

**TERMS AND CONDITIONS FOR****Tender Enquiry No.1415-177 Dated: 26.02.2015 Due Date of Opening:
12.03.2015****Item: Miscellaneous items****C1 Inviting Quotations:**

Sealed Bid submission in two part Part-I: Techno-commercial bid and Part-II: Price bid are hereby invited for manufacturing and supply of fasteners & Other Items as per BHEL Drawings, Matl Standards (as per latest revision applicable), TDCs and other technical documents referred in these documents. The relevant documents are attached with the Enquiry.

Note : For manufacturers-

Procurement shall be preferred from manufacturers. In case manufacturer insists on engaging a dealer/ agent, such dealer/agent is not allowed to represent more than one manufacturer.

For dealers-

In case of dealers/agents, Authorized dealer certificate is required from original manufacturer for this tender. In case bids are received from dealer/agent and manufacturer both, bid submitted by dealer will be rejected. A dealer representing more than one manufacturer will be rejected, kindly quote for single make only.

The two bids should be submitted in separate sealed inner envelopes duly mentioning the detail as follows:

Bid	Description	Superscription on envelope	Min documents to be submitted
Part-I			
	Techno-Commercial bid in response to Tender Enquiry no. 1415-177 Dated 26.02.2015	PART-I: "Techno-Commercial Bid" Tender Enquiry no. 1415-177 Dated 26.02.2015 Due Date of Opening: 12.03.2015 Sender :	1. Acceptance of all terms and conditions. 2. Un-priced (Prices not filled) format showing taxes and duties structure.
Part-II			
	Price Bid in response to Tender Enquiry No. 1415-177 Dated 26.02.2015	PART-II: "Price Bid" Tender Enquiry no. 1415-177 Dated 26.02.2015 Sender:	Price bid duly filled prices in words & figures.

All the sealed envelopes should be put in an outer envelope clearly mentioning Tender Enquiry No.1415-177 Dated 26.02.2015.item description as Miscellaneous Items and due date of opening as 12.03.2015 time 1530hrs on it.

Part-I: Techno-Commercial bid should contain.

- Acceptance of Techno-Commercial terms and conditions should be attached next. This can be attached either by signing each page of terms and conditions or a confirmation statement. If nothing is mentioned for any term, it shall be summarily concluded that the same is acceptable and no representation whatsoever shall be entertained later on.
- Un-priced bid as per format attached. **All details, i.e. whether quoted for item, duties and taxes etc. should be filled.** Price Bid format without the price shall be provided with Part I.
- Any deviation proposed by bidder shall be considered by BHEL at its own discretion; and if finally considered, shall carry loading factor at the discretion of BHEL.

Quotations shall reach us by 1500 Hrs and Part-I shall be opened at 1530 Hrs on due date Late offers are liable to be rejected, so please ensure to send the quotation well within 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 1630 hrs, if all the vendors have accepted the entire tender terms and conditions. If not opened on the same day, all qualifying bidders shall be notified for date of opening of Price bids.

Note: Some items are reserved for MSE as mentioned in bid annexure. In such cases, 100% procurement shall be done from MSE vendors. In case, no response is received from MSEs, then procurement will be done from Non- MSE firms at sole discretion of BHEL.

Part II: Price Bids:

Authorized Signatory



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Price bid in the format attached . Preferably the price bid envelop should contain ONLY the price bid. Further, if even the same conditions are mentioned in the Part-II, but after scrutiny of Part-I, the bidder has agreed to BHEL terms, the same shall be binding and any such condition found in Part-II shall in no case be discussed.

No Other format shall be used for submitting the price bid . Any variation in Unit of Supply other than that mentioned in the Price bid format shall not be accepted.

Anything other than price mentioned in the price bid shall be considered invalid. If there is some discrepancy in Price Bid rates than the rates quoted in words shall be accepted.

Duties shall be payable extra against ED Gate Pass valid for CENVAT benefit.

Price quoted shall be firm and not subject to any escalation during the contract execution.

Price should be quoted on FOR Destination Goindwal Sahib basis. If not mentioned, it shall be concluded that the offer is on FOR Destination Goindwal Sahib basis. In case rates are Ex-Works basis, loading of expenses i.e., freight, transit insurance shall be done by BHEL at its discretion to arrive at Landed prices. Comparison shall be done at Landed cost to BHEL.

All amounts shall be indicated both in words as well as figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

Tenders should be free from CORRECTION AND ERASURES. Corrections if any must be attached. 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. For any clarification you can contact on email id tendermm@bhelivp.in.Fax (01859-222061) / E-Mail (tendermm@bhelivp.in) offers received in time shall be considered only when such offers are complete in all respects.

C2 Validity of offers:

Offers shall be valid for 45 Days from due date of opening. In case of extension of due date of opening, the offers validity shall be extended accordingly.

C3 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. National & International material Standards shall have to be arranged by vendors themselves. **Comparison and procurement shall be done for set (wherever mentioned), i.e. fastener along with required number of nuts. For the items where corresponding Bolts/Studs/Screws are listed along with nuts, quotation where bidders have quoted for both shall only be considered. If the item is appearing more than once then the minimum of rate will be considered. Note that some of these items are reserved for MSEs firms only. If in an item none of the MSE firm has quoted then BHEL may decide for procuring it from non-MSE. Further if any document is required it must be submitted within the time stipulated by BHEL.**

C4 Replacement of Rejection:

If the material is rejected due to defective workmanship during inspection or at the time of actual use, 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. Bidder has to take rejected material by own without any expenses paid by BHEL.

C5 Terms of payment:

C5.1 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 it's 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:

1. Commercial invoice (in duplicate).
2. Original VAT invoice valid for claiming input tax credit.
3. Compliance Certificate & Inspection clearance certificate released at the time of Pre-Despatch inspection at vendor's works, if any.
4. It is mandatory to mention proper material codes in the invoices and separate invoices to be raised for different POs.



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- C5.2 Above documents should include your Registration numbers such as ECC no, PAN no, CST no, TIN/ VAT nos. etc.
- C5.3 BHEL will not be responsible for delays in release of payment on account of discrepancies in documentation, so vendor has to ensure compliance to documentation requirement.
- C5.4 **BHEL releases payment through EFT mode. Vendor can provide the necessary details by obtaining format before release of payment while supplying the material.**
- C6 **Delivery schedule:**
Supplies shall be affected and completed as per schedule mentioned in the POs. Delivery Schedule will be - 50% Qty Within First Month & balance Within Next Month Of Placing PO/LOI. Further, BHEL may release delivery schedule from time to time based upon our requirement. Vendor shall be required to complete the order as per the BHEL schedule requested. For supply of Track Bolt With Nut +/- 10% quantity may vary. BHEL reserves the right to cancel or hold orders.
- C6.1 **All test certificates are required before /with the material at BHEL Goindwal; Otherwise BHEL may or may not receive the material. Test certificates may be send on email as mentioned on Purchase orders in scanned form. In no case material will be accepted at BHEL without test certificates. Test certificaes can also be uploaded on <http://vis.bheltry.co.in/vis/index.jsp>**
- C7 **Inspection:**
a. All required tests shall be carried out by vendor at no extra cost. Relevant TCs shall accompany the consignment. BHEL may decide to inspect itself/arrange third party at vendors' works itself as and when necessary with prior intimation to the vendor. No additional charges shall be claimed for such inspections.
b. Vendor will give inspection call sufficiently in advance considering the delivery period stipulated in the purchase order.
c. Material Test Certificates (MTC), Inspection reports and Compliance/Guarantee Certificate are to be provided along with the supplies. If the Third party inspection is decided by BHEL, then charges will be paid to TPI but the necessary infrastructure will be provided by Bidder without claiming additional charges. Third party inspection if arranged by BHEL, charges will be borne by BHEL but the necessary infrastructure will be provided by bidder without any extra cost. Latest applicable revisions of standards/procedures to be referred.
d. Any inspection carried out before supply by bidder/incoming stage at BHEL not withstanding, if any defect/non-conformity is noted during processing, the same shall be attended/replaced by bidder at no extra cost.
- C8 **Guarantee:**
Bidder shall give a guarantee of 18 months from the date of dispatch or 12 months from use, against manufacturing defects, whichever is earlier. In case of non-acceptance of this term bid will be rejected.
- C9 **Access to Manufacturing Premises:**
For evaluation & during the period of execution of contract, authorized representatives of BHEL shall be allowed free access to the manufacturing facilities for the purpose of inspection or monitoring the progress of contract. This access will also be extended to representatives of BHEL's customers accompanying the authorized representative/s of BHEL, if our contractual requirements with our customers call for the same.
- C10 **Risk Purchase:**
BHEL shall be entitled to terminate the contract with any vendor and to purchase elsewhere at the risk and cost of the vendor, either the whole or part thereof which the supplier has failed to deliver within the time stipulated as aforesaid. Vendor shall be liable for the losses, which BHEL may sustain by way of such risk purchase in addition to aforesaid penalty for delayed delivery. Purchases made from any other vendor at its quoted rates shall be made and the difference of rates of defaulter vendor and new vendor shall be deducted from running bills of the vendor who has failed to deliver.
- C11 **Penalty for late delivery:**



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'Time is the essence of the contract'. As such, delivery of goods specified in the Purchase Orders shall be made within the time limit prescribed therein. Penalty for late delivery clause will be applicable for delayed supplies @ 0.5% per week or part thereof subject to a maximum of 10%. If any vendor does not accept LD % 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). Once the delivery period mentioned has expired, BHEL may or may not take the delivery of item & reserves the right to cancel Purchase Order.

C12 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.

C13 MSE Certification:

If the bidder is registered as any of Micro/Small enterprise as defined in Micro Small and Medium Enterprises Development Act, 2006; a copy of registration certificate to be attached.

C14 Preferences to MSES:

MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM II (Acknowledgement of Entrepreneur Memorandum Part 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 are 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.

In cases where the MSE status is based on Acknowledgement of Entrepreneur Memorandum Part II (hereinafter referred as EM II Certificate), the validity of such EM II certificate will be deemed as 5 years (2 years earlier deemed validity + 3 years present extension as per the gazette notification) from the date of acknowledgement of the EM II certificate, unless it is accompanied by a CA certificate (format as per Annexure-1), which will be required for each bid.

C15 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 instalment shall not be deemed a waiver of time in respect of remaining deliveries.

C16 Arbitration:

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.

C17 Jurisdiction:

26/2/15



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

C18 Banned Firms:

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

C19 Clarifications:

The correspondence exchanged against the tender from both tenderer and BHEL through email 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.

C20 Purchase Order:

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. Comparison of rates will be done on the basis of landed cost to BHEL for individual item. In case a vendor turns out to be L1 in one item only, than vendor have to commence the Purchase order within specified time period irrespective of the total value of PO.

C21 Words and Figures:

a. 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.

b. 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

c. 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.

d. 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.

C22 Packaging:

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 eg if 500 Bolts are to 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. Track Bolts must be supplied in standing position so as to facilitate counting.

C23 General:

a) 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.

b) BHEL reserves the right to accept or reject any part or whole of the tender 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.

c) BHEL reserves the right to short close the contract at any time. The quantity supplied or requirement intimated by BHEL will stand as it is, but contract may be close for further supplies, if no further requirement exists.



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d) Please submit acceptance of all techno-commercial terms along with quotation. If nothing is mentioned for any term, it shall be concluded that the same is acceptable. Performance of suppliers shall be monitored periodically by user department of BHEL.

Annexure-1

Certificate by Chartered Accountant on letter head

This is to Certify that M/S (hereinafter referred to as 'company') having its registered office at is registered under MSMED Act 2006, (Entrepreneur Memorandum No (Part-11) dtd:....., Category:..... (Micro/Small)).
(Copy enclosed).

- 1. For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O.1722(E) dated October 5, 2006 :
Rs.....Lacs
- 2. For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006: Rs.....Lacs

(Strike off whichever is not applicable)

The above investment of Rs.....Lacs is within permissible limit of Rs.....Lacs forMicro / Small (Strike off which is not applicable) Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/ Small) (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

Name-

Membership number-

(Signature)

Seal of Chartered Accountant

BHARAT HEAVY ELECTRICALS LTD

IVP, GOINDWAL SAHIB

PRICE BID ANNEXURE

Annexure to Enquiry No. 1415-177 Dated 26.02.2015 Due Date of submitting quotations 12.03.2015

Item Miscellaneous items

S.No.	Matl Code	Desc	Drawing/ Specifications/ Requirement	Unit	Qty Nos.	Unit price, Rs	
						In Figures	In Numbers
1	550173970000	BALL D4-2253	4V225304046/00 TSB047/02	Nos	1000		
2	170430110000	BEEDED PLUG T9 - 1/2"	BPS 718501	Nos	1000		
3	961331900000	BUTTON - CABLE STRAP	TSB048/02	Nos	6000		
4	961384720000	CABLE MARKER "0" Dia.3.5	0	Nos	10000		
5	961384630000	CABLE MARKER "1" Dia.1.5	0	Nos	20000		
6	961384640000	CABLE MARKER "2" Dia.1.5	0	Nos	10000		
7	961384650000	CABLE MARKER "3" Dia.1.5	0	Nos	10000		
8	961384660000	CABLE MARKER "4" Dia.3.5	0	Nos	10000		
9	961384670000	CABLE MARKER "5" Dia.3.5	0	Nos	10000		
10	961384680000	CABLE MARKER "6 Dia.3.5	0	Nos	10000		
11	961385120000	CABLE MARKER "7" Dia.3.5	0	Nos	10000		
12	961384730000	CABLE MARKER "8" Dia.3.5	0	Nos	10000		
13	961384740000	CABLE MARKER "9" Dia.3.5	0	Nos	10000		
14	961384710000	CABLE MARKER "B"	0	Nos	10000		
15	961384700000	CABLE MARKER "Y"	0	Nos	10000		
16	961381350000	CABLE MARKER 2.5 SQMM - "1"	0	Nos	10000		
17	961331880000	CABLE STRAP	TSB048/02	Meters	370		
18	417020601400	CYL PIN-6x14 -IS:2393	SPECN IS-2393	Nos	100		
19	417020805500	CYL PIN-8x55 -IS2393	SPECN IS-2393	Nos	100		
20	417090302400	DRIVE PIN-3x24 -40C8-IS7368-FLGRV	SPECN IS-7368	Nos	650		
21	417090503200	DRIVE PIN-5x32 -IS7368-FLGRV	SPECN IS-7368	Nos	400		
22	417100602400	DRIVE PIN-6x24 -40C8-IS7385-HFGRV	SPECN IS-7385	Nos	1650		
23	419020001900	EXT CIRCLIP-A19 -IS3075P1-N-d17.5	SPECN IS-3075(P-1)	Nos	1850		
24	419020002000	EXT CIRCLIP-A20 -IS3075P1-N-d18.5	SPECN IS-3075(P-1)	Nos	1900		
25	419020002400	EXT CIRCLIP-A24 -IS3075P1-N-d22.2	SPECN IS-3075(P-1)	Nos	1900		
26	419020003800	EXT CIRCLIP-A38 -IS3075P1-N-d35.2	SPECN IS-3075(P-1)	Nos	1150		
27	419020007000	EXT CIRCLIP-A70 -IS3075P1-N-d65.5	SPECN IS-3075(P-1)	Nos	900		
28	414060000400	MCN WASHER-M 4 -IS2016	SPECN IS-2016	Nos	1900		
29	414060001600	MCN WASHER-M16 -IS2016	SPECN IS-2016	Nos	1400		
30	414060002000	MCN WASHER-M20 -IS2016	SPECN IS-2016	Nos	1900		
31	414060002400	MCN WASHER-M24 -IS2016	SPECN IS-2016	Nos	100		
32	964655200000	METALLIC WASHER	4VBA5127018/00 A182-F316	Nos	100		
33	415010402800	PL KEY-4x4x28 -IS2048-A	SPECN IS-2048	Nos	900		
34	415010502000	PL KEY-5x5x20 -IS2048-A	SPECN IS-1875 CL 4	Nos	1500		
35	415010502500	PL KEY-5x5x25 -IS2048-A	SPECN IS-2048	Nos	1800		
36	415010503200	PL KEY-5x5x32 -IS2048-A	SPECN IS-2048	Nos	1800		
37	415010802500	PL KEY-8x7x25 -IS2048-A	SPECN IS-1875 CL 4	Nos	800		
38	415010804500	PL KEY-8x7x45 -IS2048-A	SPECN IS-1875 CL 4	Nos	1550		
39	415011202000	PLAIN KEY-12x8x20 -IS2048-A	IS-2048	Nos	350		
40	415010605600	PLAIN KEY-6x6x56 -IS2048-A	SPECN IS-2048	Nos	900		
41	170430240000	PLAIN PLUG-1/8 -T8-BPS718515	BPS 718515	Nos	5500		
42	414080000800	PUN WASHER-M 8 -IS:2016-A	IS:2016-A DRG: BPS 41408	Nos	500		
43	414080001000	PUN WASHER-M10 -IS2016-A	IS2016-A DRG: BPS 41408	Nos	200		
44	414080001600	PUN WASHER-M16 -IS2016-A	IS2016-A DRG: BPS 41408	Nos	1000		
45	414080002400	PUN WASHER-M24 -IS2016-A	A 26(ID) IS:2016.	Nos	1000		
46	961330010000	RING TERMINAL 2.5(M4) TCI-129	0	Nos	3000		
47	961330030000	RING TERMINAL 2.5(M5) TCI-129	TDC:5:196/00	Nos	3000		
48	930064340000	S G PLUG-0128	4V012801142/01	Nos	100		
49	963533370000	SCREW PLUG M33X2	TSB064/02	Nos	2700		
50	417042001600	SPLIT PIN-2x16 -IS549	SPECN IS-549	Nos	1000		
51	417044002500	SPLIT PIN-4x25 -IS:549	SPECN IS-549	Nos	500		
52	417110251200	SPR DWL SLEEVE-2.5x12 -IS5988-L	SPECN IS-5988	Nos	700		
53	417110253200	SPR DWL SLEEVE-2.5x32 -IS5988-L	SPECN IS-5988	Nos	900		
54	417110603200	SPR DWL SLEEVE-6x32 -IS5988-L	SPECN IS-5988	Nos	2800		
55	414050090600	SPRING WASHER-B 6 -IS3063-GALV	SPECN IS-3063	Nos	3600		
56	414050090800	SPRING WASHER-B 8 -IS3063-GALV	SPECN IS-3063	Nos	5000		
57	414050001000	SPRING WASHER-B10 -IS3063	B 10 SPECN:IS-3063	Nos	3000		
58	414050001200	SPRING WASHER-B12 -IS3063	B 12 IS:3063	Nos	2500		
59	414050001600	SPRING WASHER-B16 -IS3063	SPECN IS-3063	Nos	2900		
60	414050002000	SPRING WASHER-B20 -IS3063	SPECN IS-3063	Nos	5000		
61	414050002400	SPRING WASHER-B24 -IS3063	SPECN IS-3063	Nos	1000		
62	414050003000	SPRING WASHER-B30 -IS3063	SPECN IS-3063	Nos	150		
63	414120001600	SPRING WASHER-M16 -IS6735-SQ	SPECN IS-6735	Nos	100		
64	414120002000	SPRING WASHER-M20 -IS6735-SQ	SPECN IS-6735	Nos	100		
65	220736460000	END COVER 69-BPS:6119-0120-41	BPS 611+-0120	Nos	1000		
66	220744630000	TUBE END COVER INT DIA 27- BPS 6119-0120	BPS DRG-6119-0120	Nos	1000		

Taxes and other conditions will be as mentioned in Unprice Bids.

Authorised signatory with seal



BHARAT HEAVY ELECTRICALS LTD

IVP, GOINDWAL SAHIB

UNPRICE BID ANNEXURE

Annexure to Enquiry No. 1415-177 Dated 26.02.2015 Due Date of submitting quotations 12.03.2015

Item Miscellaneous Items

S.No.	Material Code	Material Description	Drawings/Specifications	Unit	Qty Nos.	MSE Reserved Items	Quoted Yes/No
1	550173970000	BALL D4-2253	4V225304046/00 TSB047/02	Nos	1000	N	
2	170430110000	BEDED PLUG T9 - 1/2"	BPS 718501	Nos	1000	N	
3	961331900000	BUTTON - CABLE STRAP	TSB048/02	Nos	6000	N	
4	961384720000	CABLE MARKER "0" Dia.3.5	0	Nos	10000	N	
5	961384630000	CABLE MARKER "1" Dia.1.5	0	Nos	20000	N	
6	961384640000	CABLE MARKER "2" Dia.1.5	0	Nos	10000	N	
7	961384650000	CABLE MARKER "3" Dia.1.5	0	Nos	10000	N	
8	961384660000	CABLE MARKER "4" Dia.3.5	0	Nos	10000	N	
9	961384670000	CABLE MARKER "5" Dia.3.5	0	Nos	10000	N	
10	961384680000	CABLE MARKER "6" Dia.3.5	0	Nos	10000	N	
11	961385120000	CABLE MARKER "7" Dia.3.5	0	Nos	10000	N	
12	961384730000	CABLE MARKER "8" Dia.3.5	0	Nos	10000	N	
13	961384740000	CABLE MARKER "9" Dia.3.5	0	Nos	10000	N	
14	961384710000	CABLE MARKER "B"	0	Nos	10000	N	
15	961384700000	CABLE MARKER "Y"	0	Nos	10000	N	
16	961381350000	CABLE MARKER 2.5 SQMM - "1"	0	Nos	10000	N	
17	961331880000	CABLE STRAP	TSB048/02	Meters	370	N	
18	417020601400	CYL PIN-6x14 -IS-2393	SPECN IS-2393	Nos	100	N	
19	417020805500	CYL PIN-8x55 -IS2393	SPECN IS-2393	Nos	100	N	
20	417090302400	DRIVE PIN-3x24 -40C8-IS7368-FLGRV	SPECN IS-7368	Nos	650	N	
21	417090503200	DRIVE PIN-5x32 -IS7368-FLGRV	SPECN IS-7368	Nos	400	N	
22	417100602400	DRIVE PIN-6x24 -40C8-IS7385-HFGRV	SPECN IS-7385	Nos	1650	N	
23	419020001900	EXT CIRCLIP-A19 -IS3075P1-N-d17.5	SPECN IS-3075(P-1)	Nos	1850	Y	
24	419020002000	EXT CIRCLIP-A20 -IS3075P1-N-d18.5	SPECN IS-3075(P-1)	Nos	1900	Y	
25	419020002400	EXT CIRCLIP-A24 -IS3075P1-N-d22.2	SPECN IS-3075(P-1)	Nos	1900	Y	
26	419020003800	EXT CIRCLIP-A38 -IS3075P1-N-d35.2	SPECN IS-3075(P-1)	Nos	1150	Y	
27	419020007000	EXT CIRCLIP-A70 -IS3075P1-N-d65.5	SPECN IS-3075(P-1)	Nos	900	Y	
28	414060000400	MCN WASHER-M 4 -IS2016	SPECN IS-2016	Nos	1900	Y	
29	414060001600	MCN WASHER-M16 -IS2016	SPECN IS-2016	Nos	1400	Y	
30	414060002000	MCN WASHER-M20 -IS2016	SPECN IS-2016	Nos	1900	Y	
31	414060002400	MCN WASHER-M24 -IS2016	SPECN IS-2016	Nos	100	Y	
32	964655200000	METALLIC WASHER	4VBAS127018/00 A182-F316	Nos	100	Y	
33	415010402800	PL KEY-4x4x28 -IS2048-A	SPECN IS-2048	Nos	900	N	
34	415010502000	PL KEY-5x5x20 -IS2048-A	SPECN IS-1875 CL 4	Nos	1500	N	
35	415010502500	PL KEY-5x5x25 -IS2048-A	SPECN IS-2048	Nos	1800	N	
36	415010503200	PL KEY-5x5x32 -IS2048-A	SPECN IS-2048	Nos	1800	N	
37	415010802500	PL KEY-8x7x25 -IS2048-A	SPECN IS-1875 CL 4	Nos	800	N	
38	415010804500	PL KEY-8x7x45 -IS2048-A	SPECN IS-1875 CL 4	Nos	1550	N	
39	415011202000	PLAIN KEY-12x8x20 -IS2048-A	IS-2048	Nos	350	N	
40	415010605600	PLAIN KEY-6x6x56 -IS2048-A	SPECN IS-2048	Nos	900	N	
41	170430240000	PLAIN PLUG-1/8 -T8-BPS718515	BPS 718515	Nos	5500	N	
42	414080000800	PUN WASHER-M 8 -IS2016-A	IS:2016-A DRG: BPS 41408	Nos	500	Y	
43	414080001000	PUN WASHER-M10 -IS2016-A	IS2016-A DRG: BPS 41408	Nos	200	Y	
44	414080001600	PUN WASHER-M16 -IS2016-A	IS2016-A DRG: BPS 41408	Nos	1000	Y	
45	414080002400	PUN WASHER-M24 -IS2016-A	A 26(ID) IS:2016.	Nos	1000	Y	
46	961330010000	RING TERMINAL 2.5(M4) TCI-129	0	Nos	3000	N	
47	961330030000	RING TERMINAL 2.5(M5) TCI-129	TDC:5:196/00	Nos	3000	N	
48	930064340000	S G PLUG-0128	4V012801142/01	Nos	100	N	
49	963533370000	SCREW PLUG M33X2	TSB064/02	Nos	2700	N	
50	417042001600	SPLIT PIN-2x16 -IS549	SPECN IS-549	Nos	1000	N	
51	417044002500	SPLIT PIN-4x25 -IS549	SPECN IS-549	Nos	500	N	
52	417110251200	SPR DWL SLEEVE-2.5x12 -IS5988-L	SPECN IS-5988	Nos	700	N	
53	417110253200	SPR DWL SLEEVE-2.5x32 -IS5988-L	SPECN IS-5988	Nos	900	N	
54	417110603200	SPR DWL SLEEVE-6x32 -IS5988-L	SPECN IS-5988	Nos	2800	N	
55	414050090600	SPRING WASHER-B 6 -IS3063-GALV	SPECN IS-3063	Nos	3600	N	
56	414050090800	SPRING WASHER-B 8 -IS3063-GALV	SPECN IS-3063	Nos	5000	Y	
57	414050001000	SPRING WASHER-B10 -IS3063	B 10 SPECN:IS-3063	Nos	3000	Y	
58	414050001200	SPRING WASHER-B12 -IS3063	B 12 IS:3063	Nos	2500	Y	
59	414050001600	SPRING WASHER-B16 -IS3063	SPECN IS-3063	Nos	2900	Y	
60	414050002000	SPRING WASHER-B20 -IS3063	SPECN IS-3063	Nos	5000	Y	
61	414050002400	SPRING WASHER-B24 -IS3063	SPECN IS-3063	Nos	1000	Y	
62	414050003000	SPRING WASHER-B30 -IS3063	SPECN IS-3063	Nos	150	Y	
63	414120001600	SPRING WASHER-M16 -IS6735-SQ	SPECN IS-6735	Nos	100	Y	
64	414120002000	SPRING WASHER-M20 -IS6735-SQ	SPECN IS-6735	Nos	100	Y	
65	220736460000	END COVER 69-BPS:6119-0120-41	BPS 6119-0120	Nos	1000	N	
66	220744630000	TUBE END COVER INT DIA 27- BPS 6119-0120	BPS DRG-6119-0120	Nos	1000	N	

Excise Duty rate (mention in % if applicable, mention as NIL if not applicable)

Pl. clearly mention

Cess on ED rate (mention in % if applicable)

Extra@

Pl. clearly mention

CST (%)

Extra@

Pl. clearly mention

VAT (%)

Extra@

Pl. clearly mention

Validity of offers (As per BHEL terms 45 days validity is required)

Pl. clearly mention

Delivery terms (FOR Goindwal Sahib)

Pl. clearly mention

MSE Firm (YES/NO)

Pl. clearly mention

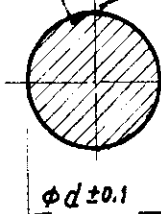
MSE Documents attached (Yes/No)

Pl. clearly mention

Please note that nothing will be considered other than prices in the price bid.

Authorised signatory with seal

TP-DG 4-V-0000-04046
 CORPORATE DRG ID
 23-9-75
 D.V. Kumar
 CHECKED
 ZONE 1. DRG. REDRAWN.
 2. IN SL. NO.3. REQUIREMENT FOR
 2 1/2" & 4" - 5000 PSI ADDED
 REV. 2 DATE 11.6.75 ALTRD: S.S. Sarda
 APPD: Pujari
 0.6/
 SURFACE FINISH IS ADDED.



SV - STOP VALVE
 RV - REGULATING VALVE
 FBV - FULL BORE VALVE

SL. NO.	DRAWING NOS.	MATL. CODE	$\phi d \pm 0.1$	WT. PER 1000 NOS (KG)	NO. OFF/VALVE	APPLICABLE VALVES
1	4-V-2253-04046	55017397	4	0.26	1	2WAY & 3WAY PR. GAUGE VALVE
					10	15/100/III SV & RV
					12	25/100/III SV & RV
					16	40/100/III SV & RV
2	4-V-2242-04046	55017555	5.5	0.70	11	32, 40, 50/40/III SV & RV.
					12	65, 80/40/III SV & RV
					14	100/40/III SV & RV
3	4-V-2410-04046	55017700	7	1.40	13	125, 150/40/III SV & RV
					16	200/40/III SV & RV
					1	2 1/2", 4" - 5000 PSI FBV, 2" FBV

NOTE:

1. COMMON FOR ALL BASIC & ALLIED TYPE NOS. OF RESPECTIVE SIZES OF VALVES.
2. BALLS SHALL BE SUITABLY RUST-PROOFED
3. HARDNESS TO BE 60-66 HRC

00529 303

		HARDENED & TEMPERED.		EN 31 BS 970					
NO. OF PIECES	DESCRIPTION	SEM. PRD. / SEQ. NO.	INT. MAT. / SEQ. NO.	FINAL MATERIAL	SCRAP SORT	NET wt. (kg)	GROSS wt. (kg)	DRAWING NO.	ITEM NO.
FIRST ANGLE	SCALE	DRAWN		D.V. Kumar		TOTAL wt. (kg)			
	NTS	CHECKED		D.K. Pujari		TYPE			
		APPROVED		C.G.					
ALL DIMENSIONS IN MILLIMETRES			DATE	23/9/75		NEW/OLD DRG. No.			

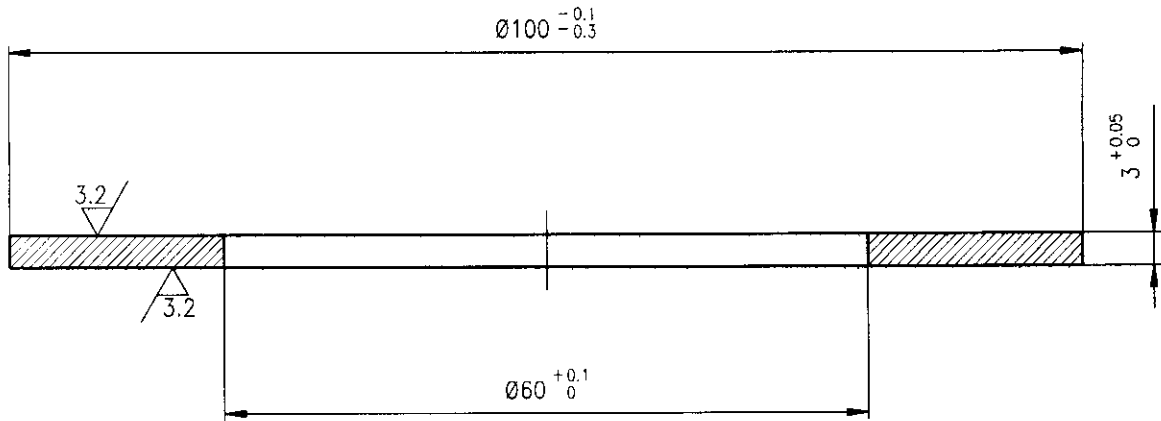
CAUTION		STEEL BALL	
<p>THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS, LIMITED. BOILER PLANT UNIT, FIRCHEY-620014. AND SHALL NOT BE USED WITHOUT THEIR EXPRESS WRITTEN PERMISSION IN ANY FORM OR PART THEREOF FOR ANY OTHER PURPOSE THAN FOR WHICH IT IS ISSUED.</p>		<p>DRAWING No. 4-V-0000-04046</p> <p>REVISION 2</p>	
<p>CARD CODE U/D</p>		<p>TP-DG 4-V-0000-04046 CORPORATE DRG ID</p>	

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
		CHD & APPD

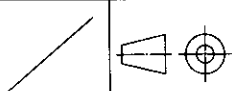
12.5/3.2/



COMPONENT CODE : 964655200000

01	-	-	A182 - F316, CERTIFY	-	-	0.12	-	4-V-BA51-27018	07
----	---	---	-------------------------	---	---	------	---	----------------	----

	BHARAT HEAVY ELECTRICALS LTD. UNIT: HIGH PRESSURE BOILER PLANT, THIRUCHIRAPALLI 620014.		DRN	NAME	SIGN	DATE	NO. OF VAR
			CHD	K.RAJASEKARAN		11.01.13	
			APPD	K.SAKETH			

DEPT VL.		SCALE	WEIGHT (KG)	REFERENCE INFORMATIONS	NO. OF ITEMS
CODE 320		NTS	-	-	

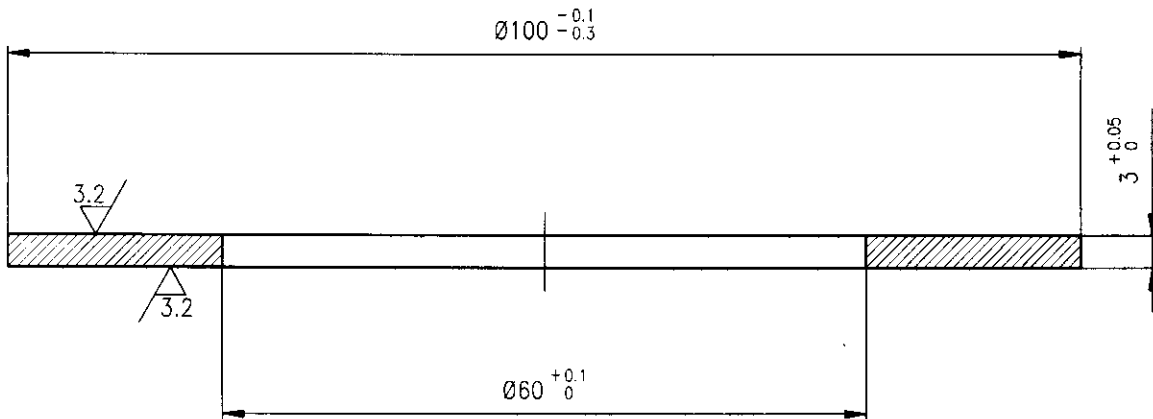
TITLE	CARD CODE	DRAWING NO.	REV
METALLIC WASHER	U 01	4-V-BA51-27018	00

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
		CHD & APPD

12.5/3.2/



COMPONENT CODE : 964655200000

01	-	-	A182 - F316, CERTIFY	-	-	0.12	-	4-V-BA51-27018	07
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BHARAT HEAVY ELECTRICALS LTD.
UNIT: HIGH PRESSURE BOILER PLANT,
TIRUCHIRAPPALLI 620014.

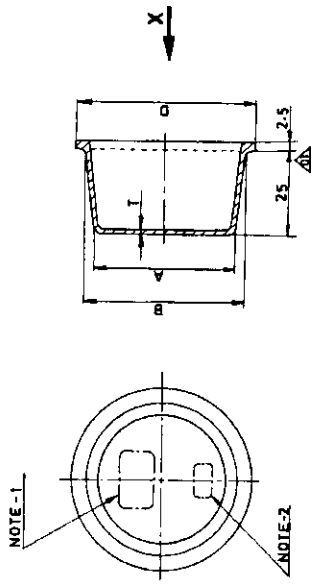
DRN	NAME	SIGN	DATE	NO. OF VAR
CHD	DEEPAKRAJ		11.01.13	
APPD	K.RAJASEKARAN			

DEPT	SCALE	WEIGHT (KG)	REFERENCE INFORMATION	NO. OF ITEMS
VAL	NTS	-	-	

TITLE	CARD CODE	DRAWING NO.	REV
METALLIC WASHER	U 01	4-V-BA51-27018	00

6119-0120

FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)



NOTE

1. STAMP THE EMBLEM ACCORDING TO AA 040 11 21 IN THE DIRECTION 'X'.
2. STAMP THE APPROPRIATE NOM. SIZE IN THE DIRECTION 'X'.
3. MATERIAL: UREA FORMALDEHYDE CONFORMING TO IS:3389 OR POLYVINYL CHLORIDE (PVC) OR OTHER EQUIVALENT.
4. THE TUBE END COVERS SHALL BE FLEXIBLE TO FIT SNUGLY IN TO THE TUBE AND WITHSTAND SHOCK DURING TRANSIT OF THE TUBES.
5. THE TUBE END COVERS SHALL PREFERABLY BE OF DARK BLUE OR WHITE IN COLOUR OF VIRGIN QUALITY MATERIAL.
6. THE CORNERS SHALL BE SUITABLY RADIUSSED

EMBLEM SIZE	A	B	D	T	DESCRIPTION	8PS CODE	UNIT WGT.	UNIT WGT.	UNIT WGT.		
25	66	72	78	1.5	21	TUBE END COVER INT DIA 69	6119 0120 41	22	073	646	0015
25	63	69	75	1.5	20	TUBE END COVER INT DIA 66	6119 0120 40	22	074	476	0014
15	60	66	72	1.5	19	TUBE END COVER INT DIA 63	6119 0120 39	22	074	475	0014
15	57	63	69	1.5	18	TUBE END COVER INT DIA 60	6119 0120 38	22	074	474	0013
15	54	60	66	1.5	17	TUBE END COVER INT DIA 57	6119 0120 37	22	074	473	0012
15	51	57	63	1.5	16	TUBE END COVER INT DIA 54	6119 0120 36	22	074	472	0012
15	48	54	60	1.5	15	TUBE END COVER INT DIA 51	6119 0120 35	22	074	471	0009
15	45	51	57	1.5	14	TUBE END COVER INT DIA 48	6119 0120 34	22	074	470	0008
15	42	48	54	1.5	13	TUBE END COVER INT DIA 45	6119 0120 33	22	074	469	0008
-	39	45	51	1.5	12	TUBE END COVER INT DIA 42	6119 0120 32	22	074	468	0007
-	36	42	48	1.5	11	TUBE END COVER INT DIA 39	6119 0120 31	22	074	467	0006
-	33	39	45	1.5	10	TUBE END COVER INT DIA 36	6119 0120 30	22	074	466	0005
-	30	36	42	1.5	09	TUBE END COVER INT DIA 33	6119 0120 29	22	074	465	0005
-	27	33	39	1	08	TUBE END COVER INT DIA 30	6119 0120 28	22	074	464	0004
-	24	30	36	1	07	TUBE END COVER INT DIA 27	6119 0120 27	22	074	463	0004
-	21	27	33	1	06	TUBE END COVER INT DIA 24	6119 0120 26	22	074	462	0004
-	18	24	30	1	05	TUBE END COVER INT DIA 21	6119 0120 25	22	074	461	0003
-	15	21	27	1	04	TUBE END COVER INT DIA 18	6119 0120 24	22	074	460	0002
-	12	18	24	1	03	TUBE END COVER INT DIA 15	6119 0120 23	22	074	459	0001
-	9	15	21	1	02	TUBE END COVER INT DIA 12	6119 0120 22	22	074	458	0001
-	6	12	18	1	01	TUBE END COVER INT DIA 9	6119 0120 21	22	074	457	0001

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

Bharat Heavy Electricals Ltd.
BOILER PLANT UNIT
TIRUCHIRAPPALLI-620 014

REV DATE ALTERED 12/10/83 BY 313.81

NOTE 3 ALTERED, LETTER REF 69 EMBLEM SIZE IS WAS 25

NOTE 4: MPL: BPS: DIA DATED 05/10/83

UNIT WGT. REFER UNIT WGT. BPS 517501

TUBE END COVER (INTERNAL TYPE)

6119-0120



PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 41408

Rev. No. 02

PAGE 1 OF 2

PUNCHED WASHERS - TYPE A

1.0 SCOPE

Covers the requirements for punched washers Type A in the size range 61 to 78 mm.

2.0 SPECIFICATION AND REFERENCE STANDARDS

<i>Dimensions and tolerances</i>	Figure 1 and Table 1 of this standard	
<i>Material</i>	Suitable steel	
<i>Finish</i>	Natural finish	
<i>Sampling and inspectability</i>	Indian Standard	IS 6821 and IS 5369
<i>General Requirements</i>	Washers shall comply with IS 2016 in respect of requirements not covered in this standard.	

2.1 Referred Standards (Only current versions are applicable)

IS 2016	Specification for plain washers.
IS 5369	General requirements for plain washers and lock washers.
IS 6821	Methods for sampling non-threaded fasteners.

3.0 DESIGNATION

A punched washer of size 61 to this standard for bolt/screw size M56 shall be designated as :

3.1 On Drawings

- i) Material Specification column :
- ii) Description column : PUNCHED WASHER A 61
- iii) Drawing Number column : BPS 41408
- iv) Material Code column : 4140800056

3.2 Ordering Description

For placing indents, issuing enquiries and on purchase order, ordering description given below shall be followed (typical examples).

Punched Washer A61 to BPS 41408

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Revisions 02 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. JUNE 1997	Dt.	Year	STANDARDS	STANDARDS	DEC 1986



PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 41408

Rev. No. 02

PAGE 2 OF 2

4.0 ADDITIONAL INFORMATION

- 4.1 These washers can be used with Product Grade C general purpose bolts and screws.
- 4.2 Copies of this standard shall be enclosed alongwith the purchase order.

Figure - 1

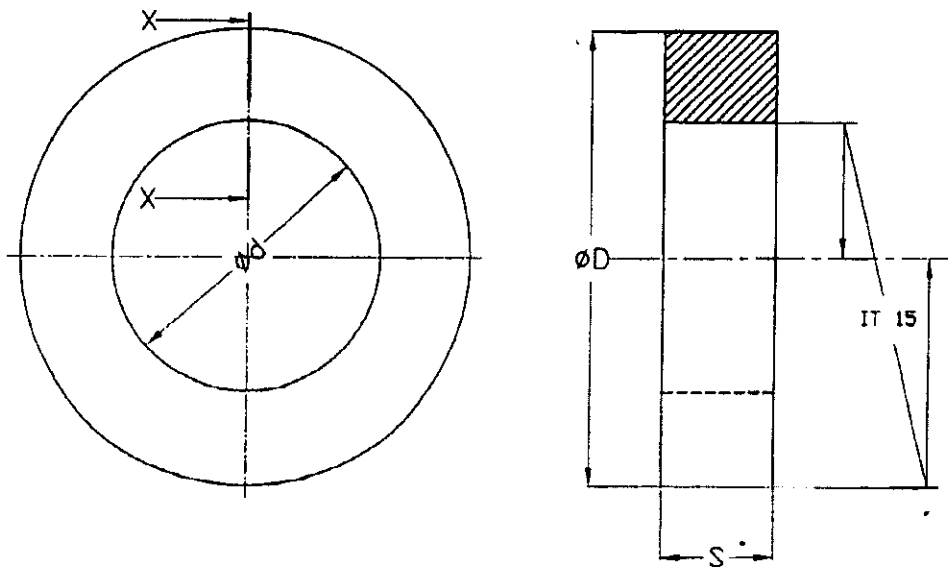


Table - 1

(All dimensions are in millimetres)

Size ød	øD Nom	s Nom	For bolt/screw size	Weight
61	105	9.0	M56	405.0
78	122	10.0	M72	543.0

NOTE :

- 1. Weights are given in Kg per 1000 numbers.



PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS 718501

PAGE 1 of 3

PLUG, BEADED T-9 - CAST IRON

1 SCOPE

- 1.1 This standard gives information as to the correct designation, material, sizes, dimensions and information required for ordering purposes for beaded plugs T9.
- 1.2 These plugs shall be suitable for working pressure up to 1.380 N/mm^2 in the case of water and upto 1.035 N/mm^2 in the case of steam, air gas and oil.

2 DESIGNATION

- 2.1 A beaded plug T9 of nominal size 1" shall be designated as:
 - 2.1.1 On drawings:
 - a) Material code column: ~~17-047-023~~ 17043011
 - b) Description column: BEADED PLUG T9-1/2
 - c) Drawing Number column: 718501-0015
 - 2.1.2 For placing indents on purchase: Beaded plug 1"-
BPS: 718501
 - 2.1.3 For issuing enquiries and purchase orders: While issuing enquiries and purchase orders delete the plant standard number from the clause 2.1.2 and add the information given under clause 3.

3 COMPLIANCE WITH STANDARDS

- 3.1 Dimensions, tolerances and general requirements : To IS: 1879 (Part IX)-75 Table 1
- 3.2 Material: The material used shall be white-heart malleable cast iron conforming to tensile and bend tests specified for Grade B of IS: 2107.

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REVISIONS

Some drawings for BHEL 17043023

DATE

17043011/16522

APPROVED

STANDARDS SECTION
ENGINEERING AND DEVELOPMENT CENTRE
HPBP TIRUCHIRAPALLI

PREPARED

ISSUED

DATE

HPBP TIRUCHIRAPALLI

STANDARDS

JAN 1983



PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS 718501

PAGE 2

3.3 Threads: Taper in accordance with IS: 554 and shall be clean and well cut.

3.4 Finish: Galvanised. The minimum weight of zinc coating on the fitting shall be 610 g/m^2 as per IS: 4759.

4 NOTE

4.1 Weights given in this standard are for general reference only and are not meant for commercial transactions.

4.2 For dimensions of screwed ends of fittings refer corporate standard AA 023 18 13.

4.3 For dimensions of pipe threads of fittings refer corporate standard AA 023 18 15.

4.4 For sampling and acceptance refer Appendix A of IS:1879 (Part I)-1975.

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116523

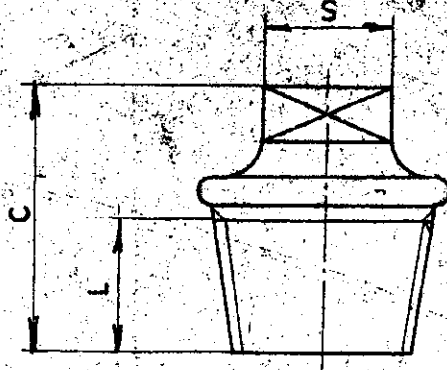


PLANT STANDARD

HBBP TIRUCHIRAPALLI

EPS 718501

PAGE 3



(All dimensions are in millimetres)

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Sl. No.	Nom size		C		S h14	L	Weight in kg	EPS Code Bin code
	mm	inch	Basic	Tol				
01	16	1/4	22	± 1.5	11	13	0.020	718501 0006 17 017 037
02	10	3/8	24	± 1.5	11	13	0.026	718501 0010 17 017 021
03	15	1/2	26	± 1.5	14	16	0.038	718501 0015 17 043 011
04	20	3/4	32	± 1.5	17	19	0.072	718501 0020 17 017 027
05	25	1	36	± 2.0	19	22	0.106	718501 0025 17 017 023
06	32	1 1/4	39	± 2.0	22	25	0.170	718501 0032 17 017 024
07	40	1 1/2	41	± 2.0	24	25	0.212	718501 0040 17 017 028
08	50	2	48	± 2.0	27	28	0.343	718501 0050 17 017 025
09	70	2 1/2	54	± 2.5	32	32	0.576	
10	80	3	60	± 2.5	36	35	0.776	718501 0075 17 017 026

116523



PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS 718515

PAGE 1 OF 3

PLUG PLAIN - T 8

(17-017-019)

1 SCOPE

- 1.1 This standard gives information as to the correct designation, material, sizes, dimensions and information required for ordering purposes for plugs.
- 1.2 These plugs are capable of withstanding the application of (a) an internal hydraulic test pressure of 4.905 N/mm² (50 kgf/cm²) and (b) an internal air test pressure of 0.6867 N/mm² (7 kgf/cm²) whilst the fitting is completely immersed in water or light oil.

2 DESIGNATION

- 2.1 A plug of nominal size 8 mm shall be designated as
 - 2.1.1 On drawings:
 - a) Material code column: 17 017 019
 - b) Description column: PLUG PLUG T8 - 8 mm
 - c) Drawing number column: 718515-4402
 - 2.1.2 For placing indents on purchase: Plug 8, BPS: 718515
 - 2.1.3 While issuing enquiries and purchase orders: While issuing enquiries and purchase orders, delete the plant standard number from the clause 2.1.2 and add the information given under clause 3.

3 COMPLIANCE WITH STANDARDS

- 3.1 Dimensions, tolerances and general requirements : To IS: 1239 (Part II)-69 Table 20
- 3.2 Material: Steel having minimum tensile strength of 533 N/mm² (54 kgf/mm²).

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REVISIONS

DATE

APPROVED

STANDARDS SECTION
ENGINEERING AND DEVELOPMENT CENTRE
HPBP TIRUCHIRAPALLI

PREPARED
HPBP TIRUCHY

ISSUED
STANDARDS

DATE
JAN 1983



PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS 718515

PAGE 2

3.3 Threads: Taper in accordance with IS: 554 and shall be clean and well cut.

3.4 Finish: Galvanised. The zinc coating shall be in accordance with IS: 4736.

4 NOTE

4.1 For dimensions of screwed ends of fittings refer corporate standard AA 023 18 13.

4.2 For dimensions of pipe threads of fittings refer corporate standard AA 023 18 15.

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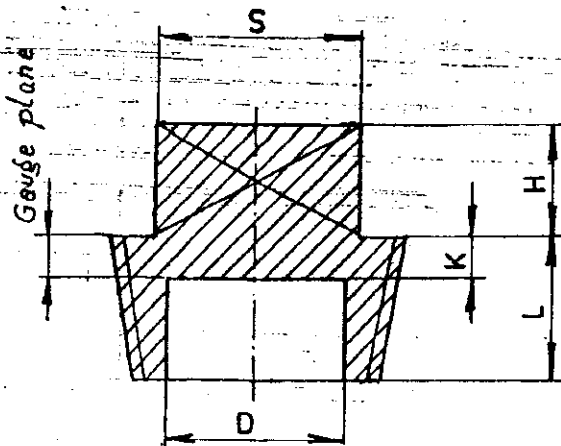


PLANT STANDARD

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BPS 718515

PAGE 3



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Nom size	L	S	H	D	K	Fit- ting allow- ance in IS turns	Wt/ piece in kg	BPS Code Bin code
6	6.5	6	6			2 3/4		
8	9.7	9	6			2 3/4	0.015	718515 4402 1701701900
10	10.1	11	10			2 3/4		
15	13.2	13	10			2 3/4		
20	14.5	14	12			2 3/4		
25	16.8	17	12	22	4	2 3/4		
32	19.1	22	16	31	5	2 3/4		
40	19.1	27	16	33	5	2 3/4		
50	23.4	32	19	48	5	3 1/4		
65	26.7	37	19	62	6	4		
80	29.8	37	22	73	8	4		
100	35.8	46	25	97	10	4 1/2		
125	40.1	51	29	120	12	5		
150	40.1	60	32	145	12	5		

1.0 SCOPE

1.1 This technical delivery condition specifies the inspection and testing requirements for retainer rings used in Safety Relief Valves.

2.0 REFERENCE DOCUMENTS

2.1 IS 3075 Part 2 (latest)

3.0 GENERAL REQUIREMENTS

3.1 The retainer rings shall be procured from approved vendors only.

3.2 The actual size, quantity and other commercial details shall be as per purchase order and drawing.

3.3 The construction, material details, dimensions and tolerances shall strictly conform to the requirements of drawing.

3.4 Material substitution is not allowed without the written approval of BHEL.

4.0 MATERIALS

4.1 Materials used shall be as per drawing and shall meet all requirements of respective specification indicated in the drawing. Following are, however, provided for information purpose only.

SAE 1060 TO SAE 1090

OR

AISI 1060 TO AISI 1090

5.0 HEAT TREATMENT

5.1 The retainer rings shall be supplied in finally heat-treated condition (austempering).

5.2 HARDNESS REQUIREMENTS

5.3 All the retainer rings shall meet the final surface hardness requirements as per latest IS 3075 table 4.2.

6.0 FINAL COATING

6.1 All retainer rings shall be finished with Cadmium plating dichromate dip by mechanical plating method. The plating shall have uniform thickness and there shall not be undulations on the plated surface.

6.2 After plating, bake the rings at 180 to 200deg. C for a minimum period of 3 hours. The elapsed time between plating and baking shall not exceed 8 hours.

6.3 Apply a chromate conversion coating after plating and baking.

6.4 When specifically called for either in the drawing or in the indent the electories nickel plating shall be done on the retainer rings.

7.0 INSPECTION AND TESTING:

7.1 All retainer rings shall be visually inspected for crack or any other surface defects.

7.2 The edges shall be free from burrs.

7.3 Following tests shall be carried out on the retainer rings to measure freedom from embrittlement. These tests shall be carried out either at supplier's works or at BHEL depending upon the facilities available and the agreement between BHEL and the supplier. Each retainer ring shall be capable of passing the following tests.

7.3.1 The tests shall be conducted as per IS 3075(latest).

7.3.2 Assembly simulation and endurance test.

7.3.2.1 The retainer rings shall be held for 24 hours in a test rig as indicator in IS 3075 (latest) and there shall be NO change in dimensions of the retainer rings after the endurance test. This also aids for checking assembly and disassembly of the retainer rings.

8.0 FIRST SAMPLE APPROVAL

8.1 Before proceeding for bulk production the supplier shall get one ring assembled on the fixture, which will simulate the condition as that of valve, and shall get it approved by BHEL. After getting approval from BHEL, bulk production and supply shall be carried out. The first sample approval is only to establish supplier's product quality and shall be done only as one time test for regular or bulk supplies, only type tests specified in the clause 7.0 of this TDC shall be carried out.

9.0 PACKING

9.1 The retainer rings shall be supplied in packages containing a standard number of pieces. The packaging must be sturdy to support the product and protect against permanent distortion or damage during storage and also during transit. The package shall contain only one size.

10.0 CERTIFICATION

10.1 Each consignment shall be backed up with the test certificate containing the following details legibly written in English.

1. Purchase Order Number.
2. Specification and grade of the material
3. Drawing Number
4. Size and Quantity
5. Hardness
6. Breaking load, if applicable
7. Endurance test results, if applicable.

Prepared	Reviewed	Approved
G.Janakiraman Qual. Assurance	V.Hardoss Purchase/Valves	A.V.Krishnan Qual Assurance
K.Nagarajan Engg/Valves	R.Gurunathan Quality Control	A.L.Nagarajan Quality assurance



**PRODUCT ENGINEERING / V & SB
TECHNICAL DELIVERY CONDITIONS FOR
SUBDELIVERY COMPONENTS OF SOOT BLOWERS**

TSB : 048

Rev. 02

SHEET No. 01 of 01

CABLE STRAPS AND BUTTONS

1. Component : Cable straps and buttons
2. Material Code :
 - (i) 96 133 188 For cable strap of 8 mm width
 - (ii) 96 133 190 For plastic buttons for strap.
3. Application : Used in wall deslagger and rotary blower for tying the cable wires.
4. Specification :
 - (i) Cable strap of 8 mm width
 - (ii) Plastic buttons for cable strap.
5. Inspection : Inspection to be carried out by BHEL inspector at BHEL works for specification as above.
6. Quantity :
 - (i) Cable strap-200 mm length per wall deslagger and rotary blower.
 - (ii) Button for cable strap-5 Nos. per wall deslagger and rotary blower.
7. Spares : 5% extra to be added for manufacturing reserve.
8. Packing : To be packed and despatched in cardboard boxes.
9. Approximate weight :
 - (i) 0.001 kg per 200 mm of strap
 - (ii) 0.001 kg per 5 Nos.

(Note: Cable straps & buttons are being procured for C & I and Electrical maintenance dept. Hence procurement can be done from the same source).

Rev:02 Dt. 20/07/2004.

CONVERTED AS SOFT COPY.

Prepared (K.SRIDHARAN)

DATE:
20/07/2004.

Approved (S.NATARAJAN)



**PRODUCT ENGINEERING / V & SB
TECHNICAL DELIVERY CONDITIONS FOR
SUBDELIVERY COMPONENTS OF SOOT BLOWERS**

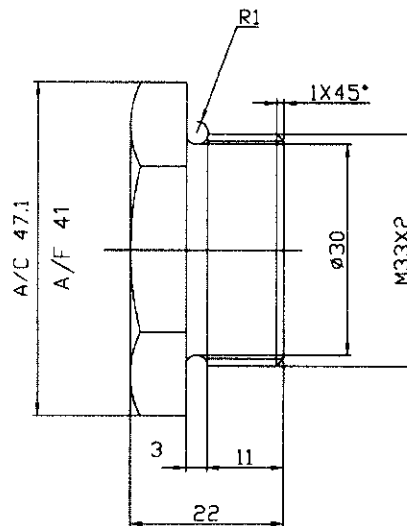
TSB : 064

Rev. 02

SHEET No. 01 of 01

PLASTIC SCREW PLUG

- 1.0 Component : Plastic Screw Plug.
- 1.1 Material Code : 96 353 337 0000
- 1.2 Application : It is used in Terminal Box of wall Deslagger for plugging the cable entry.
- 2.0 Specification : Hex head Plastic Screw Plug. M33 x 2.
- 2.1 Material : STYRON
- 2.2 Dimensions : As per sketch shown below.
- 3.0 Quantity : 4 Nos. per wall deslagger.
- 4.0 Inspection : Inspection to be carried out by BHEL Inspectors at BHEL works, for dimensions, material etc.,
- 5.0 Packing : To be packed and dispatched in card board boxes.
- 6.0 Weight : No.01 kg/piece.



Rev.02 Dt.01/10/2011

CONVERTED AS SOFT COPY.

Prepared (J SANKAR)

Checked & Approved (K.SRIDHARAN)

1.0 SCOPE

1.1 This technical delivery condition specifies the inspection and testing requirements for retainer rings used in Safety Relief Valves.

2.0 REFERENCE DOCUMENTS

2.1 IS 3075 Part 2 (latest)

3.0 GENERAL REQUIREMENTS

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OR

AISI 1060 TO AISI 1090

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- 9.0 PACKING
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1. Purchase Order Number.
 2. Specification and grade of the material
 3. Drawing Number
 4. Size and Quantity
 5. Hardness
 6. Breaking load, if applicable
 7. Endurance test results, if applicable.

G.Janakiraman
Qual. Assurance
Prepared

K.Nagarajan
Engg/Valves

V.Haridoss
Purchase/Valves

R.Gurunathan
Quality Control
Reviewed

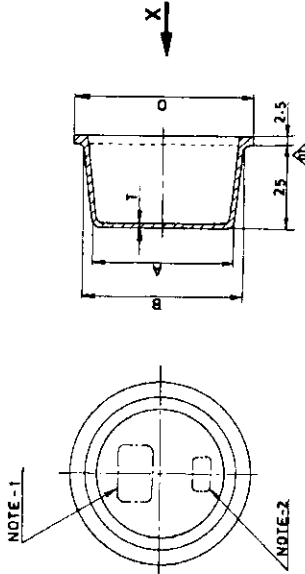
A.L.Nagarajan
Quality assurance

A.V.Krishnan
Qual Assurance
Approved

6119-0120

SHARAT HEAVY ELECTRICALS LTD.

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NOTE

1. STAMP THE EMBLEM ACCORDING TO AA 04.01121 IN THE DIRECTION 'X'.
2. STAMP THE APPROPRIATE NOM SIZE IN THE DIRECTION 'X'.
3. MATERIAL: UREA FORMALDEHYDE CONFORMING TO IS:3389 OR POLYVINYL CHLORIDE (PVC) OR OTHER EQUIVALENT.
4. THE TUBE END COVERS SHALL BE FLEXIBLE TO FIT SNUGLY IN TO THE TUBE AND WITHSTAND SHOCK DURING TRANSIT OF THE TUBES.
5. THE TUBE END COVERS SHALL PREFERABLY BE OF DARK BLUE OR WHITE IN COLOUR OF VIRGIN QUALITY MATERIAL.
6. THE CORNERS SHALL BE SUITABLY RADIUSSED

EMBLEM SIZE	A	B	D	T	DESCRIPTION	BPS CODE	UNIT WT
25	66	72	76	1.5	21	6119 0120 41	22 074 846
25	63	69	75	1.5	20	6119 0120 40	22 074 476
15	60	66	72	1.5	19	6119 0120 39	22 074 475
15	57	63	69	1.5	18	6119 0120 38	22 074 474
15	54	60	66	1.5	17	6119 0120 37	22 074 473
15	51	57	63	1.5	16	6119 0120 36	22 074 472
15	48	54	60	1.5	15	6119 0120 35	22 074 471
15	45	51	57	1.5	14	6119 0120 34	22 074 470
15	42	48	54	1.5	13	6119 0120 33	22 074 469
-	39	45	51	1.5	12	6119 0120 32	22 074 468
-	36	42	48	1.5	11	6119 0120 31	22 074 467
-	33	39	45	1.5	10	6119 0120 30	22 074 466
-	30	36	42	1.5	09	6119 0120 29	22 074 465
-	27	33	39	1	08	6119 0120 28	22 074 464
-	24	30	36	1	07	6119 0120 27	22 074 463
-	21	27	33	1	06	6119 0120 26	22 074 482
-	18	24	30	1	05	8119 0120 25	22 074 481
-	15	21	27	1	04	6119 0120 24	22 074 480
-	12	18	24	1	03	8119 0120 23	22 074 459
-	9	15	21	1	02	6119 0120 22	22 074 458
-	6	12	18	1	01	6119 0120 21	22 074 457

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

Sharat Heavy Electricals Ltd., SOLEER PLANT UNIT, TIRUCHIRAPPALLI-620 014

G-D/N T.K S.K

REFER UNIT WT. BPS 917501

NTS

TUBE END COVER (INTERNAL TYPE)

6119-0120

REV DATE ALTERED 02/10/83 BY S.K

DATE CHECKED 10/10/83 BY S.K

NOTE: 1. ALTERED LETTER REF. TO ENBLEM SIZE IS WAS 25

2. MATERIAL: UREA FORMALDEHYDE (PVC) OR OTHER EQUIVALENT.

3. THE TUBE END COVERS SHALL BE FLEXIBLE TO FIT SNUGLY IN TO THE TUBE AND WITHSTAND SHOCK DURING TRANSIT OF THE TUBES.

4. THE TUBE END COVERS SHALL PREFERABLY BE OF DARK BLUE OR WHITE IN COLOUR OF VIRGIN QUALITY MATERIAL.

5. THE CORNERS SHALL BE SUITABLY RADIUSSED

FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)