	66.5					
70	69.4	70.6	68.5	71.5					
80	79.4	80.6	78.5	81.5					
90	89.3	90.7	88.25	91.75					
100	99.3	100.7	98.25	101.75					

Note:

1. Preferred lengths are in between the stepped bold lines.
2. Weights are given in kg. per 1000 numbers only.
3. For stocked sizes refer BPS components book-let.

Revisions			Approved		
Rev. No.	Amd. No.	Reaffirmed	Prepared HPBP TIRUCHY	Issued STANDARDS ENGG.	Dt of 1st Issue
Dt.	Dt.	Year			