



# Bharat Heavy Electricals Limited

(Government of India Undertaking)

Piping Centre, No.80, GN Road, T.Nagar, Chennai – 600 017, Tamil Nadu

## ENLISTMENT OF VENDORS

BHEL – Piping Centre, Chennai – One of the Navratna PSUs is looking for Vendors who are technically competent, Financially sound and capable of Design, Manufacture and Supply of the following items as per BHEL's Specification/ TDC/ Drawings etc which are available in our Website [WWW.BHEL.COM](http://WWW.BHEL.COM). Filled-in Formats together with annexures may be forwarded to DGM/Purchase/Supplier Development Cell/ Piping Centre.

### Contact Persons :

1. S.Lakshminarayanan Manager/Purchase – 044-28161331
2. Priya Balaji, Dy.Manager/Purchase – 044-28161244

Pre-Qualification requirement: Only Genuine manufacturers need to apply. Application of Traders/ Stockists will not be considered. The Vendor shall be having adequate manufacturing facilities, Quality Systems and capability of meeting product specifications for Circulating Water Pipes –as per Specification IS 3589 – Diameter above 2500mm, Thickness ranging from 10mm to 25mm.

- Annual Quantum of work shall be approximately 10000 MT
- Pipes will require special coating, internal and external, as per our project requirements. Coating shall be of Epoxy, Synthetic Enamel, Poly Urethane etc
- Vendors having the following infrastructure facilities is preferred
  - a. Rolling Machines
  - b. Hydro Test Bench
  - c. Radiography
  - d. Edge Preparation Machine
  - e. Sand Blasting/Shot Blasting
  - f. Coating
- Vendors shall have tie-up with Reputed Transporters for despatch of Pipes to Project Sites, anywhere in India.
- Reference List and Performance Certificates, if any, to be enclosed

While submitting the Vendor Registration documents, kindly highlight whether you are registered with any of our BHEL Sister Units for the above products.

Interested Parties may submit the documents on or before 15.10.09.

AGM/MM

## 1.0 SCOPE

- 1.1 This Technical Delivery Conditions specify the requirements in addition to IS:3589 for electrically welded (ERW \ SAW ) steel pipes.
- 1.2 The pipes are intended for water services (under Non-IBR piping system only).
- 1.3 The pipes shall conform to the size, grade and quantity as specified in the purchase order.

## 2.0 MATERIAL

- 2.1 The plates / coils used for pipe shall meet the requirements as per IS: 3589 Grade Fe 410 MPa including mechanical test requirements.

## 3.0 DIMENSIONAL TOLERANCES

- 3.1 The tolerances limits are:

OD:- Upto NB 1600 mm:  $\pm 4$  mm; Above NB 1600 mm:  $\pm 6$  mm  
 Thickness:- Upto 14mm :  $+1.3$ mm /  $-0.8$ mm; Above 14 mm :  $+1.4$ mm /  $-0.8$ mm.

Length:- for OD upto 1300 mm :  $+10$  mm/  $-0$  mm;  
 for OD above 1300 mm :  $\pm 50$  mm

Ovality ( Difference between major and minor inside diameter) : 0.5% maximum

Squareness of ends: The ends of pipe section shall not vary by more than 3 mm at any point from a true plane perpendicular to the axis of the pipe and passing through the center of the pipe at the end.

- 3.2 Other tolerances shall be as per IS: 3589

## 4.0 MANUFACTURING

- 4.1 The pipe shall be of longitudinally welded or spirally welded as indicated in the P.O.
- 4.2 The ends shall be edge prepared as indicated in the purchase order.
- 4.3 Circumferential seams shall be 1500 mm apart from each other and from ends.
- 4.4 All pipes shall be completely finished and free from surface, sub surface defects such as pits, cracks, weld spatters & laminations etc..

## 5.0 NDE

- 5.1 The spiral welds/butt welds of length 100 mm from both the ends of the pipe shall be radiographically tested.

## 6.0 HYDROSTATIC PRESSURE TEST

- 6.1 Each pipe shall be subjected to a hydraulic test pressure as per IS: 3589 .  
 (i.e., using the formula  $P = 2ST / D$  )

## 7.0 INSPECTION

- 7.1 All pipes shall be inspected by the vendor prior to BHEL / Customers' Inspection. BHEL or BHEL authorized inspector / Customer will select the pipes at random and carryout the inspection. The necessary Material Despatch Clearance Certificate is to be obtained by the vendor prior to the despatch of material.

P.Elangovan, QA K.Ganeshan, MM	Approved by C. Karunakaran, Engg K. Vedaprasad, QC
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## 8.0 PAINTING AND PACKING

- 8.1 Unless otherwise specified in the Purchase Order, all the pipes shall be coated with resin type translucent dry type rust preventive on the outside; pipes of diameter above NB 450 mm, shall be coated inside also.
- 8.2 Spiders are to be provided on both ends of the pipes as per the drawing - if indicated in the enquiry / Purchase Order.

## 9.0 MARKING

- 9.1 All pipes shall be paint stencilled, hard punched with the following details.

### Paint Stencil

- Specification
- Heat number
- Pipe number
- Manufacturer's identification
- Material Code
- Size

### Hard punch

- Specification
- Heat number
- Pipe number
- Manufacturer's identification

- 9.2 In addition to the above, for the pipes directly despatched to project site, the following details (furnished in the P.O. or separately) shall be **paint stencilled & hard punched** on both ends of the pipes

- |                 |          |                |
|-----------------|----------|----------------|
| ➤ Work order No | ➤ DU No  | ➤ Project name |
| ➤ Quantity      | ➤ Weight |                |

## 10.0 CERTIFICATES

- 10.1 Three original test certificates typed in English shall be submitted along with the Inspection report.

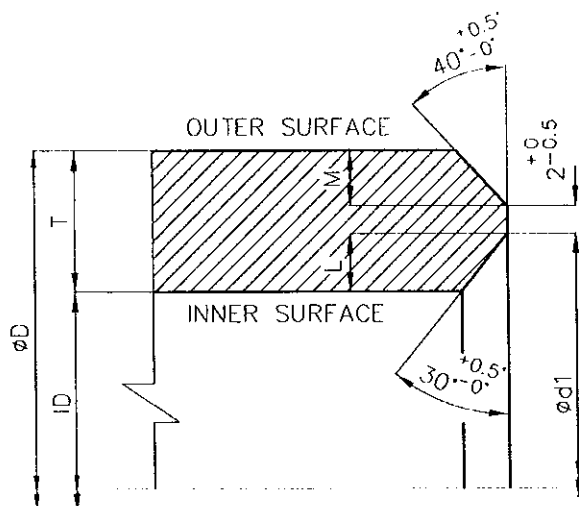
- 10.2 The test certificate shall furnish the following details.

- a. Purchase Order references.
- b. Test Certificate number.
- c. Specification, grade, size, quantity
- d. Heat number of plate (or pipe number with traceability to heat number)
- e. Chemical composition and mechanical properties
- f. Hydrostatic pressure test report
- g. RT Report.

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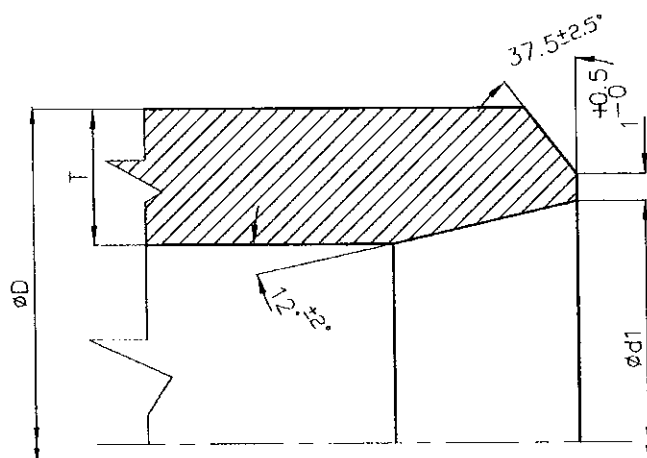
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REV	DATE	ALTERED	APPROVED	ALL DIMENSIONS ARE IN MILLIMETRES




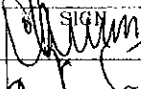
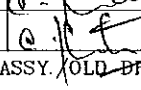
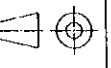
PIPE SIZE	M	L	ID	$\phi d1$
$\phi D \times T$	5	T-7	D-2T	D-14

**FIG-A** E.P. DETAIL FOR PIPES OF THICKNESS  
ABOVE 14mm



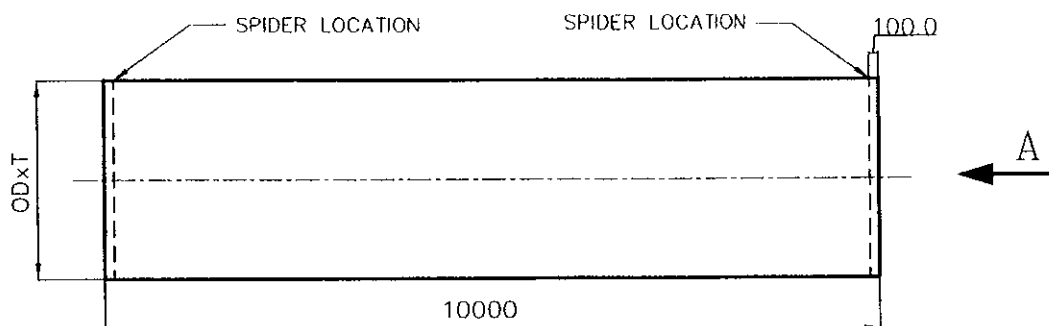
PIPE SIZE	$\phi d1$
$\phi D \times T$	D-2T

**STYLE-D** E.P. DETAIL FOR PIPES OF THICKNESS  
14mm AND BELOW

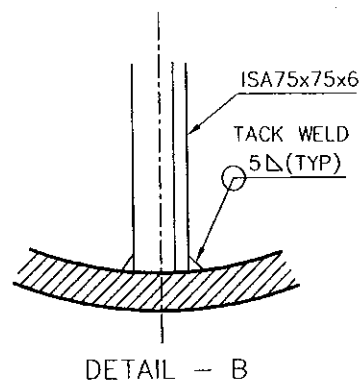
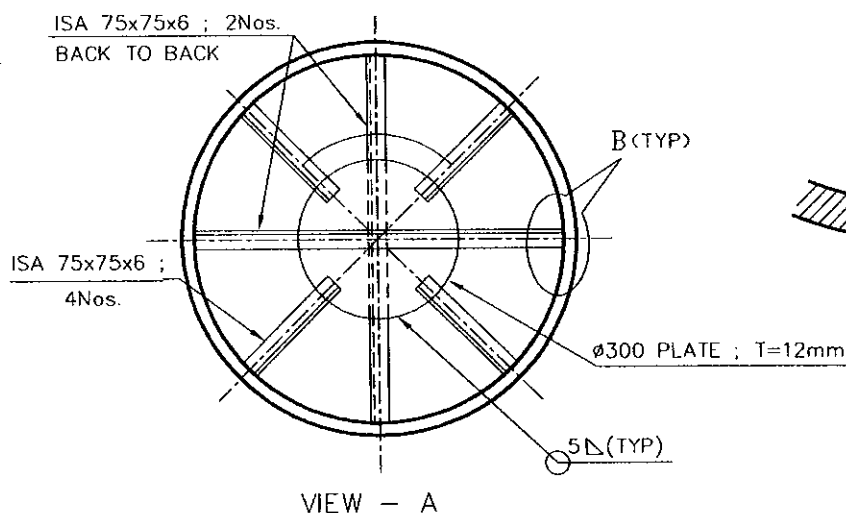
 <b>BHARAT HEAVY ELECTRICALS LIMITED</b> PIPING CENTRE CHENNAI 600 017		DRN	NAME	SIGN	DATE	NO. OF VAR	
		CHD	C.K.KARAN		11.04.08		
		APPD	C.K.KARAN		11.04.08		
DEPT	GRADE OF UNTOLD DIM		SCALE	WEIGHT (KG).	REF. TO ASSY. / OLD DRG.	ITEM NO.	NO. OF ITEMS
CODE	C / M / F		N.T.S				
TITLE			CARD CODE	DRAWING NO.		REV	
<b>EDGE PREPARATION DETAIL FOR PIPE DIA &gt; 1000</b>			U 01	<b>4-80-999-93079</b>		<b>00</b>	


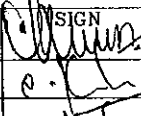
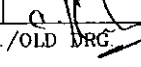
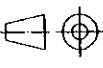
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REV	DATE	ALTERED	ALL DIMENSIONS ARE IN MILLIMETRES
		APPROVED	



**SPIRAL/LONGITUDINAL WELDED PIPE**  
( 2 LOCATIONS IN 10 MTR. PIPE )



 <b>BHARAT HEAVY ELECTRICALS LIMITED</b> PIPING CENTRE CHENNAI 600 017				DRN	NAME	SIGN	DATE	NO. OF VAR
				CHD	C.K.KARAN		11.04.08	
				APPD	C.K.KARAN		11.04.08	
DEPT	GRADE OF UNTOL. DIM		SCALE	WEIGHT (KG).	REF. TO ASSY./OLD DRG		ITEM NO.	NO. OF ITEMS
CODE	C / M / F		N.T.S.					
TITLE				CARD CODE	DRAWING NO.			REV
<b>SPIDER ARRANGEMENT FOR FOR PIPE DIA &gt; 1000</b>				U 01	<b>4-80-999-93078</b>			<b>00</b>

Size A4