



# Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

MATERIALS MANAGEMENT / CAPITAL EQUIPMENT

An ISO 9001  
Company

<b>ENQUIRY</b>  <b>NOTICE INVITING TENDER</b>	Phone: +91 431 257 76 53
	Fax : +91 431 252 00 31
	Email : <a href="mailto:skaruna@bheltry.co.in">skaruna@bheltry.co.in</a>
	Web : <a href="http://www.bhel.com">www.bhel.com</a>

	<b>Enquiry Number:</b> 2711300007	<b>Enquiry Date:</b> 29.01.2013	<b>Due date for submission of quotation:</b> 28.02.2013
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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.  
Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 hrs on the Date of tender opening.

Sl. No	Description	Quantity
1	Longitudinal colour coding System as per the technical specification, general guidelines instructions & commercial conditions applicable (to be downloaded from web site <a href="http://www.bhel.com">www.bhel.com</a> or <a href="http://tenders.gov.in">http://tenders.gov.in</a> )	01 No.

### Important points to be taken care during submission of offer

1. Checklist to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
2. The EMD Amount for this Tender will be ( INR ) : 40,000.00
3. Delivery required 6 months from the date of purchase order.
4. All updates, amendments, corrigenda etc (if any) will be posted only on the above websites from time to time, as and when required, until tender is opened. There will be no publication of such updates, amendments corrigenda etc. through newspapers or any other media.

BHEL commercial terms & conditions with Price Bid and Bank Guarantee formats can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units) Bharat Heavy Electricals Limited page) under Enquiry reference above .

Tenders should reach us before 14:00 hours on the due date. Tenders will be opened at 14:30 hours on the due date Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present

Yours faithfully,  
For **BHARAT HEAVY ELECTRICALS LIMITED**

*30/01/2013*  
Manager MM/Capital Equipment

**A. NAGARAJAN**  
Manager  
MM/Capital Equipment  
BHEL, Tiruchy - 620 014.



**Cold Mill / SSTP, BHEL, Tiruchirapalli-14**  
**Longitudinal Colour Coding System for Cold Mill - SSTP**

Document No.: SSTP : CM:LCCS: Dt. 22.12.2012

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**1 GENERAL:**

1.1 This document deals with requirements for submitting offers and executing the order on placement of Purchase order / Contract for the subject item. The equipment under this specification are required for continuous colour paint strip marking on seamless steel tubes being manufactured in SSTP/BHEL, having diameter between 19 and 133 mm and thickness between 2.5 and 12.5 mm and length between 4 and 20 meters.

1.2 Bidders have to submit the offers as below by filling in the "Vendor's response" column with relevant information against each point in the respective sections below by providing information on model no, parameters etc.

1.3 Note: A just 'CONFIRMED' or 'COMPLIED' or 'YES' or 'NO-DEVIATION' or similar words in the "Vendor's response" column is not acceptable and may lead to disqualification of the Technical Offer.

1.4 Brand and model no. of the items offered must be indicated in the offer

1.5 The offer shall Consist of Sections:

1.5.1 Part A:

- a. General Requirements
- b. Technical offer
- c. Commercial terms and conditions
- d. Un-priced Price bid as per Part B (i.e. Price bid as per list shown in Part B of this Specification with the price value blanked )

1.5.2 Part B:


Price bid for all items with split of major components:

Sl.No	Particulars	Qty	Rate
01			
02			
03			
04			
05			
06			
07			

1.6 Necessary Documents, records, drawings, catalogues as required shall also be referenced in the response column and attached with the offer.

1.7 The supplier may visit SSTP and understand the requirements before bidding.

1.8 The requirements to be met for submitting the offer and the execution of the order are laid out below.

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## **2. QUALIFYING CRITERIA FOR THE SUPPLY**

The VENDOR has to necessarily provide the following details, for making an assessment of the firm's capability and competency: [The VENDOR is expected to give complete details against each clause in the table given below and wherever necessary an additional sheet may be attached (giving clear reference number) to cover the required details]

Sl. No.	PARTICULARS	Vendor's response with ref. cl. No. of detailed offer.
1.0	Number of Years of Experience of the VENDOR in the field of design, manufacture and supply of Colour coding machines	
2.0	YEAR of LAUNCH of the Model quoted against this ENQUIRY	
3.0	Is there any other model launched after the quoted Model? Why it is not quoted. Otherwise, indicate the likely year in which the next model is likely to be launched	
4.0	Number of Colour coding machines supplied, installed and commissioned till date for companies within INDIA: Attach list of organizations with model and contact address.	
5.0	Confirmation to performance testing requirement of the equipment prior to dispatch from supplier's end	
6.0	Details of Quality System followed (Kindly furnish the salient aspects of the QA system followed)	
7.0	Details on SERVICE-after-SALES Set-Up in India including the addresses of Agents/Service Centers in India and Asia	
8.0	Any Additional Data to supplement the manufacturing capability of the VENDOR	

2.1. The VENDOR has to compulsorily meet the following requirements to get qualified for submitting an offer for this equipment. Confirmation against each clause is to be indicated in the space provided.

Sl. No.	REQUIREMENTS	Vendor's confirmation and ref. to detail enclosed
9.0	The VENDOR shall have a minimum of <u>FIVE Years</u> of Continuous Experience in the Design, Manufacture & Supply of Colour coding machines . Indicate the actual experience.	
10.0	The VENDOR shall have supplied at least 2 number of the offered model, within the last five years. The equipment shall be working satisfactorily at least for the past 2 years. Indicate the number of equipment (of QUOTED MODEL) sold in India & Other Countries.	



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11.0	Reference List of Customers with full details of the customer's CONTACT PERSON for cross reference by BHEL shall be provided. Proof of performance of the offered equipment shall be provided in the offer based on similar systems supplied to other customers by way of certification of performance from 2 customers or by spot visit	
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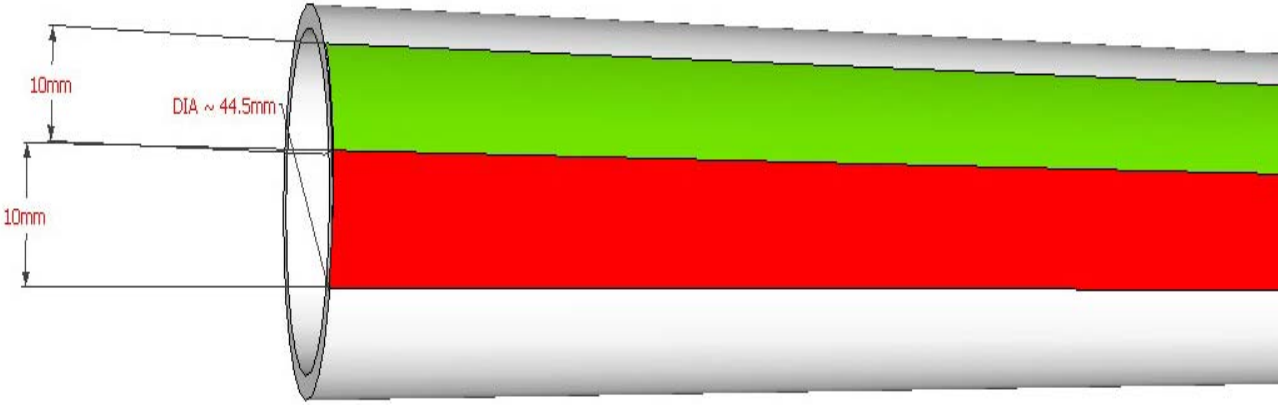
2.2. The VENDOR has to comply with the following, for accepting the Technical Offer for scrutiny by the Purchaser. Confirmation against each clause is to be indicated in the space provided.

Sl. No.	REQUIREMENTS	Vendor's confirmation and ref. to detail enclosed
12.0	The Technical Offer shall be supported by Product Catalogue and Data Sheets in ORIGINAL and complete technical details of 'Bought-Out-Items' with copies of Product Catalogue and Selection Criteria	
13.0	The Commercial Offer (given with the Technical Offer – Part I) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid, for confirmation of Scope of Supply.	
14.0	The points confirmed by the supplier based on the clarifications sought for the original offer shall be incorporated in the revised final offer wherever applicable. Pl. confirm	
15.0	The Vendor shall provide a complete list of outsourced electrical, electronic and mechanical components with Source name, Model no., Specification and drawings	

**Technical Requirements:-**

S. No	REQUIREMENTS	Vendor's Response
<b>3</b>	<b>Job Details</b>	
	Seam less steel tubes manufactured will be traveling on a tube conveyor (as shown in sketch on last page) one by one with a gap between each tube of about 200 to 1000mm. as the tube travels on this conveyor, a paint mark as per dimensions shown in the sketch below is to be applied by an automatic marking system. After the end of the paint marking, the tube will be ejected automatically from the conveyor and rolled down a sloping table to a trough where the tubes will be collected in to bundles and strapped together and moved for shipment.	



3.1	<b>Job Dimensions and marking details</b>																			
	<p>Tube sizes to be colour coded: OD 19 to 133 mm. Thickness of tubes : 2.5 mm to 12.5 mm Length of tubes: 3 to 20 meters.</p> <p>Centre height 1 to 1.2 m from floor No. of paint strips on a tube: 1 or 2. As below:</p> <table border="0"><tr><td>Material Spec.</td><td>Paint Colour</td></tr><tr><td>SA 192</td><td>WHITE</td></tr><tr><td>SA 210 Gr. A1</td><td>YELLOW</td></tr><tr><td>SA 210 Gr. C</td><td>BLUE</td></tr><tr><td>SA 106 Gr. B</td><td>RED</td></tr><tr><td>SA 106 Gr. C</td><td>BLUE</td></tr><tr><td>SA 209 Gr. T1</td><td>BROWN, RED</td></tr><tr><td>SA 213 Gr. T11</td><td>BROWN, WHITE</td></tr><tr><td>SA 213 Gr. T22</td><td>GREEN, RED</td></tr></table> <p>and some more....</p> <p>Speed of tube travel: 0.3 m/sec. to 2 m/sec No. of paint colours: 8 Width of strip : 5 to 12 mm depending on tube size. Medium Quick drying paints per spec: IS 2932.</p> <p>Rate of output : 1000 tubes per shift of 8 Hrs. (operation in 2 or 3 shifts)</p>	Material Spec.	Paint Colour	SA 192	WHITE	SA 210 Gr. A1	YELLOW	SA 210 Gr. C	BLUE	SA 106 Gr. B	RED	SA 106 Gr. C	BLUE	SA 209 Gr. T1	BROWN, RED	SA 213 Gr. T11	BROWN, WHITE	SA 213 Gr. T22	GREEN, RED	
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SA 213 Gr. T22	GREEN, RED																			
																				
3.2	The color code should be given throughout the length without any gaps. When double colour is given, there should be no gap between the two strips and also there should be no overlapping. Provision should be given to change colour easily.																			
3.3	The coloring guns should have provision for adjusting the height according to various outer diameters.																			



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3.4	The color code should be straight throughout the length and should not have wavy nature.	
3.5	<b>Pneumatic</b> -Compressed air at 5 bar max. pressure will be provided by BHEL for the spraying and cleaning device. Necessary filtering unit and control system shall be part of the supply.	
3.6	<p><b>Electric Equipment:</b> The unit shall work in 230v AC. The colour coding unit shall have a set of switch cabinets, terminal boxes, motor protection system, necessary cooling system etc. suitably integrated with digital communication system and computerized operation using reputed make of subsystems. The computer system should be capable to be linked with next operation.</p> <p>The operator desk must include the following parts:</p> <ul style="list-style-type: none"><li>- PC with keyboard, mouse and screen.</li><li>- Push buttons:<ul style="list-style-type: none"><li>• Emergency Stop</li><li>• Control voltage ON/OFF</li><li>• Signal lamp for error</li></ul></li></ul> <p>With the PC the operator can work in manual and automatic mode.</p> <p>In Manual mode- every single step of the machine can be operated separately via commands from the PC. The operator has to select the commands with the mouse on the screen.</p> <p>The working positions of the different devices are to be controlled by sensors, in order to prevent damages.</p> <p>In Automatic mode-Program for fully automatic colour coding cycle. Automatic will started by pressing the START button and will stopped anytime by pressing the STOP button.</p>	



3.7	<p><b>Documentation</b> - The documentation shall be supplied three-fold on paper and one-fold on CD-Rom in English language consisting of the following:</p> <ul style="list-style-type: none"><li>machine erection and general notes</li><li>erection manual, assembly drawing and part lists</li><li>general description of function and function cycle</li><li>maintenance instructions</li><li>lubrication instructions</li><li>operating instructions</li><li>circuit diagram, cable list, etc.</li><li>hydraulic and switch plans</li><li>part list and wear part list</li><li>Final foundation drawings, which contain all sizes, cable channels and load indexes and final layout drawings of the plant</li></ul> <p>The documentation on CD-ROM shall be in the following format:</p> <ul style="list-style-type: none"><li>Documents and lists in PDF format</li><li>Drawings in DWG format</li><li>Layout and foundation plan in DWG format</li></ul>	
<b>4</b>	<b>Scope of supply</b>	
4.1	<p>Supply, installation &amp; commissioning of automatic paint system. This may consist of:</p> <p>Paint reservoirs for each colour, Solvent reservoir, Pneumatically Driven Paint Transfer Pump in required nos. with Suction Hose and Air Filter Regulator, Low Pressure Paint Filter, Low Pressure Paint Regulator 0-5 bar with gauge, Low Pressure Paint Tube, Colour Change Valve Assembly for 4 colours: 2 nos, Solvent 1 no. &amp; Air 1 no. Automatic Air Assisted Gun: 2 nos.</p>	
4.2	<p>PLC Based Control system with necessary sensors to detect entry and exit of tube and start / stop paint system accordingly. This may include necessary controls for operation of reservoir, control valves etc.</p>	
4.3	<p>Since the system involves quick drying paint, the technology and mechanics for preventing clogging of tubing, nozzles, filters paint gun etc. and ensure intermittent and continuous operation of the system in automatic mode shall be provided.</p>	



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4.4	The machine should be integrated inside a cover to reduce spread of the paint fumes into immediate atmosphere.	
4.5	Service and user manuals along with list of spares catalogue to be supplied	
<b>5</b>	<b>General requirements:</b>	
5.1	The floor space requirement and foot print layout, schematic drawing and operational features shall be provided in the offer	
5.2	Supplier shall provide list of bought out items separately with model no. and maker along for major items like motor, Pneumatic cylinder, Solenoid valves, filters, guns etc.	
5.3	Supplier shall prepare quality plan covering major items indicating critical quality characteristics, method of measurement, reference standard and acceptance norms and submit to SSTP/BHEL before starting the manufacturing activities.	
5.4	With respect to point 3 above, proof of performance of the offered system shall be provided in the offer based on systems supplied to other customers by way of certification of performance or by spot visit.	
5.5	The system performance shall be checked at BHEL after installation on a set of tubes of 3 different Diameters covering the entire range of tube sizes. Parameters like uniformity of width, alignment, coating thickness etc. has to be demonstrated.	
5.6	Service shall be provided by the supplier during guarantee period and also later through AMC. The system supplied must be supported by way of spares, availability and service for a minimum period of 10 years.	
5.7	List of spares with part identification no. (Tools, Mechanical, Electrical & Electronics) to be maintained for ensuring continuous operation with least delay time shall be provided in the offer with price. Critical spares like pneumatic pump, valves, hoses and filters be given 2 nos. each.	
5.8	Service and user manual to be supplied along with unit.	
5.9	Supply of required commissioning spares for proving the performance of the m/c at SSTP is supplier's scope.	



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<b>6</b>	<b>Installation, Performance &amp; Acceptance Of The System</b>	
6.1	The system shall be installed and commissioned by the manufacturer of the system.	
6.2	The system performance shall be checked on a set of tubes, which will be provided by the supplier in for different lengths, diameters and grades of material.	
6.3	Service shall be provided by the supplier during guarantee period and also later through AMC. The system supplied must be supported by way of spares, availability and service for a minimum period of 15 years.	
6.4	Remote troubleshooting from Suppliers works is to be provided through ISDN-modem / Ethernet connectivity.	
6.5	Guarantee for the trouble free performance of the system shall be provided for min. 2 years for 3 shift operation. This shall be by way of performance Bank guaranty as applicable. The guarantees of the seller refer to: Quality of colour coding, life of spray nozzles, non clogging of nozzle unit and any other aspect agreed upon.	
<b>7</b>	<b>Training and Documentation:</b>	
7.1	Supplier shall provide operational and first level system maintenance training for 8 persons for operation and maintenance at BHEL.	

**8. The Following commercial points also may be confirmed.**

Sl.No.	Description	BHEL Offer / Requirement	Vendor's confirmation
01	DELIVERY	6 Months from the date of Letter-of-Intent	
02	INSPECTION	Will be carried out at BHEL and the Performance test is to be witnessed by BHEL Official.	
03	WARRANTY	The equipment shall be warranted for a minimum Period of 12 months from Commissioning or 18 months from date of dispatch, whichever is earlier.	
04	TRAINING	Refer Clause 7.0	
05	PERFORMANCE	As per BHEL tender specifications	

