		<b>BHARAT HEAVY ELECTRICALS LIMITED</b> [A Government of India Undertaking] Ramachandrapuram, Hyderabad, 502032, A.P. India Phone 040-23184526, 23182322 FAX:040-23021910, 1954			<b>भारत हेवी इलेक्ट्रिकल्स लिमिटेड</b> (भारत सरकार का उपक्रम) रामचन्द्रपुरम, हैदराबाद, 502032 आंध्र प्रदेश, भारत		RFQ NO :		<b>PURCHASE DEPARTMENT</b> <b>ENQUIRY</b> <b>क्रय विभाग</b> जांच (ई मेल : tenderbox@bhelhyd.co.in)		SHEET:1 OF :1	
HY17001 C REV.NO.0		Phone 091-40-23184526 091-40-23182322		FAX : 091-40-23021910 091-40-23021954		<b>PURCHASE DEPARTMENT</b>						
		GSTIN:		Enq/Collective No :E7A1V31964		Enq.Dt. : 10.02.2022		No.Of Items :6		DUE Dt. OF QUOTN. : 24.02.2022		
<b>Office Copy</b>				Please submit your lowest quotation in sealed cover superscribed with Enquiry No./Collective No.(RFQ No ..... ) and due date subject to our terms and conditions attached ,for the materials mentioned below.Your offer has to reach us onor before due date by 11.00 Hours (IST) and will be opened at 14.00 Hours.(IST).If our Enquiry No./Collective No.(RFQ No ..... ) and tender due date are not super scribed on the tender cover , your offer shall be summarily rejected. Incomplete offers and late offers will not be considered.								
SL NO	Purchase Req.no	item no	Material Code, HSN No.	Drg no - Ver , Rev & Spec - Ver , Rev,Spec-Var	Description	Unit	Qty	Delivery Date	Schedule Qty			
1	7000091175	10	AA7242511410 73079990	NA-,,AA7242511,03,	STRAIGHT TEES CARBON STEEL (SA234 WPB)NOM.SIZE 14" SCH 20 WITH BUTT WELD ENDS	EA	1.000	30.04.2022	1.000			
2	5000031972	10	AA7242532841 73079390	NA-,,AA7242532,04,	SS Rdcr 12 x 10" Sch 10Sx10S BW(WP321)	EA	1.000	30.04.2022	1.000			
3	7000091176	10	HY7242573572 73071190	NA-,,HY7242573,01,	REDUCER ECC 14"X12" SCH 10X20 BW CS	EA	2.000	29.06.2021	2.000			
4	5000031964	10	HY7242592119 73079390	NA-,,HY7242592,02,	LONG RADIUS ELBOWS 90DEG ALLOYSTEEL(A234 WP11)NOM.SIZE 1 1/2" SCH 80 WITH BUTT WELD ENDS	EA	20.000	30.04.2022	20.000			
5	7000093213	10	HY7242592283 73079990	NA-,,HY7242592,02,	LONG RADIUS ELBOWS 90DEG ALLOYSTEEL(A234 WP11)NOM.SIZE 8" SCH 20 WITH BUTT WELD ENDS	EA	1.000	01.11.2021	1.000			
6	7000093912	10	TC9767133054 73079390	NA-,,TC67133,01,05	ELBOW 90 DEG LR 24" SCH STD CS BW	EA	3.000	31.08.2021	3.000			
Special Remarks												
<b>CheckList of Quality Interventions:</b>  <b>BHEL reserves the right to enforce any or all of the following checks during execution of the order.</b> <b>There is no additional cost to the vendor on account of these checks.</b>												
						TEST CERTIFICATE REQD: Y GUARANTEE REQ : Y SAMPLE REQD : N BID TYPE : TWO PART		For and on-behalf of Bharat Heavy Electricals Limited.  P. REENA SURESH KUMAR MANAGER/PUR(HE&F)				

**SPECIAL CONTRACT CONDITIONS (SCC)  
FOR ENQUIRY NO. E7A1V31964 Dated 10.02.2022**

SL. NO.	TERMS & CONDITIONS	BHEL REQUIREMENT				VENDOR 'S CONFIRMATION / REPLY
<b>A</b>	<b>TECHNICAL TERMS</b>					
		<b>Material Code.</b>	<b>Material Description</b>	<b>Spec</b>	<b>Qty</b>	
1	DESCRIPTION, SIZE & QUANTITY & SPECIFICATION	HY7242592119	LR ELBOWS 90DEG AS 1 1/2" SCH 80 BW	HY7242592	20	
		AA7242532841	SS Rdcr 12 x 10" Sch 10Sx10S BW(WP321)	AA7242532	1	
		AA7242511410	ST. TEE CS 14" SCH20 BW	AA7242511	1	
		HY7242573572	REDUCER ECC 14"X12" SCH 10X20 BW CS	HY7242573	2	
		HY7242592283	ELBOW 90DEG LR 8" SCH 20 BW AS	HY7242592	1	
		TC9767133054	ELBOW 90 DEG LR 24" SCH STD CS BW	TC67133-05	3	
2	QUALITY PLAN	Vendor shall submit Quality Plan for BHEL approval within 7 days from PO date.				
3	INSPECTION & CERTIFICATION	By BHEL TPIA as per approved Quality Plan.				
<b>B</b>	<b>COMMERCIAL TERMS</b>					
1	TERMS OF DELIVERY	FOR BHEL RC PURAM, HYD				
1A	FOR BHEL price / delivery implies (for Indian Suppliers)	a) Freight & Insurance (F&I) upto delivery point are in vendor's scope and the same should be included in quoted material price				
		b) C - Note date is date of delivery for the purpose of penalty. If documents such as Inspection reports, TCs, GC etc are not received within 10 days of dispatch of materials, then date of receipt of these documents will be considered as delivery date for penalty purpose.				
2	Third Party Inspection (TPI) Charges	By BHEL (0.26% at present)				
4	PACKING & FORWARDING (P&F)	P & F charges shall be inclusive in quoted material price.				
5	DELIVERY PERIOD	<b>6 Weeks</b> from date of PO				
6	MSE benefits (for Indian Suppliers)	"MSE suppliers can avail the intended benefits only if they submit along with the offer, Udyam Registration Certificate. 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."				
7	TWO-PART BID	Offer shall be submitted in two part bid system thru' EPS. Part-I shall consists of Techno-Commercial bid with all required documents and Price shall be fed in Part-II (in BOQ format).				
7A	TECHNO-COMMERCIAL BID	Techno-Commercial Bid shall essentially consist of (i) Duly filled in signed and stamped copy of Special Contract Conditions (SCC). (ii) Duly filled in signed and stamped copy of Instructions to Bidder (ITB rev.10). (iii) Duly filled in signed and stamped copy of PQC along with supporting documents. (iv) Udyam Registration Certificate, if applicable. (v) Signed & stamped copy of Technical Offer and (vi) Signed & Stamped copy of Un-Priced Bid.  <b>Note:</b> Bid shall be complete in all respects including all the documents / information required for techno-commercial evaluation. Incomplete offers shall be liable to rejection.				
7B	PRICE BID	Vendor shall quote on Rate / Piece basis for each item.				
8	EVALUATION OF OFFERS	The offers will be evaluated on Destination Cost to BHEL overall L <sub>1</sub> basis.				
9	GUARANTEE	Guarantee on the supplier for a period of 18 months from the date of dispatch or 12 months from the date of commissioning which ever is earlier.				
10	TERMS & CONDITIONS	All details of the offer should be furnished in the Instructions To Bidder (ITB) and Special Contract Conditions (SCC) only. In case of any discrepancy between information furnished in SCC & ITB and those furnished elsewhere in the bid, the information furnished in SCC & ITB only shall be considered, and those furnished else where shall be ignored. In case of any discrepancy between details of offer mentioned in ITB and SCC, the latter shall prevail.				
12	SIGNING AND STAMPING	Vendor should sign and stamp on each page of the bid documents				

Vendor's Signature with Seal

( Attachment to Enquiry No. E7A1V31964 Due on Date 24.02.2022 for submission by 11.00 hrs to open from 14:00 hrs.)			
INSTRUCTIONS TO BIDDER (ITB)			
NOTE: Bidder to confirm in affirmative by typing "YES" or "Applicable Data" in the response column. Deviations , if any shall be recorded in deviations/comments column (Separate sheet can be attached if needed). Non-Deviatable clauses are indicated as "Non-Deviatable".			
S. No.	DETAILED TERMS & CONDITIONS	VENDOR RESPONSE (YES/NO)	DEVIATIONS / COMMENT
<b>1</b>	<b>SCOPE OF SUPPLY:</b>		
	Signed & Sealed offers are invited for the Scope of Supply of goods and Services or both as detailed in the enquiry. Relevant enclosures/supporting documents / catalogue, if any shall be enclosed to the technical offer. Bidder can also submit offer through email at their own risk. The offer is to be submitted in two parts. Technical offer to be submitted to mail ID <a href="mailto:technicalbid_hyd@bhel.in">technicalbid_hyd@bhel.in</a> , and price bid to be submitted to mail ID <a href="mailto:pricebid_hyd@bhel.in">pricebid_hyd@bhel.in</a> as an attachment only. Interchanging the information in the mails may lead to rejection of the offer. Supplier shall have no claim on e-mail offers sent on any other e-mail ID. In case of e-mail offers, the mail subject should contain Enquiry No. Due date and Supplier name, Supplier address including contact details shall be mentioned in the content of the mail. Without these details offer is liable for rejection.		
<b>2</b>	<b>GENERAL INSTRUCTIONS:</b>		
<b>A</b>	The quotation should be neatly typed and free from over writing/ erasures. Any correction or addition must be authenticated. The offer including annexures and brochures should be submitted in English / Hindi. All Pages of Techno Commercial Bids (Main Pages), ITB should be signed and Stamped. If there is a conflict in case of bilingual submission, the submission in English will be final.		<b>Non-Deviatable</b>
<b>B</b>	In case of Single-Part bid Tender, the complete bid shall be submitted in a single sealed cover super subscribing the Tender number and due date. Incomplete offers are liable for rejection. E mail bids shall be sent to mail ID <a href="mailto:pricebid_hyd@bhel.in">pricebid_hyd@bhel.in</a> as an attachment only.		<b>Non-Deviatable</b>
<b>C</b>	Bidders to please note that the Terms & conditions contained in this document and Special conditions, if any, are to be read fully before submission of quotations.		<b>Non-Deviatable</b>
<b>D</b>	Vendors are advised to comply with specific conditions of the enquiry, Should there be any deviations (where deviations are permitted), it shall be entered in the deviation column. BHEL reserves the right to reject such offers or load the bid suitably for evaluation.		<b>Non-Deviatable</b>
<b>E</b>	Offers shall be submitted directly, only by the vendor or by their authorized representative / agent and the offer should be in line with the regulatory guidelines (i.e A valid Agency agreement between principal vendor and agent / representative shall be attached and the agreement shall cover the scope of services rendered by Agent, Agency Commission and any other information called for as per the regulatory guidelines). OEM / Mill details shall be provided if supplier is not a manufacturer. Bid envelopes shall bear the name of Supplier. In case of submission through authorized representative/agent, the name of representative/agent should also be mentioned apart from supplier name.		<b>Non-Deviatable</b>
<b>F</b>	Offer received after the specified time and date of submission shall be rejected. No further correspondence shall be entertained.		<b>Non-Deviatable</b>
<b>G</b>	Unsolicited offers shall not be considered.		<b>Non-Deviatable</b>
<b>3</b>	<b>OTHER PARTICULARS (Please indicate applicable data)</b>		
<b>A</b>	Name of the Bid currency (freely tradable foreign currency for imports and Indian Rupees for indigenous purchase).		
<b>B</b>	Name of the Port of loading and Port of Discharge (applicable to imports).		
<b>4</b>	<b>BID SUBMISSION PROCEDURE:</b>		
<b>A.</b>	<b>For Single Part Bids:</b> Offers addressed to DGM/CMM, Vendor Complex, BHEL, Hyderabad must be sent in a sealed cover on which tender enquiry number and the due date shall be super subscribed and sent by appropriate mode to above address or dropped in tender box located at vendor complex on or before the specified time and date of submission of offers, preferably in the bidder's envelope. For e-mail offers please follow the procedure mentioned in 2 (B).		<b>Non-Deviatable</b>

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INSTRUCTIONS TO BIDDER (ITB)			
S. No.	DETAILED TERMS & CONDITIONS	VENDOR RESPONSE (YES/NO)	DEVIATIONS / COMMENT
<b>B.</b>	<b>For two-Part Bids:</b>		
	<p><b>Two part bid consisting of</b></p> <p>i) Techno-commercial Bid - ( Part-I), with all technical specification &amp; scope including bill of material etc., EMD (where applicable) and unpriced bid with all applicable Commercial Terms and Conditions, rates of agency commission , duties, taxes and other charges, except the price, super scribing enquiry No. (Techno-Commercial Bid) and due date Signed and Stamped ITB and special conditions of contract, if any is required to be attached along with Techno-commercial Bid - (Part-1) AND</p> <p>ii) Price Bid (Part-II), containing ONLY the price (including agency commission, if any) and the applicable duties/taxes/other charges shall be kept in a separate sealed cover super subscribing Enquiry no. (Price bid) &amp; due date. Both these covers shall be kept in a Third cover super subscribing Enquiry no. &amp; due date. All techno commercial terms &amp; conditions mutually agreed prior to price bid opening shall prevail and supersede any terms and conditions specified otherwise in price bid.</p>		<b>Non-Deviatable</b>
<b>ii</b>	Techno-commercial Bid will be opened on the assigned date .Only the price bids of vendors whose techno commercial bids are accepted will be opened later on a specified date.		<b>Non-Deviatable</b>
<b>iii</b>	The bidders whose bids are techno commercially not accepted will be informed & EMD (Earnest Money Deposit) shall be returned wherever submitted.		
<b>iv</b>	Bidders will be allowed to submit the impact on their quoted prices due to changes in technical scope, specifications, and commercial terms/conditions as specified in NIT which in the opinion of BHEL warrant changes in prices.		<b>Non-Deviatable</b>
<b>v</b>	Bids shall be opened on due time and date in the presence of bidders who may like to be present. Only one representative of each bidder shall be permitted to attend the bid opening.		<b>Non-Deviatable</b>
<b>5</b>	<b>Delivery Instructions</b>		
<b>A</b>	<b>Indigenous Purchase</b>		
	Goods shall be delivered on FOR Destination basis to the named destination(s) or as specified in the enquiry, Insurance in the scope of supplier.		
<b>B.</b>	<b>Imports</b>		
	The goods shall be delivered on CIP-basis to port of discharge as mentioned in the purchase order.		
<b>6</b>	<b>Documentation:</b>		
<b>A</b>	<b>Indigenous Purchase</b>		
	<p>Seller shall arrange to send to BHEL, Hyderabad along with all the required documents as detailed in Purchase Order, such as, Tax Invoice (Original for Recipient, Duplicate for Transporter), consignee copy of LR, Packing list , Pre-dispatch Inspection report, Test/ Guarantee/ Warranty certificate/ O&amp;M manuals (as applicable) etc. immediately on dispatch of the goods. Any addition/ exclusion to such documents shall be as specified in the Purchase Order.</p> <p>In case of dispatches from vendor works to site, material receipt certified by site office / Customer shall be provided.</p> <p>Softcopies of the above documents shall be uploaded in Pradan portal <a href="https://web.bhelhyd.co.in/mm/">https://web.bhelhyd.co.in/mm/</a> immediately after dispatch of the material.</p>		<b>Non-Deviatable</b>
<b>B</b>	<b>Imports</b>		
	<p>i) Seller shall inform the purchaser the readiness of material along with packing details well in 30 days advance from the date of delivery.</p> <p>Seller shall also upload soft copy of the dispatch documents consisting of BL / AWB, Invoice, Shipping list &amp; Test certificates and other documents as specifically indicated in the Purchase Order in PRADAN Portal (<a href="https://web.bhelhyd.co.in/mm/">https://web.bhelhyd.co.in/mm/</a>) within 3 days from the B/L date for sea shipment and 1 day from AWB date for Air shipment.</p>		
	<p>ii) In case of CIP shipments, seller shall also inform purchaser the information about discharge port agent details and ship arrival information within 7 working days from the date of Shipment.</p>		

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INSTRUCTIONS TO BIDDER (ITB)							
S. No.	DETAILED TERMS & CONDITIONS				VENDOR RESPONSE (YES/NO)	DEVIATIONS / COMMENT	
	iii) In case the material shipped in Full Containers(FCL), Seller shall ensure that the Bill of Lading should clearly spell out the following 1. Port of discharge -- "Nhavaseva"/chennai 2. Place of Delivery / Final Destination - "ICD Sanath Nagar". 3. For air consignment the port of discharge will be Hyderabad, India and consignee shall be BHEL.						
	iv) In case of Air shipment, the following dimensions of single package may be noted. a). Dimension of the cargo(ODC) -- > 125" x 88" x 63" b).Weight of the cargo -- >3.5 MT. If any package dimension or weight crosses the above set limits, it will be treated as Over Dimension Cargo (ODC) or Over Weight Cargo and seller shall inform BHEL well in advance of 20 days prior to the delivery date to enable BHEL to finalize the freight forwarder						
	(v). Recovery charges for non-submission of documents : Seller shall submit all the required documents to BHEL as prescribed in the Purchase order and NIT. If BHEL incurs any charges such as Penalty, demurrage, container detention, wharf age, storage, Ground rent etc., due to non - compliance / non - submission of documents prescribed in Purchase Order/Tender Document/Letter of credit , the same shall be recovered from the seller as under: 1. EUROPE/USA/Black Sea/ Far East/Middle East/South East sector A. For EX-WORKS / FCA/ FAS / FOB Sea Consignments: Penalty for late submission / negotiation of documents beyond 14 days shall be as under:						
	Sl. No	Period (From Date of Bill of Lading)	Recoverable Charges	Recoverable Charges per day per container			
			LCL per week/ Break bulk cargo per day	20FT Container	40FT Container		
	i	Upto 14th day	Nil	Nil	Nil		
	ii	15th day onward	USD 10	USD 50	USD 105		
	B. For CIF / CFR / CIP / CPT Sea Shipments: For CIF / CFR / CIP / CPT Sea Shipments, Vendor shall provide rates for detention charges after free period at the time of offer itself in case of engagement of 20FT Container and 40FT category. In case of late presentation of documents to the bank recovery will be effected from the Vendor as per the rates quoted by the Vendor at the time of offer in this regard. In case of Break bulk cargo and LCL Demurrage/storage charges shall be recovered at rate of USD 10 per day and storage charges rate of USD 10 per week respectively shall be charged as late presentation charges.						
	(vi) Description of items in invoice, packing list, BL / AWB or LR shall be same as PO item description. Vendors shall ensure that invoice shall contain PAN nos. of both seller and buyer related numbers. BHEL PAN AAACB4146P and BHEL TAN HYDB00086C. Any other additional documents sought by the statutory authorities, the same shall be produced by the seller on priority basis.						
	(vii) Seller shall provide package details including number of packages, gross weight, net weight etc.						
	(viii) The seller shall provide the following documents at the time of submission of offer : a) No Business Connection in India declaration issued by the seller as per the format specified. (or) b) (i) No Permanent Establishment in India declaration issued by the seller as per the format specified. (ii) Tax Residence Certificate issued by the seller's tax authorities. (iii) Form 10F issued by the supplier. c) In case the seller has a Business Connection in India as per Section 9 of Income Tax Act or Permanent Establishment in India as per Article 5 of Double Taxation Avoidance Agreement India and the seller's country, the seller shall provide a withholding tax order issued by the Indian Income Tax authority for recovery of applicable tax.						

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INSTRUCTIONS TO BIDDER (ITB)			
S. No.	DETAILED TERMS & CONDITIONS	VENDOR RESPONSE (YES/NO)	DEVIATIONS / COMMENT
7	Delivery Schedule		
A	The tendered goods shall be delivered within the period stipulated in PO . Delivery <b>at BHEL</b> can be accepted at the earliest, 30 days prior to delivery date as mentioned in the Purchase order. Delivery <b>earlier than</b> 30 days of contractual delivery date may be accepted with the written permission of BHEL -Purchase department. Goods arriving after the delivery date will be accepted only with the prior written permission of BHEL otherwise they will not be allowed inside the factory. BHEL reserves the right to reject the material, if not delivered by scheduled Purchase Order Delivery Date. (In case of imports , the final entry date of Import General Manifest (IGM) will be reckoned as delivery completion date )		<b>Non-Deviatable</b>
B	Documents such as TC,GCs Inspection reports are to be submitted within 10 days of dispatch of these materials. C note date or Date of submission of documents whichever is later shall be considered as delivery date incase documents are not submitted within 10 days from the dispatch of the material. Supply of plant/ equipment/ stores shall not be considered complete until they have been inspected and accepted at the place and destination specified for delivery by the time stipulated under the terms & conditions of the Order/ Contract. Mere payment by itself shall not constitute acceptance of the goods or materials in any manner, whatsoever.		
8	<b>Pricing Terms</b> Prices once quoted shall remain firm and valid during the execution of PO. Offers with PVC will be rejected outright except in cases where specifically called for in the NIT.		<b>Non-Deviatable</b>
9	<b>PRICE VALIDITY :</b> Unless otherwise specified, offer shall be valid for a period of 90 days from the date of bid opening (Technical bid /part-I in case of two part bid). However the prices quoted for spare parts of the Main equipment shall be kept valid for a period of 1 year from the date of Placement of PO for the main equipment.		
10	<b>Taxes &amp; Duties (RATE TO BE INDICATED by the bidder against the space provided )</b>		
A	Indigenous Purchase		
	The Taxes as applicable shall be quoted in the following manner.		
i	Vendor to indicate HSN of Goods or SAC of Services.		
ii	IGST/CGST/SGST/UTGST: Rate of Tax to be quoted as extra in %		
	NOTE: Bidders to ensure correct applicability of IGST/CGST/SGST/UTGST based on the Inter / Intra state movement of goods. Taxes prevalent on the contractual delivery date or the actual delivery date (in case of delay) which ever is lower shall be applicable paid. In case Bidder has opted for GST Composition Scheme, the same may be stated explicitly both in their technical and price bids.		
iii	Any other taxes & duties not covered anywhere above may be indicated separately.		
iv	Taxes deducted at source: TDS as per the extant statute shall be recovered. In case vendor does not provide PAN details/concessional certificates, the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act.		<b>Non-Deviatable</b>
B.	Foreign Purchase ( Imports )		
i	The offered price shall be inclusive of all the Taxes and duties as applicable in country of bidder / country of dispatch for the quoted CIP price.		<b>Non-Deviatable</b>
ii	Taxes deducted at source: TDS as per the extant statute shall be recovered. In case vendor does not provide PAN details/concessional certificates, the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act.		<b>Non-Deviatable</b>

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S. No.	DETAILED TERMS & CONDITIONS	VENDOR RESPONSE (YES/NO)	DEVIATIONS / COMMENT
<b>11</b>	<b>Payment Terms: Unless otherwise specified in Special Conditions, following shall be the terms of Payment.</b>		
<b>A</b>	<p><u>Indigenous:-</u> 100% payment along with taxes, freight &amp; insurance will be made within 75 days from the date of receipt of complete documentation as per PO. However payment would be done only after receipt of original documents, including site/ Customer acknowledgement on LR (MRC - Material Receipt Certificate at site) / GR clearance at BHEL Stores. For MSEs (covered under MSME Act) which are registered and periodically renewed with BHEL, this period will be 45 days* as prescribed in the relevant act. Adherence to the above time schedule of payment is contingent upon Vendor complying with GST provisions and availment of Input Tax Credit by BHEL before the date of payment. *The taxes that are reimbursed would be the ones applicable as on the contractual Purchase Order delivery date or the amount actually paid whichever is less. In case 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 reason not attributable to BHEL, GST amount shall be recoverable from Vendor along with interest levied/ leviable on BHEL.</p>		
<b>B</b>	<p><u>Imports:-</u> i) 100% payment (less Indian Agency Commission, if any) shall be paid <b>through “Usance Letter of Credit / Cash Against Documents (CAD) / Wire Transfer” with a credit period of 60 days</b> ii) LC will be opened after successful completion of pre dispatch inspection prior to the scheduled / agreed delivery date <b>LC will be opened within 7 working days from the date of request.</b></p>		
<b>C</b>	<p>Note: 1) No advance payment is acceptable. However, in exceptional/rare cases, BHEL at its discretion, may consider advance payment against Bank Guarantee valid up to receipt of material at BHEL for 110% of advance amount issued / confirmed by any of the BHEL consortium banks. 2) Wherever EMD (Earnest Money Deposit) is applicable, it may be noted that no interest will be paid on EMD and the EMD will be paid back to unsuccessful bidders within fifteen days after award of the contract. Successful bidder's EMD will be converted to SD (Security Deposit). <b>Tender Cost wherever applicable is not refundable.</b></p>		<b>Non-Deviatable</b>
<b>D</b>	No interest shall be payable by BHEL on earnest money or security deposit or any money due to the contractor by BHEL.		
<b>12</b>	<p><b>Penalty clause:</b> In the event of delay in supply of goods, penalty of 0.5% per week or part there of shall be levied on the undelivered portion subject to a maximum of 10% of the order value. Penalty amount so determined along with applicable GST thereon shall be recovered.</p>		
<b>13</b>	<b>Excess materials</b> supplied beyond tolerance limit as specified in PO, will not be accounted for.		<b>Non-Deviatable</b>
<b>14</b>	<b>Rejected materials</b> , if any, shall be collected by the vendor within 90 days of such communication to the vendor .Beyond 90 days a ground rent of 0.25 %of the value of the material per week will be levied for a maximum period of two weeks.. Beyond this period the supplier forfeits their right to the materials.		<b>Non-Deviatable</b>
<b>15</b>	<p><b>Guarantee / Warranty Period :</b> (Deviation to this clause is not acceptable.) Wherever required, and so provided in the specifications/Purchase Order, the seller shall guarantee that the goods supplied shall comply with the specifications laid down, for materials, workmanship and performance. If within the guarantee period, the delivery is found to be non-complaint, the seller shall on his own account, replace repair, or re-execute the delivery at Purchaser's discretion on the purchaser's first request or within the mutually agreed period, without prejudice to Purchaser's other legal rights. If the seller continues to default on their obligations, purchaser has the right to proceed to replace, repair or re- execute the order at the seller's expense, with or without help from third parties. Purchaser shall notify the seller of the exercise of this right in advance where ever possible Unless otherwise specified, guarantee period shall be 12 months from the date of commissioning or 18 months from the date of supply/replacement whichever is earlier. For bought out packages which are intended to be incorporated in installations or systems the guarantee period shall not start until the time the installations or systems are commissioned, provided always that the period ends not later than 30 months after the date of supply of the goods. <b>The guarantee period shall be extended by the period during which the goods are not in compliance. A guarantee period as described above shall apply afresh to replaced, repaired or re-executed parts of a delivery.</b></p>		<b>Non-Deviatable</b>



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INSTRUCTIONS TO BIDDER (ITB)	
<p><b>NOTE: Deviations (Commercial as well as Technical) from the tender specifications and conditions are generally not acceptable. However, deviation if any, shall be brought out clearly with proper justification in the offer. The deviation, if considered by BHEL, shall be loaded for comparison, while evaluating the offer. If a bidder unconditionally withdraws any deviation before price bid opening, the same shall not be loaded. Loading criteria in respect of major commercial conditions where deviations if any are accepted shall be as per clause No.16.</b></p> <p><b>The Vendors may specifically note the following.</b></p>	
<b>16</b>	<b>Evaluation and Loading Criteria:</b>
<b>A</b>	Evaluation of prices shall be done item-wise unless otherwise specified in the enquiry. Evaluation shall be on the basis of delivered cost, i.e. "total cost to BHEL" w.r.t the finalized technical scope and commercial conditions (after considering incidence of applicable taxes and duties and loading). For evaluation, exchange rate (TT selling rate of State Bank of India) as on the date of bid opening (Part-I, in case of two-part bids) shall be considered. If the relevant day happens to be a bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken.
<b>B</b>	In case of foreign bidders, the quoted CIP price shall be loaded by the following factors to arrive at the Delivered Cost:
<b>i</b>	- Import duty as applicable at the time of <b>Technical/ Part-I bid opening</b> .
<b>ii</b>	- Port handling/ clearing charges & inland freight and insurance: @ 5% of CIP value (10% for plates, pipes & structurals).
<b>iii</b>	In other cases subject to acceptance by BHEL, loading for various factors (in addition to above) as the case may be will be done as follows: 0.5% for unloading at Port of Destination Marine Freight 4% and Marine Insurance 1% (9% and 1% towards Freight and Insurance respectively for Plates, Pipes, Rounds & Structurals)
<b>C</b>	Incase of Indigenous Bidders, Ex-works offers received (as against FOR Destination mentioned in enquiry) shall be loaded by 4% of Ex-works value (9% for plates, pipes, rounds & structurals) unless otherwise mentioned in enquiry.
<b>D</b>	Deviated Penalty: Any loading on penalty clause shall be 10% or to the extent to which the vendor has opted for deviation.
<b>E</b>	Deviated Payment Terms: Terms: In case BHEL considers any deviation in payment terms, the bids shall be loaded with 18% interest per annum to the extent of deviation.
<b>17</b>	Procurement directly from the manufacturers/ suppliers shall be preferred. However, no agent shall be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer / supplier could bid directly but not both. In case bids are received from both from the manufacturer/ supplier and the agent, bid received from the agent shall be ignored.
<b>18</b>	<b>RIGHT OF REJECTION /NON- PLACEMENT OF PO:</b> BHEL reserves the right to accept or reject any or all bid/s in full or part without assigning any reason whatsoever.
<b>19</b>	<b>INTEGRITY PACT</b> Vendors shall have to enter into Integrity Pact with BHEL as per attachment - for order value of rupees five crores and above and shall be signed by the competent authority before the issue of purchase order, failing which vendor's offer will be rejected.
<b>20</b>	<b>Public Procurement</b>
<b>A</b>	<b>Make in India</b> 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 ) , Oct 2017 dated 04.06.2020 issued by DPIIT . 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. Proforma for self certification for minimum local content and auditor's certification is given in Annexure III .
<b>B</b>	Any Bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with competent authority . <a href="https://www.mea.gov.in/">https://www.mea.gov.in/</a> to be referred for latest details of competent authority and exemptions. Proforma for self certification for compliance is given in Annexure IV
<b>21</b>	<b>Benefits earmarked for Purchase from Micro &amp; Small Enterprises (MSEs) – Indigenous Purchase</b>
<b>21A</b>	All Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy are exempt from Paying earnest money deposit . NSIC registered unit bidders shall submit NSIC Certificate along with bid documents. Date to be reckoned for determining the deemed validity will be the last date of Technical bid submission. Non- submission of such document will lead to consideration of their bid, at par with other bidders and MSE status of such bidders shall be shifted to Non- MSE Category till the supplier submits these documents
<b>21B</b>	In tender,if MSEs quoting price within price band of L1+15% 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 MSE and such MSE shall be allowed to supply up to 25% of total tendered value. In case of more than one such MSE, the supply shall be shared proportionately. Out of these 25% minimum 3% shall be earmarked for MSEs owned by women and 6.25% for MSEs owned by SC/STs who submit the bid along with relevant documents. This is applicable in case of item-level evaluation tenders and divisible tenders .



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<b>21C</b>	If an enterprise falling under MSME category as defined in the Act, graduates to a higher category from its original category or beyond the purview of the Act, it shall continue to avail all non-tax benefits of its original category notified by the Ministry of Micro, Small and Medium Enterprise for a period of three years from the date of such graduation to the higher category.
<b>21D</b>	BHEL HPEP is registered with RXIL (TReDS) platform. MSE bidders are requested to get registered with RXIL (TReDS) platform to avail the facility as per the GOI guidelines
<b>22</b>	Startups : For Startups Medium Enterprises, Condition of prior turnover and prior experience in Public Procurement may be relaxed subject to meeting of Quality and Technical Specifications . Startups are exempt from paying earnest money deposit.
<b>23</b>	For Claiming Payments <b>for goods</b> received at BHEL works / Site from Vendors' Works) a) Original of Invoice marked as ORIGINAL FOR RECIPIENT b) Duplicate of Invoice marked as DUPLICATE FOR TRANSPORTER c) Packing List - clearly showing number of packages, gross weight and net weight. d) Warranty/Guarantee certificates (If applicable as per PO terms) e) Insurance certificate f) Third Party Inspection Certificates. g) LR Copy signed & stamped by Site incharge / Customer for site deliveries) (For material received at BHEL payment will be made against GR for accepted quantity)
<b>24</b>	Inspection Measuring and Test Equipment (IMTE) whether used by the Seller/ Contractor or sub-contractor shall be calibrated, maintained and controlled. Calibration shall be valid and IMTE maintained in sound condition during usage.
<b>25</b>	ISO-9001, ISO14001 and OHSAS 18001 shall be complied
<b>26</b>	Applicable Conditions :These General conditions of Contract for Purchase apply to all enquiries, tenders, request for quotations, orders and agreements concerning the supply of goods and the rendering of related services (hereinafter referred to as "deliverables") to Bharat Heavy Electricals Limited, Ramachandrapuram , Hyderabad (hereinafter referred to as "BHEL" or the Purchaser) or its projects/customers. Any deviations from or additions to these General conditions of contract for Purchase' require Purchaser's express written consent. The general terms of business or sale of the Seller shall not apply to Purchaser. Orders, agreements and amendments thereto shall be binding if made or confirmed by the Purchaser in writing. Only the Purchasing department of the Purchaser is authorized to issue the Purchase order or any amendment thereof.
<b>27</b>	Being PMD Vendor, if you are not quoting against this tender enquiry, please send your regret letter positively for our reference with valid reasons for not participating in the tender enquiry. Repeated lack of response on the part of bidder may lead to deletion such PMD vendor from BHEL's approved vendor list. Vendor shall ensure that PAN details are available/updated with BHEL, else Vendor shall attach PAN details with enquiry failing which offer shall be liable for rejection.
<b>28</b>	Kindly quote your prices in figures and words both. In case of any discrepancy in value, the prices quoted in words shall be considered for evaluation and establishing L1 Status
<b>29</b>	Any discount / revised offer / bids submitted by a bidder on its own shall be considered, provided it is received on or before the due date and time of offer / bid submission (Part-1). Conditional discounts shall not be considered for evaluation of tenders.
<b>30</b>	The bidder whose bid is technically not accepted will be informed & EMD wherever submitted shall be returned after finalization of contract. EMD shall be forfeited in the event of bidder opting out after tender opening.
<b>31</b>	In case of abnormal delays (beyond the maximum late delivery period as per Penalty clause) in supplies / defective supplies or non-fulfillment of any other terms and conditions given in Purchase Order, BHEL may cancel the Purchase Order in full or part thereof, and may also make the purchase of such material from elsewhere / equivalent market price at the risk and cost of the supplier. BHEL will take all reasonable steps to get the material from alternate source at optimum cost. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer. Nonperformance of contract attracts penal provisions inline with BHEL's Suspension of Business dealings.
<b>32</b>	Any other terms and conditions of the bidder attached / referred against the tender enquiry will not be considered.
<b>33</b>	All drawings as also all patterns and tool supplied by BHEL or made at BHEL's expense are BHEL's property. These cannot be used or referred to any other party and must only be used in the execution of BHEL's orders.
<b>34</b>	Any amount payable by the consignor / supplier under any of the condition of this contract shall be liable to be adjusted against any amount payable to the consignor / supplier under any other work / contract awarded to him. This is without prejudice to any other action as may be deemed fit by BHEL.
<b>35</b>	The bids of the bidders who are on the banned list and also the bids of the bidders, who engage the services of the banned firms, shall be rejected. The list of firms banned by BHEL is available on BHEL web site www.bhel.com
<b>36</b>	<b>Definitions</b>
Throughout these conditions and in the specifications, the following terms shall have the meanings assigned to them, unless the subject matter or the context requires otherwise.	

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<b>36A</b>	Purchaser' means BHEL-HPEP, Ramachandrapuram, Hyderabad-502 032 of Bharat Heavy Electricals Limited (A Govt. of India Undertaking) incorporated under the companies Act having its registered office at BHEL House, Siri fort, New Delhi-110049, India and shall be deemed to include its successors and assigns. It may also be referred to as BHEL.
<b>36 B</b>	'The seller' means the persons, firm, company or organization on whom the Purchase order is placed and shall be deemed to include the seller's successors, representatives, heirs, executors and administrator as the case may be. It may also be referred to as Contractor, supplier or vendor.
<b>36C</b>	'Contract' shall mean and include the Purchase order incorporating various documents viz., tender/offer, letter of intent/acceptance, the General Conditions of contract and special conditions of contract for Purchase, specifications, inspection/quality plan, schedule of prices and quantities, drawings, if any enclosed are to be provided by the Purchaser or his authorized nominee and the samples or patterns if any to be provided under the provision of the contract. In case of any inconsistency or contradiction between any of the documents, the order of precedence shall be Purchase Order, LOI/LOA followed by specific conditions, special conditions of contract and general conditions of contract for commercial conditions; and specific agreement on technical conditions, special technical conditions and general technical conditions, tender/offer.
<b>37</b>	'Parties to the contract' shall mean the seller and the purchaser as named in the main body of the Purchase Order.
<b>38</b>	Ordering and confirmation of order
	The seller shall send the order acceptance in Toto within one week from the date of LOI/Purchase order or such other period as specified/agreed by the Purchaser. Purchaser reserves the right to revoke the order placed if the order confirmation differs from the original order placed. Purchaser shall only be legally bound if agreed explicitly in writing to be in agreement with the deviation. The acceptance of deliverables or supplies by Purchaser as well as payments made in this regard shall not imply acceptance of any deviations. The Purchaser order will be deemed to have been accepted if no communication to the contrary is received within one week (or the time limit as specified /agreed by the Purchaser) from the date of P.O. Purchaser, is at liberty to send signed P.O. through electronic media such as e-mail and the receipt of which shall be treated as receipt of order.
<b>39</b>	Execution
	The whole contract is to be executed in the most workman like manner, substantial and approved as per the contracted terms.
<b>40</b>	Progress Report
	The seller shall render such report as to the progress of work and in such form as may be called for by the Purchaser from time to time. The submission and acceptance of such reports shall not prejudice the rights of the purchaser in any manner. Seller shall communicate to BHEL immediately, change of address, ownership, contact person(s), the mobile numbers and e-mail of the dealing person concerned. Milestones shall be periodically updated by vendor/subcontractor through PRADAN Portal ( <a href="https://web.bhelhyd.co.in/mm/">https://web.bhelhyd.co.in/mm/</a> ). Non updation will adversely affect service rating of vendor performance.
<b>41</b>	Product information, Drawings and documents / Non-disclosure and Information Obligations
	Drawings, technical documents or other technical information received by one party shall not without the consent of the other party, be used for any other purpose than that for which they were provided. They may not, without the consent of the submitting party, otherwise be used or copied, reproduced, transmitted or communicated to third parties. All information and data contained in general product documentation, whether in electronic or any other form, are confidential and binding only to the extent that they are by reference expressly included in the contract. The seller shall, as per agreed date/s but not later than the date of delivery, provide free of charge any information and/or drawings which are necessary to permit the Purchaser to erect, commission, operate and maintain the product. Such information and drawings shall be supplied in the number of copies agreed upon or at least three copies of each. All intellectual properties, including designs, drawings and product information etc. exchanged during the formation and execution of the contract shall continue to be the property of the submitting party. The seller shall provide Purchaser with all information pertaining to the delivery in so far as it could be of importance to Purchaser. The seller shall not reveal confidential information to its own employees not involved with the tender/contract and its execution and delivery or to third parties, unless Purchaser has agreed to this in writing beforehand. The seller shall not be entitled to use the Purchaser's name in advertisements and other commercial publications including website without prior written permission from Purchaser. In the event of violation of the confidentiality as agreed, BHEL will take legal action as deemed fit. Non disclosure agreement to be entered as per <b>Annexure- II</b> wherever applicable.

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<b>INSTRUCTIONS TO BIDDER (ITB)</b>	
<b>42</b>	<b>Inspection and Testing</b>
<b>42 A</b>	<p>The goods and stores shall be manufactured by approved quality system and each part/component may be inspected and tested by the Purchaser prior to shipment and shall fully comply with relevant requirements of Purchaser.</p> <p>Purchaser has the right to inspect at any stage during manufacture/ delivery. In the event of rejection, Purchaser shall inform the seller accordingly and Purchaser shall be entitled to replacement or repair at his discretion or may proceed to terminate or cancel the agreement. All this, does not affect Purchaser's right to recover compensation.</p>
<b>42 B</b>	<p>Purchaser or his authorized representative shall be entitled at all reasonable times during execution to inspect, examine and test at the seller's premises the material and workmanship of all stores to be supplied under the contract, and if the part of the stores are being manufactured at other premises, the seller shall obtain for purchaser or his authorized representative permission to inspect, examine and test as if the said stores are being manufactured at the seller's premises. Such inspection, examination and testing, if made shall not release the seller from any obligation under the contract.</p> <p>For indigenous suppliers all costs related to first inspection request shall be borne by the purchaser and the cost of subsequent inspections due to non-readiness of material/rework/ rejections shall be borne by the seller. In case of imports all inspection charges including third party inspections if any shall be borne by the seller. The cost of inspection staff/third party specified by the Purchaser shall be borne by seller unless otherwise specifically agreed. Whether the contract provides for tests on the premises of the seller or any of his sub-contractor/s, seller shall be responsible to provide such assistance, labor, materials, electricity, fuels, stores, apparatus, instruments as may be required and as may be reasonably demanded to carry out such tests efficiently.</p> <p>Cost of any type test or such other special tests shall be borne by the seller unless otherwise specifically agreed in the contract. The Seller shall give the authorized representative of the purchaser reasonable notice in writing of the date on and the place at which any stores will be ready for inspection/ testing as provided in the Contract. Annexure - I may be strictly be complied with for the time lines. Any delay in submission of the documents by the vendor will not alter the delivery date.</p>
<b>43</b>	<b>Quality and Condition of the Deliverables</b>
	The seller shall be responsible for compliance with applicable technical, safety, quality, environmental requirements and other regulations in relation to his products, packaging and raw and ancillary materials.
<b>44</b>	<b>Packaging and Dispatch</b>
	<p>The seller shall package the deliverables safely and carefully and pack them suitably in all respects considering the peculiarity of the material for normal safe transport by sea/air/rail/road to its destination suitably protected against loss, damage, corrosion in transit and the effect of tropical salt laden atmosphere. The packages shall be provided with fixtures/hooks and sling marks as may be required for easy and safe handling by mechanical means. Special packaging conditions/ environmental conditions as defined in the enquiry shall be fully complied.</p> <p>Each package must be marked with consignee name, P.O. number Package No. gross weight &amp; net weight, dimensions (LxBxH) and seller's name. The packing shall allow for easy removal and checking of goods on receipt and comply with carrier's conditions of packing or established trade practices. Packing list of goods inside each package with P.O. item No. &amp; quantity must also be fixed securely outside the box to indicate the contents. If any consignment needs special handling instruction, the same shall be clearly marked with standard symbols/instructions. Hazardous material should be notified as such and their packing, transportation and other protection must confirm to relevant regulations.</p>
<b>45</b>	<b>Delivery:</b>
	<p>Except as otherwise indicated in the Purchase order, delivery shall be FOR (Destination) for indigenous orders and CIP for imported orders. The delivery date (s) or delivery period (s) as stipulated in the agreement shall be firm and binding and shall apply to the entire delivery for each P.O. item. Partial shipments may however, be permitted by the purchaser on prior intimation from the Seller. Unless specifically agreed otherwise, transit insurance coverage will only be within India for imported consignments by BHEL. Accordingly, the seller shall send an intimation to the Purchase officer/Manager giving Purchase Order No., shipping particulars, Invoice value etc., immediately on dispatch of goods.</p>
<b>46</b>	<b>Penalty</b>
	<p>The time or period of delivery as stipulated in the schedule of delivery shall be deemed to be the essence of the contract. Should circumstances arise whereby the deadline for an agreed delivery date(s) or period(s) is expected to be exceeded, the seller shall inform Purchaser hereof without delay. If delay in delivery is caused by any of the circumstances mentioned in clause 54 (Force Majeure) or which are caused exclusively by the acts of Purchaser, the Purchaser shall extend the time for delivery by a period which is reasonable having regard to all the circumstances in the case.</p> <p>If the Seller delays beyond any agreed delivery date(s) or period(s), Purchaser shall levy penalty for such delay @ 0.5% per week (7 days) or part thereof on delayed portion of the order value subject to a maximum of 10% of the value of the Purchase Order. However, penalty for delayed delivery will be calculated on 100% of the purchase order value if the material supplied cannot be put to intended use.</p> <p>The penalty will be charged on the value of the purchase order excluding statutory levies, freight and insurance wherever not included in the price. Penalty amount so determined along with applicable GST thereon shall be recovered.</p> <p>Imposition, recovery or settlement of this penalty shall not affect Purchaser's right to performance, compensation and termination of the agreement.</p> <p>For delay analysis, period referred in Annexure-I will be considered as standard time lines for various major activities.</p>
<b>47</b>	<b>Transfer of Ownership and Risk</b>
	The risk for the delivery remains with the seller until the goods are delivered at the agreed place. However ownership shall get transferred as per terms of purchase order in line with INCOTERMS.

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<b>48</b>	<p><b>Price, invoicing and payment</b></p> <p>The agreed prices are fixed prices in the currency as specified in the Purchase Order. They shall include packing, forwarding , loading and carriage to the place specified by the purchaser and are exclusive of all applicable taxes, duties etc., except for those specifically agreed by the Purchaser. Invoices shall be submitted bearing the Purchase Order number &amp; date, item number/s and supporting documents as called for in the Purchaser order.</p> <p>The direct payments (including LC/documents through Bank on collection basis), shall be made by E-payment mode and not by cheque /bank drafts except in special circumstances. Vendors shall furnish the E-payment particulars in the prescribed formats duly authenticated by their respective Bankers, If not got registered earlier with the Buyer.</p> <p>Invoice has to be raised quoting HSN Code of Goods or Accounting Code of Services. Invoice should mention BHEL-HPEPHYDERABAD GSTIN: 36AAACB4146P1ZG or GSTIN of BHEL Nodal Agency as mentioned in PO.</p> <p>Indian Agency commission if payable and so specified in the Purchase order shall be paid in Indian Rupees, considering the SBI TT selling exchange rate prevailing on the date of tender opening (part 1 in case of two part bid), after successful completion of the contract.</p> <p>If so stipulated in the order, the seller shall furnish, on receipt of the Purchase Order or along with order acknowledgement, the billing break-up of prices (BBU) for approval by the purchaser in respect of the major items/components going into the equipment. This BBU is required by the Purchaser for admitting the claims of the seller if part shipments are contemplated and also to facilitate custom clearance after payment of duties in case of imports.</p> <p>In case of delay in receipt of supporting document details, consequential demurrage/wharf age /detention charges shall be to the account of the seller.</p> <p>Payment does not imply in any respect whatsoever a waiver of Purchaser's right to performance of the agreement. Purchaser is entitled to set off claimable debts against claimable liabilities with the seller by means of a setoff Note.</p>
<b>49</b>	<p><b>Contract variations; Increase or decrease in the scope of supply</b></p> <p>Purchaser may vary the contracted scope during execution due to exigencies of project requirement.</p> <p>If the seller is of the opinion that the variation has an effect on the agreed price or delivery period, Purchaser shall be informed of this immediately in writing along with technical details, and in the event of additional work, submit a quotation with regards to the price and period involved, as well as the effect this additional work will have on the other work to be performed by the seller. Provided, that if unit rates are available in the contract, the same shall be applied to such additional work. The seller shall not perform additional work before purchaser has issued written instructions/amendment to the purchase order to that effect. The work which the seller should have or could have anticipated in terms of delivering the service (s) and functionality (ies) as described in this agreement should be executed by the vendor without any price implication.</p>
<b>50</b>	<p><b>Short shipments/ warranty/guarantee replacements</b></p> <p>In case of any short shipment during initial supply which is subsequently dispatched by the seller or any guarantee / warranty replacements shall be dispatched on "DDP-Delivered duty paid BHEL stores" basis for imported items and "FOR-BHEL Stores/designated destination" basis for indigenous items. Taxes, if any paid by indigenous vendor for short supply, guarantee /warranty replacement, repair activity shall be to vendor's account only. Vendor has to raise a credit note for short supplied quantity as per GST provisions.</p>
<b>51</b>	<p><b>Rejection/Replacement</b></p> <p>The seller shall arrange replacement / repair under its obligation under the contract within one month from the date of intimation or mutually agreed period. The rejected goods shall be taken away by the seller and replaced on DDP/FOR-BHEL Stores/designated destination basis within such period. In the event of the seller's failure to comply. Purchaser may take appropriate action including disposal of rejections, at the cost and risk of the seller. Vendor has to raise a credit note for rejected quantity as per GST provisions.</p> <p>In case defects attributable to seller are detected during processing of the goods at purchaser's / his subcontractor works, the seller shall be responsible for replacement /repair of the goods as required by the purchaser at seller's cost.</p>
<b>52</b>	<p><b>Export Administration Regulations</b></p> <p>If a delivery includes such technology and / or supply that is subjected to the export regulations the seller shall obtain due permissions, approvals, license etc.</p>
<b>53</b>	<p><b>Cancellation / Termination of contract and risk purchase</b></p> <p>Purchaser shall have the right to completely or partially terminate the agreement by means of written notice to that effect without prejudicing their other rights in the event that :</p> <ul style="list-style-type: none"> <li>- The seller is declared bankrupt, its business has been shut down or liquidated, a substantial part of its assets have been attached/destroyed, or the business has been transferred to a third party.</li> <li>- Any misrepresentation or hiding of material fact if detected at a later stage.</li> <li>- The delivery is rejected after inspection or re-inspection.</li> <li>- In the event of termination, the risk of the items already delivered but not of use to Purchaser, as determined by purchaser, remains with the seller. The items shall then be at the seller's disposal and they are to be collected by the seller. The seller shall refund any payments made by purchaser in terms of the terminated agreement immediately, not later than 30 days,</li> <li>- In the event of Cancellation/ termination of contract, BHEL reserves the right to procure the items which are not delivered as per PO and charge the excess cost from the defaulting seller. Incase the excess cost is not repaid by or recovered from the defaulting seller within 30 days, apart from legal recourse for effecting such recoveries, Penal action in line with BHEL's Suspension of Business dealings will be taken.</li> </ul>

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<b>54</b>	<b>Force Majeure</b>
	<p>The supplier shall not be considered in default if delay occurs due to causes beyond their control such as Acts of God, Natural calamities, Fire, Frost, Flood, Civil War, civil commotion, riot, Government Restrictions.</p> <p>Only those causes that have duration of more than seven days shall be considered cause of force majeure. Notification to this effect duly certified by local chamber of commerce/statutory authorities with supporting documents shall be given by the supplier to BHEL by registered letter/courier service immediately without loss of time.</p> <p>In the event of delay due to such causes the delivery schedule shall be extended for a length of time equal to the period of Force Majeure or at the option of BHEL the order may be cancelled. Such cancellation would be without any liability whatsoever on the part of BHEL.</p> <p>In the event of such cancellation the supplier shall refund any amount advanced or paid to the supplier by BHEL and deliver back any material issued to him by BHEL and release facilities, if any provided by BHEL.</p>
<b>55</b>	<b>Non-waiver of Defaults</b>
	If any individual provision of the contract is invalid, the other provisions shall not be affected.
<b>56</b>	<b>Settlement of Disputes</b>
	<p>(i) Except as otherwise specifically provided in the contract, all disputes concerning questions of the facts arising under the contract, shall be decided by the Purchaser, subject to written appeal by the seller to the purchaser, whose decision shall be final.</p> <p>(ii) Any disputes of differences shall to the extent possible be settled amicably between the parties thereto, failing which the disputed issues shall be settled through arbitration.</p> <p>(iii) The seller shall continue to perform the contract, pending settlement of disputes(s).</p>
<b>57</b>	<b>Conciliation clause</b>
	<p><b>CONCILIATION CLAUSE FOR CONDUCTING CONCILIATION PROCEEDINGS UNDER THE BHEL CONCILIATION SCHEME, 2018:</b> The Parties agree that if at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the agreement, contract or the Memorandum of Understanding, penalty deduction, time extension), which the Parties are unable to settle mutually, arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.</p> <p>The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in Procedure in <a href="http://www.bhel.com/index.php/story_details?story=2454">http://www.bhel.com/index.php/story_details?story=2454</a>. The Procedure together with its Formats will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this ITB.</p>
	<b>ARBITRATION (WITH SOLE ARBITRATOR)</b>
	<p>Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any dispute or difference; arising out of the formation, breach, termination, penalty deduction, validity or execution of the Contract; time extension, or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the sole arbitration. Sole arbitrator to be appointed by Head of the Unit - BHEL, HPEP.</p>
	The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties.
	<p>Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause.</p> <p>The seat of arbitration shall be Sangareddy / Hyderabad, Telangana. The language of arbitration shall be English and the documents shall be submitted in English.</p>
	The cost of arbitration shall initially be borne equally by the Parties subject to the final apportionment of the cost of the arbitration in the award of the Arbitrator.
	<p>Subject to the arbitration in terms of clause 57, the courts at Sangareddy, Telangana State shall have exclusive jurisdiction over any matter arising out of or in connection with this contract.</p> <p>Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.</p>
	<b>ARBITRATION FOR CONTRACT WITH PUBLIC SECTOR ENTERPRISE (PSE) OR A GOVERNMENT DEPARTMENT</b>
	<p>In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs &amp; Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD as mentioned in DPE OM No 4(1)/2013-DPE(GM/FTS 1835 dated 22-05-2018</p>
<b>58</b>	<b>Applicable Laws and jurisdiction of Courts</b>
	This agreement shall be construed and interpreted in accordance with the laws of India and shall have exclusive jurisdiction of Sangareddy/Hyderabad courts, Telangana, India.

( Attachment to Enquiry No. E7A1V31964 Due on Date 24.02.2022 for submission by 11.00 hrs to open from 14:00 hrs.)	
INSTRUCTIONS TO BIDDER (ITB)	
<b>59</b>	BHEL-Fraud prevention policy shall be adhered to.
	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 <a href="http://www.bhel.com">http://www.bhel.com</a> and shall immediately bring to the notice of BHEL management about any fraud or suspected fraud as soon as it comes to their notice.
	Fraud prevention policy and list of nodal officers is hosted on BHEL Hyderabad website <a href="http://web.bhelhyd.co.in">web.bhelhyd.co.in</a>
<b>60</b>	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 nonsubmission 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 .





**Bharat Heavy Electricals Limited**  
**Ramachandrapuram, Hyderabad 502032, India**

Ref # TCEP/PQC/PIPE FITTINGS & FLANGES/01

Dt: 06/03/2021

Pre- Qualifying criteria for the vendors participating in "Open Tender for enquiry no \_\_\_\_\_ – Reg.

**Considering BHEL customers' requirement, offers from Chinese manufacturers / Chinese manufactured items are not allowed.**

Clause wise response of vendor is necessarily to be submitted for technical evaluation of technical bid

Sl. No.	Description	Vendor's Response	Details of Documents enclosed, if any
<b>1.1. General Requirements</b>			
1.1.1	The manufacturers or their authorized principals( authority letter to be submitted) who are submitting the offer shall have in-house manufacturing facilities, heat treatment and testing facilities suitable for the manufacturing & testing of all pipe fittings and flanges as per this enquiry. However, the shot blasting & primer coating activity can be outsourced. Note: i) Offers from traders (for the purpose of this tender, any agency who is keeping /buying/supplying materials from different manufacturers under the same company's name, will be treated as trader) will not be considered.		
1.1.2	The offer shall be accompanied with relevant list of the in-house manufacturing and testing facilities & their capacities / ranges etc. Company catalogue or website address which included these details may be provided as an alternative.		
1.1.3	Vendors to confirm that they will meet all the requirements of BHEL specification provided with the enquiry. In case of any dispute/contradictions with the requirement of Pre-qualification criteria (this document) with the specification, the requirements of Pre-qualification criteria will be applicable.		
1.1.4	The vendor must have experience of manufacturing and supplying Pipe fittings, flanges of the corresponding standards and grades as mentioned in the enquiry. Test Certificates shall be submitted as evidence of experience.		





**Bharat Heavy Electricals Limited**  
**Ramachandrapuram, Hyderabad 502032, India**

	<p>At least two copy (one for minimum size and rating and other for maximum size and thickness / rating ) manufacturer test certificates (TC in IBR form for CS/AS items) for the same or similar grade supplied by them to other customers shall be submitted along with the offer.</p> <p>a) The date of the issue of "Test certificate" shall not be older than 3 years from the NIT date.</p> <p>b) The mill test certificate shall include the results / reports for all the tests like Chemical, Mechanical and NDT etc., as required by BHEL Specification applicable to the present enquiry.</p> <p>c) The test certificates submitted as an evidence of the past experience of the manufacturer must include test requirements as stipulated in BHEL specification.</p>		
1.1.5	<p>Evaluation of Experience Evidence : The experience will be evaluated against the test certificate provided by the vendor with respect to BHEL technical requirement of the specification.</p>		
1.1.6	<p>Prior to dispatch of the material, Test Certificates (English language only) shall be send to BHEL for review and dispatch clearance by BHEL. The photographs of the material with the traceability/ marking and condition of the material before dispatch may be provided for dispatch clearance.</p>		
1.1.7	<p>As per "Ministry of Steel Order (latest as applicable)," if any of the enquiry items fall under "List of Steel Products under Mandatory Bureau of Indian Standards Certification," BIS certificate is to be provided mandatorily. The BIS certificate submitted by the vendor shall be valid till the delivery of material. In case the BIS certificate is expiring before the material delivery date, Vendor shall confirm the renewal of the certificate in advance so that the timely supply of the material to BHEL is ensured.</p>		



# CORPORATE STANDARD

AA 085 14 02

Rev. No. 04

PAGE 1 OF 4

## TECHNICAL, DELIVERY CONDITIONS FOR ANSI-PIPE FITTINGS

### 1.0 SCOPE:

This standard stipulates the technical delivery conditions for socket-welding fittings like elbows, tees, couplings etc. to ANSI: B16.11 and seamless butt-welding fittings like elbows, tees, reducers etc. to ANSI: B16.28.

### 2.0 TECHNICAL REQUIREMENTS

This socket-welding fittings shall comply with ANSI: B16.11 and butt-welding fittings with ANSI: B16.28 with the following specific requirements.

**2.1** Pressure class, schedule and size : Pressure class and size for socket-welding fitting, schedule and size for butt-welding fittings shall be as specified in the enquiry/order.

**2.2 Material Specification:** The material of the fittings shall be as per enquiry/order. The material shall generally comply with the following, unless otherwise specified.

**a) Socket welding fittings:** Socket welding fittings shall be manufactured by forging to the following material specification:

Carbon Steel (Low Temperature Service)	: ASME : SA 350 Gr : LF1
Carbon Steel (High Temperature Service)	: ASME : SA 105
Alloy Steel (High Temperature Service)	: ASME : SA 182 Gr : F22
Stainless Steel	: ASME : SA 182 Gr : F321

**b) Butt-Welding fittings:** Butt-welding fittings shall be manufactured as per the relevant standards to the following material specification:

Carbon Steel (Low Temperature Service)	: ASME : SA 420 Gr : WPL6
Carbon Steel (High Temperature Service)	: ASME : SA 234 Gr : WPB
Alloy Steel (High Temperature Service)	: ASME : SA 234 Gr.: WP11
	: ASME : SA 234 Gr : WP22
Stainless Steel	: ASME : SA 403 Gr : WP321

**2.3 Heat treatment:** The fittings shall be properly heat treated as per the relevant material specification:

**2.4 Dimensions, Tolerances and Finish :** The dimensions and tolerances, shall be strictly as per ANSI: B16.11 for forged steel fittings, socket welding and threaded, B16.9 for factory made wrought steel Butt-Welding fittings. For allowable imperfections and finish of the fittings relevant clause as per ASME : SA 234/SA 403/SA 420 shall be applicable for carbon alloy and stainless steel fittings.

Revisions :

CI 20.8.13 of MOM of WG-SMC+RP

APPROVED :

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Dt :

Year :

HYDERABAD

Corp. R&D

August 1980



All fittings shall be shot blasted both inside and outside to remove rust, scale and other foreign materials. The surface shall be clean, smooth and without any scales, burrs etc. Vendor shall note the method to be employed in their Quality Assurance Plan for approval by BHEL representative/Customers.

- 2.5 Edge Preparation:** Unless otherwise specified, the butt welding fittings shall be supplied with edge preparation for welding with the connecting pipe. The edge preparation shall be as per ANSI : B 16. 25.

### 3.0 CHEMICAL COMPOSITION AND PROCESS:

- 3.1 Carbon percentage shall be limited as specified in the following table:

SI No.	Grade	Connecting pipe wall thickness	C%
1.	A105, WPC	All	0.25
2.	WPB, WPBW	All	0.25

- 3.2 Fittings shall be of seamless construction only unless otherwise specified in the purchase order. Fittings of nominal bore NB 50 and below shall be of forged construction only.

- 3.3 Fittings shall be forged, wherever specified in the purchase order. The forgings must be as close as possible to the final shape and size.

- 3.4 All the plates used for manufacturing of plate formed fittings shall be ultrasonically tested by either of the following:

- i) ASME SA 435 and acceptance standards as in SA 435 except that adjacent discontinuity indications shall be separated from each other by a distance equal to or no longer than the larger of the indications, unless both the adjacent defects can be contained in a circle of diameter equal to the acceptance standards of a single defect.

- ii) ASME SA 578 and acceptance standard shall be as per Level-1 of SA 578

### 4.0 INSPECTION AND CERTIFICATION:

- 4.1 Mechanical and Chemical Testing:** Material used for manufacture of the fittings shall be tested for mechanical properties and chemical composition as relevant material standards.

- 4.2 Magnetic particle Examination:** Knuckle of reducers, outer bend portion of elbows and neck portion of tees shall be magnetic particle examined after final heat treatment in accordance with practice ASME SE 709 for all carbon steel and alloy steel fittings for all schedule for sizes 2" inclusive and above.

- 4.3 Liquid Penetrant Examination:** Knuckle of reducers, outer bend portion of elbows and neck portion of tees shall be liquid penetrant examined after final heat treatment in accordance with practice ASME SE 165 for all stainless steel fittings for all schedules for sizes 2" inclusive and above.

- 4.4 Acceptance Criteria for MPE and LPE Tests:** The acceptance criteria for MPE and LPE tests shall be in accordance with Appendix 6 and 8 of ASME, Sec. VIII Div. 1

**All surfaces to be examined shall be free of :**

- relevant lines indications.
- relevant rounded indications greater than 3/16 inch.
- Four or more relevant rounded indications in a line separated by 1/16 inch or less (edge to edge)
- An indication of imperfection may be larger than the imperfection that causes it, however, the size of the indication is the basis for acceptance evaluation



## CORPORATE STANDARD

AA 085 14 02

Rev. No. 04

PAGE 3 OF 4

**4.5 Wrinkless:** The inner bend portion of Elbows shall be free from wrinkles and Tool marks.

### **5.0 CERTIFICATE:**

5.1 All fittings shall be delivered along with test certificates in English.

5.2 Fittings to material specification ASME SA 105, SA 182 Gr.F22, SA 234 Gr.WPB and WP22 shall be inspected and the test certificates shall be countersigned by an inspecting authority approved under Appendix "C" of Indian Boiler Regulations.

5.3 Fittings to material specification ASME 350 Gr.LF1, SA 182 Gr.F321, SA 420 Gr.WPL6 and SA 403 Gr.WP 321 shall be subjected to inspection by authorities nominated by BHEL and the test certificates shall be countersigned by them.

5.4 Three original Test certificates shall be submitted.

### **6.0 GUARANTEE CERTIFICATE:**

The supplier shall furnish a guarantee certificate stating that fittings supplied are capable of withstanding without failure, leakage or impairment of their serviceability, a hydrostatic test pressure equal to that prescribed for the specified matching pipe of equivalent material.

### **7.0 QUALITY PLAN:**

A quality plan incorporating the process adopted by the supplier and conforming to the requirements of this specification shall be submitted for approval. Manufacturing shall commence only after the approval of the quality plan by BHEL.

### **8.0 MARKING, PRESERVATION AND PACKING:**

8.1 **Marking:** The following details shall be punched on each fitting:

- a) Manufacturer's name and trade mark
- b) Pressure class ( in case of socket welding fittings)
- c) Nominal size
- d) Schedule No. (in case of butt welding fittings)
- e) Type of fitting
- f) Material specification grade
- g) Melt No.
- h) Test certificate number
- i) Mark of inspection authority

#### **8.2 Presentation:**

Before despatch, the fittings shall be dried and cleaned and the entire surface shall be well coated with a good quality rust preventive coating that will not become fluid and run-off at 65°C.

#### **8.3 Packing:**

All fittings shall be provided with HDPE end covers to protect the weld edge preparation and to protect the internal surfaces. The fittings shall be wrapped by bitumen paper/tar paper/polyethylene paper to avoid water ingress during transit/handling in transporter's godown. Fittings shall be packed in a sound closed wooden/steel box.

### **9.0 REFERRED STANDARDS (Latest Publications Including Amendments):**

- 1) ANSI B 16.9, B 16.11, B 16.25 & B 16.28
- 2) ASME SA 105, SA 182, SA 234, SA 350, SA 403, SA 420 SA, SA 435, SA 578, SE 165 & ASME SE 709.

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## CORPORATE STANDARD



## ANNEXURE-I : TEST CERTIFICATE PROFORMA FOR FORGINGS

SUPPLIER'S NAME AND ADDRESS TEST CERTIFICATE FOR FORGINGS														
1. Customer:					9. Reduction Ratio } Ingot to Bloom Bloom to Blank									
2. TC No. & Date:					10. Batch No.:									
3. PO No.:					11. Heat/Melt No.									
4. Process of Melting Ingot:					12. Spec. No.									
5. Deoxidisation Process:					13. Test Bar Size & Nos.									
6. Forging Method:					14. Supplier of the ingot/billet/ Bloom and TC reference.									
7. BHEL's Reference for Approval of Bloom														
8. Discard: Top _____%; Bottom _____%														
15. FORGINGS COVERED BY TEST CERTIFICATE														
S.No.		Drawing No. & Item No.			Description					Quantity & Weight				
16. CHEMICAL COMPOSITION (PERCENT)														
Element		C	Si	Mn	S	P								
As Per Specn.		Min.												
		Max.												
Actual Values														
17. HEAT TREATMENT (To be accompanied by Recorder Chart, Whenever called for)														
Condition		Heating Rate, °C/hr.		Temp. °C		Soaking Time, Hrs.		Cooling Rate, °C/hr		Cooling Medium				
18. MECHANICAL PROPERTIES														
		T.S. N/mm <sup>2</sup>	Y.S. 0.5/0.2% Proof N/mm <sup>2</sup>	% Elongation 5.65√So GL	% R.A. Min.	Hardness BHN (Min. 3 values)	Impact Value Joules	Bend Test						
								Angle of bend	Dia of mandrel	Result				
As Per Specn.		Min.												
		Max.												
Actual Values														
19. SURFACE FINISH (When called for in the order/drg.)														
20. DIMENSIONAL INSPECTION														
21. NON-DESTRUCTIVE TESTS														
Nature of Test		Acceptance level		Instrument used		Range		Results		Any other detail				
Ultrasonic														
Radiographic														
Dye penetrant/ Magnetic Particle														
22. METALLOGRAPHIC EXAMINATION (To be conducted if called for and photo micrographs to be attached along with a report)														
Location of Sample		Etchant used		Magnification		Constituent observed		Relative %						
Microstructure		Macroetch		Inclusion Rating										
23. OTHER TESTS IF ANY (MICROSCOPIC, SULPHUR PRINTS, ETC)														
24. IDENTIFICATION OF FORGINGS AS PER PURCHASE SPEC.														
We hereby certify that the items mentioned above have been tested and inspected in our presence and are found to be in accordance with drawings, specifications and purchase order.														
SIGNATURE, NAME & SEAL OF THE INSPECTING OFFICER DATE:										SIGNATURE, NAME & SEAL OF THE CHIEF OF QUALITY CONTROL/ CHIEF METALLURGIST OF THE SUPPLIER DATE:				
INSTRUCTIONS														
a) Details of all heat treatment processes carried out should be furnished sequentially in 17.														
b) Test certificates are to be furnished as per Purchase order and specification, in A4 size preferably in transparent paper.														
c) All the entries including signature should be in block colour ink.														
d) If testing is done by outside agencies, the original TCs shall be furnished.														
e) The actual TC may run into more than one A4 size paper, if needed, to facilitate filling up of details.														



# CORPORATE STANDARD

AA 724 25 11

Rev. No. 03

PAGE 1 OF 3

## TEES, STRAIGHT, SEAMLESS, BUTT WELDING, CARBON STEEL (HIGH TEMPERATURE SERVICE)

### 1.0 SCOPE:

This standard covers designation, material, sizes and dimensions of seamless butt welding straight Tees.

### 2.0 DESIGNATION:

A seamless straight Tee to this standard of nominal size 2" and schedule 40 shall be designated as follows:

#### 2.1. On drawings:

- (a) Material specification column: AA 724 25 11
- (b) Description column : TEE STRT 2" SCH 40 BW CS HT.

#### 2.2 For placing indents on purchase:

Seamless straight Tee, butt welding, carbon steel, nominal size 2", sch 40, AA 724 25 11.

#### 2.3 For issuing enquiries and on purchase orders:

While issuing enquiries and purchase orders delete BHEL standard number from the clause 2.2 and add the information given under clause 3.0 (delete the material not applicable in Cl 3.2) and 4.0.

### 3.0 COMPLIANCE WITH NATIONAL STANDARDS:

#### 3.1 Dimensions, Tolerances & General requirements : ANSI B 16.9-1993

#### 3.2 Material : Carbon steel to ASME SA 234, Gr.: WPB

### 4.0 TECHNICAL DELIVERY CONDITIONS:

As per BHEL standard AA 085 14 02.

### 5.0 REFERRED STANDARDS (Latest publications including amendments):

- 1) ANSI B 16.9
- 2) AA 085 14 02
- 3) ASME SA 234

#### Revisions :

Cl. 20.8.25 of MOM of WG-SMC+RP

#### APPROVED :

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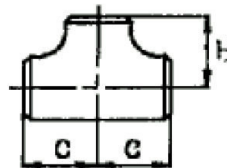
Dt :

Year :

HYDERABAD

Corp. R&D

FEB, 1981



## STRAIGHT TEE

(All dimensions in mm otherwise specified)

Nom. pipe size Inches	Sche- dule	ANSI pipe size  OD X Th.	out side dia. at level		centre-to-end			wt./ piece kg	sub- code
			Nom.	Tol.	Run c Nom.	outlet M Tol.	Tol. on C&M		
1/2	80	21.3x3.73	21	±1	25	25	±2	0.24	011
	160	21.3x4.78						0.25	020
3/4	80	26.7x3.91	27		29	29		0.23	038
	160	26.7x5.56						0.26	046
1	80	33.4x4.55	33		38	38		0.35	054
	160	33.4x6.35						0.44	062
1 1/4			42		48	48			
1 1/2	80	48.3x5.08	48		57	57		0.96	089
	160	48.3x7.14						1.20	097
	XXS	48.3x10.16						1.50	100
2	40	60.3x3.91	60		64	64		1.80	119
	80	60.3x5.54						1.96	127
	160	60.3x8.74		2.26			135		
	XXS	60.3x11.07		2.56			143		
2 1/2			73	76	76				
3	40	88.9x5.49	89	88	88	3.8	160		
	80	88.9x7.62				4.5	178		
	160	88.9x11.12				6.25	186		
	XXS	88.9x15.24				7.5	194		
3 1/2			102	95	95				
4	40	114.3x6.02	114	+2 -1	105	105	6.10	216	
	80	114.3x8.56					8.40	224	
	120	114.3x11.12					9.50	232	
	160	114.3x13.49					13.8	240	
	XXS	114.3x17.12					14.5	259	
5			141	124	124				
6	40	168.3x7.11	168	+3 -1	143	143	16.5	275	
	80	168.3x10.97					19.5	283	
	120	168.3x14.27					24.5	291	
	XXS	168.3x21.95					31.9	305	





## CORPORATE STANDARD

AA 724 25 11

Rev. No. 03

PAGE 3 OF 3

**ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED**

Nominal pipe size Inches	Schedule	ANSI Pipe size OD X Th	Outside dia. at bevel		Centru-to-end			Wt./piece kg	Sub- code
			Nom.	Tol.	Run C Nom.	Outlet M Tol.	Tol. on C&M		
8	20	219.1X 6.35	219	$\pm 2$	178	178	$\pm 2$	24.0	313
	80	219.1X12.70						30.0	321
	120	219.1X18.20						52.0	330*
10	20	273 X 6.35	273	+ 4 - 3	216	216	$\pm 2$	33.0	348
	30	273 X 7.80						39.0	356
	80	273 X15.08						66.0	364
	140	273 X25.40							
12	20	323.8X 6.35	324	+ 6 - 5	254	254	$\pm 3$	55.0	380
	40	323.8X 10.31						60.0	399
	80	323.8X 17.47						110.0	402
14	20	355.6X 7.92	356		279	279		54.75	410
16	10	406.4X 6.35	406		305	305		50.18	429
18	10	457.0X 6.35	457		343	343		56.13	437
20	10	508.0 X6.35	508		381	381		62.72	445
22			559		419	419			
24			610		432	432			

### **NOTE:**

1. The weight given in the table are for general reference only and are not for commercial transactions.
2. Corporate sub-codes are shown in the table against Corporate rationalised sizes.
3. Sizes used by individual plants are covered in the Annexure along with complete code numbers.



# CORPORATE STANDARD

AA7242532

Rev. No.04

PAGE 1 of 2

## REDUCERS, CONCENTRIC, SEAMLESS, BUTT WELDING, STAINLESS STEEL

### 1.0 SCOPE:

This standard covers designation, material, sizes and dimensions of seamless butt welding concentric reducers.

### 2.0 DESIGNATION:

A seamless concentric reducer to this standard of nominal size 2" x 1" and schedule 80S x 40S shall be designated as follows:

#### 2.1. On drawings:

- Material specification column: AA7242532
- Description column: CONTC RDCR 2" x 1" SCH 80S x 40S BW SS

#### 2.2. For placing indents on purchase:

Seamless concentric reducer, butt welding, stainless steel, nominal size 2" x 1",  
Sch 80S x 40S, AA7242532.

**2.3. For issuing enquiries and on purchase orders:** While issuing enquiries and purchase orders delete BHEL standard number from the clause 2.2 and add the information given under clause 3.0 (delete the material not applicable in Cl.3.2) and 4.0.

### 3.0 COMPLIANCE WITH NATIONAL STANDARDS:

**3.1. Dimensions, Tolerances & General requirements:** ASME B 16.9

**3.2. Material:** Stainless steel to ASME SA 403, Gr.WP321

### 4.0 TECHNICAL DELIVERY CONDITIONS:

As per BHEL standard AA0851402.

### 5.0 REFERRED STANDARDS (Latest publications including amendments):

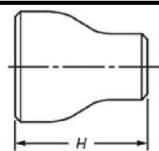
- |                  |                  |                |
|------------------|------------------|----------------|
| 1) ASME B 16.9   | 2) AA0851402     | 3) ASME SA 403 |
| 4) ASME B 36.10M | 5) ASME B 36.19M |                |

Revisions: ANSI replaced by ASME in clause 2, 3 & 5. Table values corrected for NPS 3X2, 6X5 in dimensions Table. Note: 1 added.

**APPROVED:**  
INTER PLANT STANDARDISATION  
COMMITTEE – WG(SMC+RP)

Rev. No.04	Amd. No.	Reaffirmed	Prepared	Issued	Dt. of 1 <sup>st</sup> Issue
Dt:28-02-2013	Dt:	Year:	HPEP, Hyderabad	Corp. R&D	Feb 1981

## CORPORATE STANDARD



## CONCENTRIC REDUCER

(All dimensions are in mm unless otherwise specified)


Nom. Pipe Size inches	Schedule	ASME Pipe Size OD X Th.		OD of Large End		OD of Small End		End to End H		Wt./ Piece kg	Sub Code
		Large End	Small End	Nom.	Tol.	Nom.	Tol.	Nom.	Tol.		
2 X 1	10S x 40S	60.3 X 2.77	33.4 X 3.38	60	±1	33	±1	76	±2	0.23	019
	40S x 40S	60.3 X 3.91	33.4 X 3.38							0.40	027
	80S x 40S	60.3 X 5.54	33.4 X 3.38							0.56	035
	160 x 80S	60.3 X 8.74	33.4 X 4.55							0.84	043
	160 x 160	60.3 X 8.74	33.4 X 6.35							0.84	051
2 X 1½	10S x 40S	60.3 X 2.77	48.3 X 3.68	60	±1	48	±1	76	±2	0.23	060
	40S x 40S	60.3 X 3.91	48.3 X 3.68							0.40	078
	80S x 40S	60.3 X 5.54	48.3 X 3.68							0.56	086
	160 x 160	60.3 X 8.74	48.3 X 7.14							0.84	094
	10S x 40S	88.9 X 3.05	48.3 X 3.68	89	±1	48	±1	89	±2	0.42	108
3 X 1½	40S x 40S	88.9 X 5.49	48.3 X 3.68							1.00	116
	80S x 40S	88.9 X 7.62	48.3 X 3.68							1.30	124
	XXS x 160	88.9 X 15.24	48.3 X 7.14							2.50	132
	10S x 10S	88.9 X 3.05	60.3 X 2.77	89	±1	60	±1	89	±2	0.42	140
3 X 2	40S x 40S	88.9 X 5.49	60.3 X 3.91							1.00	159
	80S x 80S	88.9 X 7.62	60.3 X 5.54							1.30	167
	XXS x 160	88.9 X 15.24	60.3 X 8.74							2.50	175
	10S x 10S	114.3 X 3.05	60.3 X 2.77	114	+2 -1	60	±1	102	±2	0.82	183
4 X 2	40S x 10S	114.3 X 6.02	60.3 X 2.77							1.60	191
	40S x 40S	114.3 X 6.02	60.3 X 3.91							1.60	205
	160 x 80S	114.3 X 13.49	60.3 X 5.54							3.40	213
	XXS x 160	114.3 X 17.12	60.3 X 8.74							4.10	221
4 X 3	10S x 10S	114.3 X 3.05	88.9 X 3.05	114	+3 -1	89	±1	102	±2	0.82	230
	40S x 10S	114.3 X 6.02	88.9 X 3.05							1.6	248
	40S x 40S	114.3 X 6.02	88.9 X 5.49							1.6	256
	160 x 80S	114.3 X 13.49	88.9 X 7.62							3.4	264
	XXS x XXS	114.3 X 17.12	88.9 X 15.24							4.1	272
6 X 3	10S x 10S	168.3 X 3.40	88.9 X 3.05	168	+3 -1	89	±1	140	±2	2.2	280
	40S x 10S	168.3 X 7.11	88.9 X 3.05							4.0	299
	80S x 40S	168.3 X 10.97	88.9 X 5.49							5.9	302
6 X 4	10S x 10S	168.3 X 3.40	114.3 X 3.05	168	+3 -1	114	+2 -1	140	±2	2.2	310
	40S x 40S	168.3 X 7.11	114.3 X 6.02							4.0	329
	80S x 40S	168.3 X 10.97	114.3 X 6.02							5.9	337
6 X 5	40S x 40S	168.3 X 7.11	141.3 X 6.55	168		141	±1	140			434
8 X 4	10S x 10S	219.1 X 3.76	114.3 X 3.05	219	±2	114	+2 -1	152	±2	5.0	345
	40S x 40S	219.1 X 8.18	114.3 X 6.02							6.5	353
	80S x 40S	219.1 X 12.7	114.3 X 6.02							9.8	361
8 X 6	10S x 10S	219.1 X 3.76	168.3 X 3.40	219	±2	168	+3 -1	152	±2	5.0	370
	40S x 40S	219.1 X 8.18	168.3 X 7.11							6.5	388
	80S x 80S	219.1 X 12.7	168.3 X 10.97							9.8	396
10 X 6	10S x 10S	273 X 4.19	168.3 X 3.40	273	+4 -3	168	±1	178	±2	7.3	400
	40S x 40S	273 X 9.27	168.3 X 7.11							10.7	418
10 X 8	10S x 10S	273 X 4.19	219.1 X 3.76	273		219	±2	178		7.3	426


Note: 1. For thickness of schedule pipes refer ASME B 36.10M and ASME B 36.19M.

2. Weights given in the table are for general reference only and are not meant for commercial transactions.

3. Corporate sub codes are shown in the table against corporate rationalised sizes.

4. Sizes use by individual plants are covered in the annexure along with complete code numbers.

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<div>TECHNICAL DELIVERY CONDITIONS FOR ASME-PIPE FITTINGS</div>					
<div>1.0 SCOPE:</div> <p>This standard stipulates the technical delivery conditions for socket-welding and threaded fittings like elbow, tees, couplings etc. to ASME: B16.11 and seamless/welded construction butt-welding fittings like elbows, tees, reducers etc. to ASME: B16.9 and ASME B16.28.</p>					
<div>2.0 TECHNICAL REQUIREMENTS:</div> <p>The socket-welding &amp; threaded forged fittings shall comply with ASME: B16.11 and butt-welding fittings with ASME: B16.9/ASME:B16.28 &amp; with the following specific requirements. All the fittings shall be manufactured and supplied as per latest version of ASME codes.</p>					
<div>2.1 Pressure class, schedule and size:</div> <p>Pressure class and size for socket-welding fittings, schedule and size for butt-welding fittings shall be as specified in the enquiry/order.</p>					
<div>2.2 Material Specification:</div> <p>The material of the fittings shall be as per enquiry/order. The material specification shall generally comply with the following, unless otherwise specified.</p>					
<div>a) Socket welding fittings:</div> <p>Socket welding&amp;threaded forged fittings shall be manufactured to the following material specification (Refer enquiry/ordering specification).</p> <p>Carbon steel (Low temperature service) : ASME: SA350 Gr: LF2 Carbon steel (High temperature service) : ASME: SA105 Alloy steel (High temperature service) : ASME: SA182 Gr:F22/F11/F91-as applicable Stainless Steel : ASME: SA182 Gr: F321</p>					
<div>b) Butt - welding fittings:</div> <p>Seamless and welded construction butt-welding fittings shall be manufactured to the following material specification (Refer enquiry/ordering specification).</p> <p>Carbon steel (Low temperature service) : ASME: SA420 Gr: WPL6 Carbon steel (High temperature service) : ASME: SA234 Gr: WPB : ASME : SA234 Gr: WPBW</p> <p>Alloy steel (High temperature service) : ASME: SA234 Gr: WP11 : ASME: SA234 Gr: WP22</p>					
<div>Revisions:</div> <p>Clause 9.1 (h) and F91 added .</p>			<div>Issued :</div> <div>STANDARDS ENGINEERING DEPARTMENT</div>		
Rev.No. 01	Amd. No.	Reaffirmed:	Prepared:	Approved:	Date:
Dt. JUL. 06	Dt.	Year:	MATLS. ENGG.	DGM (TS)	NOV. 2004

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Stainless steel : ASME: SA403 Gr: WP321  
: ASME: SA403 Gr: WP304  
: ASME : SA403 Gr: WP304W  
: ASME : SA403 Gr. WP304WX

**2.3    Heat Treatment:** The fittings shall be properly heat treated as per the applicable material specifications.

**2.4    Dimensions, Tolerances & Finish:** The dimensions and tolerances shall be ASME - strictly as per ASME: B16.11 for forged steel fittings - socket welding and threaded, ASME B16.9- for factory made wrought butt-welding fittings. For allowable imperfections and finish of the fittings, relevant clause as per ASME:SA234/ SA 403/ SA 420 shall be applicable for carbon, alloy and stainless steel fittings.

All fittings shall be blast cleaned both inside and outside to remove rust, scale and other foreign materials. The surface shall be clean, smooth and without any scales, burrs etc.

**2.5    Edge preparation:**

**2.5.1    Butt Welding Fittings:** Unless otherwise specified , the butt welding fittings shall be supplied with edge preparation for welding with the connecting pipe. The edges shall be machined as per ASME: B16.25.

**2.5.2    Socket Welding/Threaded Forged Fittings:** Unless otherwise specified, the forged fittings shall be machined as per dimensions and tolerances specified in ASME B 16.11.

**3.0    RAW MATERIAL:**

**3.1** The raw material for the fittings shall consist of killed steel forgings, bars, plates, seamless tubular products, conforming to the chemical composition requirements of the applicable finish product specification and material grade.

**3.2** It is the responsibility of the supplier to select the appropriate raw material so that all the pipe fittings meet the dimensional & other requirements indicated in this standard.

**3.3** All the plates used for manufacturing of fittings shall be ultrasonically tested by either of the following:

i) ASME SA 435 and acceptance standards as in SA 435 except that adjacent discontinuity indications shall be seperated from each other by a distance equal to or longer than the larger of the indications, unless both the adjacent defects can be contained in a circle of diameter equal to the acceptance standards of a single defect.

ii) ASME SA 578 and acceptance standard shall be as per level -C of SA 578.



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### 4.0 CHEMICAL COMPOSITION AND PROCESS:

4.1 Carbon percentage shall be limited as specified in the following table:

Sl. No.	Grade	Connecting pipe wall thickness	C%
1.	A105	All	0.25
2.	WPB, WPBW	All	0.25

4.2 Fittings shall be of seamless construction only unless otherwise specified in the enquiry/ordering specification. Fittings of nominal bore NB 50 and below shall be of forged construction only.

4.3 Fittings shall be forged, wherever specified in the purchase order. The forgings must be as close as possible to the final shape and size.

### 5.0 INSPECTION AND CERTIFICATION:

5.1 The pipe fittings shall comply with the quality requirements as per BHEL standard quality plan latest revision (copy **to be attached** with this plant standard). **Vendor shall confirm in the offer the total compliance of this quality plan .**

5.2 Mechanical and chemical testing: Material used for manufacture of the fittings shall be tested for mechanical properties and chemical composition as per relevant material standards.

5.3.1 The butt welded pipe fittings shall not have the thickness less than 87.5% of the specified wall thickness at any location. The minimum wall thickness of each fitting shall be measured by using D - meter and shall be reported in the test certificate (Refer **Annexure-2**) & along with value of acceptable minimum thickness as per standard requirements.

5.3.2 The body & socket wall thickness of socket welded fittings shall be as per ASME B16.11 & Body & end wall thickness of threaded fittings shall be as per ASME B16.11

5.4 Magnetic Particle Examination: Knuckle of reducers, outer bend portion of elbows and neck portion of tees shall be magnetic particle examined after final heat treatment in accordance with practice ASTM Standard -E 709 for all carbon steel and alloy steel fittings for all schedules for sizes 2" inclusive and above.

5.5 Liquid Penetrant Examination: Knuckle of reducers, outer bend portion of elbows and neck portion of tees shall be liquid penetrant examined after final heat treatment in accordance with practice ASTM Standard - E165 for all stainless steel fittings for all schedules for sizes 2" inclusive and above.

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5.6 Acceptance Criteria for MPE and LPE Tests: The acceptance criteria for MPE and LPE tests shall be in accordance with appendix 6 and 8 of ASME: Sec. VII DIV. 1  
All surfaces to be examined shall be free of:-

a) Relevant linear indications.

b) Relevant rounded indications greater than 3/16 inch.

c) Four or more relevant rounded indications in a line seperated by 1/16 inch or less (edge to edge).

d) An indication of imperfection may be larger than the imperfection that causes it, however, the size of the indication is the basis for acceptance evaluation.

5.7 POSITIVE MATERIAL IDENTIFICATION (PMI):

All alloy steel and stainless steel pipe fittings shall be checked by a suitable equipment for the material grade (i.e major alloying elements) at the manufacturer's works and certified accordingly in the test certificate's (Refer **Annexure – 3**) before dispatch. Vendor shall ensure the availability of the suitable test facility at his works and the equipment shall have valid calibration certificate.

5.8 Wrinkless: The inner bend portion of elbows shall be free from wrinkles and tool marks.

6.0 CERTIFICATION:

6.1 All fittings shall be delivered along with three original copies of test certificates in english as per the format enclosed in Annexure - 1.

6.2 IBR CERTIFICATION:

All the carbon and alloy steel pipe fittings pertaining to the material specifications: ASME: SA 234 Gr WPB, Gr. WP11, Gr. WP22; Gr. WP91; ASME SA 105 and ASME SA 182 Gr. F11, F22 & F91 shall be supplied under inspection and certification by IBR or by an inspection agency approved by IBR. The test certificates shall be provided in IBR format, form III C (i.e. in addition the test certificates to be furnished as per annexure-1, annexure-2 & annexure 3).

6.3 In addition to the requirement specified at 6.2 above, all the pipe fittings supplied as per this specification shall be inspected and certified by BHEL nominated inspection agency at the manufacturer's works. Scope of inspection shall be as per BHEL approved quality plan.

7.0 GUARANTEE CERTIFICATE:

The supplier shall furnish a guarantee certificate for the supplied products. It shall confirm that the supplied product (s) are in confirmity with applicable codes & standards. It shall also confirm that fittings supplied are capable of withstanding without failure, leakage or impairment of their serviceability, a hydrostatic test pressure equal to that prescribed for the specified matching pipe of equivalent material.





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### 8.0 QUALITY ASSURANCE DURING MANUFACTURING AND INSPECTION OF PIPE FITTINGS:

- a) Vendor shall ensure strict Quality Assurance Process while selecting the source of Raw Materials & their procurement methods. Vendor shall produce documentary evidences accordingly of its QA process ensuring the correct sourcing - at any time to BHEL's inspection agency. It shall be the responsibility of the vendor to ensure that no mix up of materials & their identification occurs during all stages of procurement, marking, transport, stocking at its works & also before starting of the manufacturing.
- b) All steps shall be ensured by the vendor so that only required materials as per specifications are only made input to manufacturing process, kept documented process assurance methods during total cycle of manufacturing, Heat-Treatment, surface treatment, testing & final painting/marketing/colour coding.

### 9.0 MARKING, PRESERVATION AND PACKING:

9.1 **Marking:** The following details shall be punched on each fitting.

- a) Manufacturer's name or trade mark.
- b) Type of fittings.
- c) Item designation (as per ordering specification).
- d) Material specification grade.
- e) Melt No.
- f) Test certificate number.
- g) Mark of Inspection Authority.
- h) BHEL Des no. (As indicated in P.O./intimated from BHEL).

9.2 **Preservation:** Before despatch, the fittings shall be dried and cleaned and the entire surface shall be well coated with a good quality rust preventive coating that will not become fluid and run-off at 65°C.

9.3 **Packing:** All fittings shall be provided with suitable HDPE End Covers to protect the ends (socket/threaded ends or weld edge preparation) and to protect the internal surfaces. All fittings shall be packed and despatched in suitable wooden boxes, so that no damages occur during transportation/storing.

### 10.0 COLOUR CODING:

All the pipe fittings shall be colour coded by painting a circumferential ring of 10 mm width at one end of the fitting at a distance of 20 mm from the end. The colour of the circumferential ring shall be according to the applicable material grade as given in the table below.

Sl. No.	Material	Colour of the ring
1.	SA 350 LF2	Red
2.	SA 105	Red
3.	SA 420 Gr. WPL6	Red
4.	SA 234 WPB	Red
5.	SA 234 WP11	Green
6.	SA 234 WP22	Blue
7.	SA234 WP 91	Orange
8.	SA182 F91	Orange
9.	SA 182 F22	Blue
10.	SA182 F11	Green
11.	SA 182 F321	White
12.	SA 403 WP321	White
13.	SA 403 WP304	Yellow

Table: Colour coding requirements.

#### 11.0 REFERENCE STANDARDS AND SPECIFICATIONS:

The latest versions of the below mentioned standards and specifications shall be used as reference for supplying pipe fittings as per this specification.

ASME: B16.9  
 ASME: B16.11  
 ASME: B16.28  
 ASME: SA234  
 ASME: SA403  
 ASME: SA420  
 ASME: B16.25  
 ASME: SA435  
 ASME: SA578  
 ASTM: E 709  
 ASTM: E 165



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**ANNEXURE – 1 : TEST CERTIFICATE PROFORMA  
SUPPLIER'S NAME AND ADDRESS  
TEST CERTIFICATE FOR FORGINGS**

1. Customer :
2. TC No. & Date :
3. P.O. No. :
4. Process of Melting Ingot :
5. Deoxidisation Process :
6. Forging Method :
7. Reduction Ratio :
8. Batch No. :
9. Heat Code No. :
10. Spec No. :
11. Test Bar size :
12. Supplier of the Ingot/billet/bloom :

**13. FORGINGS COVERED BY T.C.**

S. No.	Drawing No. & Item No.	Description	Quantity & Weight

**14. CHEMICAL COMPOSITION (PERCENT)**

Element	C	Mn	S	P											
As per Specn.	Min.														
	Max.														
Actual values															

**15. HEAT TREATMENT**

(To be accompanied by Record Chart)

Condition	Heating rate °C/hr	Temp °C	Soaking Time Hr	Heating rate °C/hr	Cooling Med.

**16. MECHANICAL PROPERTIES**

	T.S. N/mm <sup>2</sup>	Y.S. 0.5/0.2% Proof N/mm <sup>2</sup>	% E on 5.65 √So GL	% R.A. Min.	Hardness BHN Min. 3 values	Impact value joule	Sand Test		
							Angle of bend	Dia of mandrel	Rem arks
As per min Specn. max									
Actual values									

**17. SURFACE FINISH**

(When called for in the order/drg.)

**18. DIMENSIONAL INSPECTION**

**19. NON-DESTRUCTIVE TESTS**

Nature of Test	Acceptance level	Instrument used	Range	Results	Any other details
Ultrasonic					
Radiographic					
Dye Penetrant/ Magnetic Particle					

**20. METALLOGRAPHIC EXAMINATION**

(To be conducted if called for and photo micrographs to be attached along with a report)

Position of sample	Etohan used	Magnification	Constituent observed	Relative %	

**21. OTHER TESTS IF ANY (MICROSCOPIC, SULPHUR PRINTS ETC.)**

**22. IDENTIFICATION OF FORGINGS AS PER CPS / PPS**

We hereby certify that the items mentioned above have been issued and inspected in our presence and are found to be in accordance with drawings, specifications and purchase order.

SIGNATURE & SEAL OF THE  
INSPECTING OFFICER

SIGNATURE AND SEAL OF THE CHIEF OF QUALITY  
CONTROL/CHIEF METALLURGIST OF THE SUPPLIER

DATE:

DATE:

**INSTRUCTIONS:**

- a) Details of all heat treatment processes carried out should be furnished in the format provided at point No.15.
- b) Test certificates are to be furnished as per Purchase Order and specification, in A4 size paper.
- c) All the entries should be in block letters.
- d) If heat treatment is done by outside agencies, the original HT charts shall be furnished.
- e) The actual TC may run into more than one A4 size paper, if needed to facilitate filling up of details.

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ANNEXURE-2

TEST CERTIFICATE PROFORMA FOR RECORDING

MINIMUM THICKNESS MEASURED USING D-METER

SL. No.	ITEM DESCRIPTION	BHEL's MATERIAL CODE	BHEL's DES No.	MINIMUM THICKNESS (mm) REQUIRED AS PER CLAUSE 5.3.1	ACTUAL THICKNESS (mm) AS MEASURED USING D-METER	REMARKS ACCEPTED (YES/NO)

ANNEXURE-3

TEST CERTIFICATE PROFORMA FOR

POSITIVE MATERIAL IDENTIFICATION (PMI)

SL. No.	ITEM DESCRIPTION	BHEL's MATERIAL CODE	BHEL's DES No.	MATERIAL STANDARD	PMI TEST OBSERVATION	REMARKS ACCEPTED (YES/NO)

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# PLANT STANDARD

HYDERABAD

HY 724 25 73

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## REDUCER, ECCENTRIC, CARBON STEEL (SA 234 GR WPB) BUTT WELDING

### PART 1 : ORDERING DESCRIPTION

CONTROLLED COPY

1.0 COMPLIANCE WITH STANDARDS

1.1 Dimensions, tolerances and other requirements

: ANSI : B16.9.1986

2.0 MATERIAL

Carbon steel to SA 234 Gr. WPB.

3.0 SIZES

As specified in the order.

4.0 TECHNICAL DELIVERY CONDITIONS.

As per corporate standard No. AA 085 14 02

( a copy to be enclosed)

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#### Revisions:

Revised on per ANSI: B16-9-1986

#### Issued:

STANDARDS SECTION  
ENGINEERING DEPARTMENT

Rev. No.

Rev. Date:

Revised:

Approved:

Prepared:

Approved:

Date:

01

Feb. 1992

MGR  
(STDS)

GM  
(E&CC)

PDP

KLM

JAN. 1985

4" x 2" - H47242573319      sub 40x40

14" x 12" - H47242573572      sub 10x20

20" x 16" - H47242573718      sub 40x40.

20" x 16" - H47242573726

Sch. std. (PPE) 27/10/12

20" x 18"      H47242573734

Sch-std - "



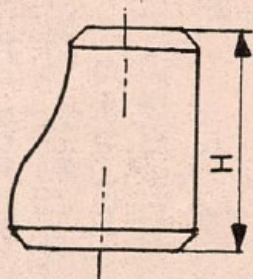
HY 724 25 73

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# PLANT STANDARD HYDERABAD



## PART II: DIMENSIONS AND RATIONALIZED SIZES



ALL DIMENSIONS IN 'mm' UNLESS OTHERWISE SPECIFIED.

### ECCENTRIC REDUCER

NOMINAL PIPE SIZE INCHES	SCHEDULE	PIPE SIZE		O D OF Large end		O D OF Small end		End to end length of reducers H		Weight/ Piece kg	Pref. Symbol	12 DIGIT CODE		User divisions	
		Large end OD x th	Small end OD x th	NOM.	TOL.	NOM.	TOL.	NOM.	TOL.			10 DIGIT CODE	FP		
1 x 1/2				33		21		51			○	04			
2 x 1				60		33		76			○	14			
2 x 1 1/2	80 x 80	60.3 x 5.54	48.3 x 5.08	60		48		76			⊗	HY 724 25 73 122	✓		
2 1/2 x 2	80 x 80	73.0 x 7.01	60.3 x 5.54	73	±1	60		89			⊗	HY 724 25 73 165	✓		
3 x 1 1/2	40 x 80			89		48		89	±2		○	N72 42 50 064	✓		
3 x 2	40 x 40			89		60		89	±1		○	211			
4 x 2	40 x 40			114		60		102			○	349			
4 x 3	40 x 40			114	±7	89		102			○	300			
6 x 3				168	±3	89		140			○	42			
6 x 4	40 x 40			168	±1	114		140	±2		⊗	408			
8 x 4	40 x 40			219		114		152	±1		○	467			
8 x 6	40 x 40			219	±2	168		152	±3		⊗	HY 724 25 73 140	✓		

8 x 6 20 x 40

- 459 CP 4564



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HYDERABAD**

**HY 724 25 73**

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NOMINAL PIPE SIZE INCHES	SCHEDULE	PIPE SIZE		O D OF LARGE END		O D OF SMALL END		LENGTH OF REDUCERS		Weight kg	Symbol	12 DIGIT CODE	10 DIGIT CODE	USER DIVISIONS
		LARGE END O D x TH	SMALL END O D x TH	NOM.	TOL.	NOM.	TOL.	NOM.	TOL.					
10 x 6	20 x 40			273		168	+3 -1	178	±2		○	HY 724 25 73 521		
10 x 8	20 x 20			273		219		178			○	HY 724 25 73 530	61	124
12 x 8	20 x 20			324		219	±2	203			○	HY 548	548	1022
12 x 10	40 x 20			324		273		203			○	HY 724 25 73 535	535	164
14 x 10	10 x 20			356		273	+4	330			○	HY 724 25 73 513		
14 x 12	10 x 20			356	+4 -3	324	-3	330			○	572	572	PEO
16 x 8				406		219	+2	356			○	564	564	
16 x 10				406		273		356			○	72	72	
16 x 12	30 x 20			406		324		356			○	HY 580	580	GP
16 x 14 ✓	10 x 10			406		356		356	±3		○	HY 724 25 73 602		ST
18 x 14	10 x 10			457		356	+4 -3	381			○	HY 724 25 73 610	610	GP
18 x 16	570 x 30			457		406		381			○	HY 629	629	GP
20 x 16	40 x 40			508	+5 -5	406		508			○	718	718	PEO
20 x 18				508		457		508			○	64	64	


DESIGNATION: AN ECCENTRIC REDUCER,  
BUTT WELDING, CARBON STEEL MATE-  
RIAL, NOMINAL SIZE 2"x1 1/2", SCH 80x80,  
SHALL BE DESIGNATED AS FOLLOWS:


ECC RDCR 2"x1 1/2" SCH80x80


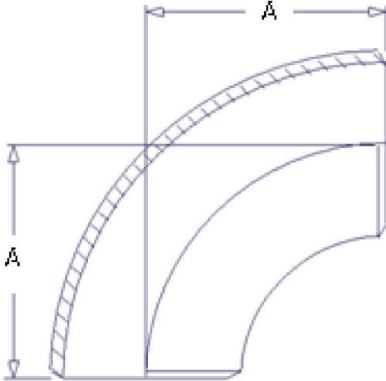
4 x 2 1/2 80

- STANDARD AND PREFERRED SIZE
- STANDARD AND NON-PREFERRED SIZE
- STANDARD SIZE NOT USED
- ▲ NON-STANDARD AND PREFERRED SIZE
- ▲ NON-STANDARD AND NON-PREFERRED SIZE



	<b>PLANT STANDARD HYDERABAD</b>	<b>HY7242592</b> <b>REV. NO: 02</b> <b>PAGE 1 OF 1</b>																		
<p><b><u>ELBOW 90°, LONG RADIUS, BUTTWELDING,</u></b>  <b><u>ALLOY STEEL (SA 234 WP 11).</u></b></p> <p><b><u>ORDERING SPECIFICATION</u></b></p> <p><b>1.0 COMPLIANCE WITH STANDARDS:</b></p> <p>1.1 Dimensions, Tolerances, and other requirements: ASME: B16.9- (Latest revision).</p> <p><b>2.0 MATERIAL:</b></p> <p>Alloy steel as per ASME SA234 WP 11 CL-2 (Latest revision).</p> <p><b>3.0 SIZES:</b></p> <p>As specified in the order.</p> <p><b>4.0 TECHNICAL DELIVERY CONDITIONS:</b></p> <p>As per plant standard no. HY0851495 (Latest revision).  <b>(A copy to be enclosed with this ordering specification).</b></p> <p><b>5.0 MARKING AND COLOUR CODING:</b></p> <p>Marking and colour coding shall be done on all the pieces as per plant standard HY0851495 -as above.</p> <p><b>6.0 DESIGNATION:</b></p> <p>Typically an Elbow 90 deg-Long Radius, Butt Welding, Alloy steel material, nominal size 8", schedule 80, shall be designated as follows:</p> <p>ELBOW-90 DEG-LR-8"-SCH 80-AS (SA 234 WP11-CL 2)  or,  e.g. For higher sizes - (16" &amp; above) -  ELBOW-90 DEG-LR-20"-SCH 40-AS (SA 234 WP11-CL 2W)</p> <p><b>7.0 REFERENCE STANDARDS:</b></p> <p>i) ASME B36.10 M    ii) ASME B36.19 M</p>																				
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TD -106 -1 Rev. No. 5 Form No.		<b>PRODUCT STANDARD</b>  <b>HYDERABAD</b>		Prod. Std. No. TC-6-7133		
				Rev. No. 01		
				Page 1 of 3		
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company.		<b>ELBOWS 90<sup>0</sup>, LONG RADIUS, BUTT WELDING, CARBON STEEL (HIGHER SIZES)</b>				
		<p>1. <b>SCOPE:</b></p> <p>This standard gives information as to the designation, material, sizes and dimensions of seamless butt welding 90<sup>0</sup> long radius elbows.</p> <p>2. <b>DESIGNATION:</b></p> <p>A 90<sup>0</sup> long radius elbow to this standard of nominal size and schedule shall be designated (As per Variant Table)</p> <p>2.1 <b>On drawings:</b></p> <p>a) Material specification column: TC67133  b) Description column: Refer Indent &amp; Variant Table</p> <p>2.2 <b>For placing indents on purchase:</b></p> <p>Elbow 90<sup>0</sup>, long radius, butt welding, carbon steel &amp; nominal size as per Variant Table.</p> <p>3. <b>Design</b></p> <p>3.1 Dimensions, Tolerance &amp; General requirements: ASME B16.9  3.2 Material: Carbon steel to SA234 Gr. WPB W</p> <p>4. <b>TECHICAL DELIVERY CONDITIONS:</b>  As per BHEL standard AA0851402</p> <p>5. <b>Referred standards</b> (Latest publications including amendments):  1) ASME B 16.9 2) AA0851402 3) ASME B 36.10M</p>				
Ref. Doc. TC-6	None	<b>Revisions :</b>  <b>Refer to record of revisions :</b>		<b>Prepared :</b>  P.K.SAHOO	<b>Approved :</b>  M.A.HASEEB	<b>Date:</b> 03.01.15

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### **Annexure - III**

#### **Proforma for self-certification by Supplier for minimum local content on their letter head for tender value less than Rs 10 Crore**

"We \_\_\_\_\_ (Name of Manufacturer) undertake that we meet the mandatory minimum Local Content (LC) requirement i.e. \_\_\_\_\_ (to be filled as notified in the policy) for claiming Purchase Preference linked with Local Contents under the Govt. policy against tender no. \_\_\_\_\_."

Inviting Authority: P. REENA SURESH KUMAR, MANAGER / PUR(HE&F), BHEL RC PURAM, HYDERABAD.

Work: SUPPLY OF PIPE FITTINGS

Contract No: E7A1V31964 DATED 10.02.2022

Name of the  
 Bidder/  
 Bidding Firm /  
 Company :

**PRICE BID FORMAT**

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only )

NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER #	NUMBER	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	BASIC RATE PER PIECE In Figures To be entered by the Bidder in Rs. P	GST (If applicable in Percentage)	TOTAL AMOUNT excluding taxes in Rs. P	TOTAL AMOUNT including taxes Rs. P	TOTAL AMOUNT In Words
1	2	3	4	7	8	11	12	13
1	LR ELBOWS 90DEG AS 1 1/2" SCH 80 BW	HY7242592119	20.00			0.000	0.000	INR Zero Only
2	SS Rdcr 12 x 10" Sch 10Sx10S BW(WP321)	AA7242532841	1.00			0.000	0.000	INR Zero Only
3	ST. TEE CS 14" SCH20 BW	AA7242511410	1.00			0.000	0.000	INR Zero Only
4	REDUCER ECC 14"x12" SCH 10X20 BW CS	HY7242573572	2.00			0.000	0.000	INR Zero Only
5	ELBOW 90DEG LR 8" SCH 20 BW AS	HY7242592283	1.00			0.000	0.000	INR Zero Only
6	ELBOW 90 DEG LR 24" SCH STD CS BW	TC9767133054	3.00			0.000	0.000	INR Zero Only
Total in Figures						0.000	0.000	INR Zero Only
Total Rate in Words						INR Zero Only		