



An ISO 9001  
Company

## Bharat Heavy Electricals Limited

(Seamless steel Tube Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

<b>TITLE</b> <b>Supply of Carbon Steel Strips as per IS 513 Gr EDD and as per TDC: STR: GEN:CS:07 Rev :01 dtd 04/07/2007.</b>	Phone: +91 431 257 84 80 Fax : +91 431 252 0464 Email : Insekar@bheltry.co.in Web : <a href="http://www.bhel.com">www.bhel.com</a>
--	---

<b>Reference Number: SSTP / PC / CSSTRIP/ 9590598E dtd 14/05/2009</b>	<b>Date:14/05/2009</b>	<b>Due date for submission of quotation: 04/06/2009</b>
---	------------------------	---

You are requested to quote the Enquiry number date and due date in all your correspondences. This is only a request for quotation and not an order

BHEL / Trichy is looking for additional vendors for supply of **Carbon Steel Strips as per IS 513 Gr EDD and as per TDC: STR: GEN:CS:07 Rev :01 dtd 04/07/2007**. Packing of coils shall be as per TDC and also as per enclosed annexure –E & F. Manufacturers alone need to be quote for this tender. The details are as follows:

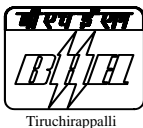
Size of Strips in MM	Specification	Quantity in MT	Delivery required quantity and period.
13.90 x 1.25 mm	IS 513 Gr EDD and as per <b>TDC: STR: GEN:CS:07 Rev :01 dtd 04/07/2007</b> . Packing of coils shall be as per TDC and also as per enclosed annexure –E & F	670.00	@ 220 MT from the month of Oct- 2009 to Dec- 2009

Manager / Purchase /SSTP

Phone: 0431-257 8480

Fax: 0431-252 0464.

Mail: Insekar@bheltry.co.in.



#### 1.0 MATERIAL

Specification : CS: EDD of IS 513  
{Latest on date of Purchase Order (PO)} SS: ASME SA 240 Type 304, 316 and 409  
Size and Qty. : As per Purchase order  
Application : For Manufacture of Spiral Finned Tubes.

#### 2.0 DIMENSIONS AND TOLERANCES

- a) The Strip tolerance on Thickness :  $\pm 0.050\text{mm}$
- b) The Strip tolerance on width :  $\pm 0.2\text{mm}$
- c) The Diameter after coiling on ID = 400 ( - 0, +10 ) mm & on OD as 1100 to 1300mm .

#### 3.0 SUPPLY CONDITION :

SA240 Type 409 : Fully annealed and the conditions of annealing shall be reported in Test Certificate. Others as per Specification.

#### 4.0 MECHANICAL TESTS:

A minimum of one Tensile test, one Hardness test and one Bend test ( 180° ) shall be conducted on a representative sample from each coil and the results shall be reported in the Test Certificate. The requirements give in Table below shall be satisfied.

Specification	Elongation in% in 2' GL (Min)	Hardness HRB (Max)
IS 513 Gr EDD	50	45
SA 240 Ty. 304	50	82
SA 240 Ty. 316	50	85
SA 240 Ty. 409	35	78

#### 5.0 FINISH AND REPAIR

The finished strip shall be free from harmful defects such as scales, rust, blisters, lamination, paint, grease, pitting, porosity, cracked/ torn edges, burr and any other defects which will impair its use in the finning machine and welding. No weld joint is permitted in the strips.

#### 6.0. PRESERVATION AND PACKING

6.1 Before coiling very mild coating of weldable rust preventive oil on the strip is required for IS 513 Grade to avoid rusting.

6.2 To avoid de coiling at any point of time during transit, handling and loading on the machine for production , the following procedure shall be followed.

- a) The strip shall be wound into coil form to the dimension specified in the Enquiry/purchase Order.
- b) Each coil shall be securely packed individually with steel straps radially at 60° apart, ensuring a minimum of 6 locations.
- c) After strapping each coil as above, 3 such similar coils (i.e same Grade , OD, ID, Width & Thickness and same Winding Direction) shall be put together and packed as a bundle by strapping them at 120° apart at 3 places radially.
- d) After this, cover each bundle with water proof durable plastic sheet and Hessian cloth.
- e) 3 or 4 such bundles kept together one over the other shall be made as a lot and strapped tightly after placing wooden battens radially kept at 120° apart on both sides to avoid transit damage.
- f) The size of the wooden battens shall be thickness 50 mm, width 75mm and length equal to (OD-ID) / 2 + 100 with two pre drilled holes (at 50mm from both ends). The bundle strapping shall be done through these holes in the wooden battens.

The packing shall be suitable for easy handling and avoid damage during transport.

R.Sasi Kumar

M.Subramani

S.Mohan

K.V.Kalyanaraman

Approved (QA&C)



## 7.0 MARKING

The marking details (1 to 5 ) mentioned below shall legibly be provided .

- a ) On a sticker with details affixed to the leading & trailing end of each coil during coiling to preserve coil identity till the end.
- b ) On a bundle tag attached to each packed coil .

### Marking details

- |   |                    |
|---|--------------------|
| 1) Supplier name .  | 4) Coil Number     |
| 2) Specification and Type                                       | 5) Melt / Heat No. |
| 3) Dimensions (Width, Thickness of the strip & OD of the Coil). |                    |

## 8.0 TEST CERTIFICATE

a) Duly authenticated Test certificate shall be furnished in 3 copies.

b) TC shall essentially contain :

- |                            |  |
|----------------------------|--|
| 1 ) Name of the supplier   | 6 ) Heat treatment : Temperature & Time.     |
| 2 ) BHEL order No          | 7 ) Dimension of strip & coil                |
| 3 ) Specification and type | 8 ) Results of all the test :                |
| 4 ) Coil nos               | Product analysis, Tensile, Hardness Test,    |
| 5 ) Heat No                | Bend and cupping test where ever applicable. |

\*\*\*\*\*