



429-002/A

(A Government of India Undertaking)
HIGH PRESSURE BOILER PLANT
PURCHASE DEPARTMENT - FOSSIL BOILERS
THIRUCHIRAPALLI - 620014
TAMILNADU (INDIA)

PHONE :2577447
GRAMS : BHARATELEC
FAX NO: 2520719
E-mail: agk@bheltry.co.in
Web:

	Enquiry No	Enquiry Date	Due Date for Quotation
	1501200039	20.08.2012	25.09.2012
Please quote Enquiry No, Date and due date in all correspondences. This is only a request for quotation and not an order			

Item	Description	Unit	Quantity	Delivery Quantity	Schedule Date
10	154940200001 TUBE OD 38.1 x 6.6 x 10000- SA213T12	M	17030.000	17,030.00	31.12.12
20	154940202151 TUBE OD 38.1 x 6.6 x 12150 - SA213T12	M	30192.750	30,192.75	31.12.12
30	154940240001 TUBE OD 38.1 x 10.67 x 10000- SA213T12	M	20000.000	20,000.00	31.12.12
40	154960070001 TUBE OD 44.45 x 7.62 x 10000- SA213T92	M	9500.000	9,500.00	31.12.12

General Note:

1) All tubes are to be supplied fully meeting the TDC:0:124 Rev 03. Point-by-Point confirmations to be indicated in the offer without fail. If there is any deviation, the same should be mentioned clearly in the offer itself.

2) All tubes are to be stencilled and colour coded, longitudinally and continuously throughout the length of the tube with specific details as listed out in the above respective TDCs and the SIPPP 21 Rev 04.

3) While despatching tubes, in addition to bundling with metal straps, we require slinging arrangement with nylon belt (not rope) for easy handling at loading and unloading points.

4) For import vendors, Material is to be inspected by third party inspection agency as approved by IBR and test certificate are to be countersigned by respective Inspection agency in case the Mill is not approved by IBR. Offer should indicate the name of inspection agency. Inspection charges, if any, is to be included in the quote itself. This will not be paid separately.

Indigenous vendors have to be approved by IBR.

In addition to TCs in relevant IBR forms corresponding mill TCs should also be provided along with despatch of tube material.

The offers should reach us 30 minutes before the time of opening of tenders. The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening. Late and delayed offers are liable to be rejected.

N. GANAPATHY SUBRAMANIAN
Engineer
MM / MFG. / Purchase / Tubes
BHEL, Tiruchirappalli - 620 014.

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

(Signature)
MANAGER / PURCHASE
(FOSSIL BOILERS)
Yours faithfully,



BHARAT HEAVY ELECTRICALS LIMITED

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5) TENDERS WILL BE FINALIZED ON "CONVENTIONAL TWO PART BASIS".

6) The covers should be duly super scribed with the ENQUIRY NO and DUE DATE in BOLD letter without fail. The OFFER, sealed and Superscribed as "Parts I & II inside" indicating Enquiry No., Due Date, Address & Reference of the Bidder should reach this office on or before the due date by 14:00 Hrs (IST). OFFERS RECEIVED AFTER 14:00 Hrs (IST) WILL NOT BE CONSIDERED FOR EVALUATION.

Part 1: This sealed envelope should contain

(a) technical bid

(b) un-priced commercial bid (copy of the Priced Bid without the price details)

This envelope should be clearly marked "Part I - Technical and Un-priced commercial bid, indicating Enquiry No., Due Date, Address & Reference of the Bidder.

Part II: This sealed envelope should contain price details. This envelope should be clearly marked "Part II - Price bid", indicating Enquiry No., Due Date, Address & Reference of the Bidder

7)IMPORT BIDDERS - Bidders should submit their offer for net FOB, Nearest port and CFR, Chennai with freight break up details. BHEL reserves the right to order on FOB or CFR basis. If FOB rates are not quoted in the offer, it is liable to be rejected. We also request you to submit your quotations for the destination port of Karaikkal & Tuticorin in your offer without fail.

INDIAN BIDDERS - Bidders should submit their offer for EXW and FOR Destination BHEL Tiruchi Stores.

THE QUOTE SHOULD BE INCLUSIVE OF ALL CHARGES, INCLUDING TESTING, PACKING, INSPECTION ETC. NO ADDITIONAL CHARGE WILL BE PAID.

8) OFFERS SHOULD BE KEPT VALID FOR A MINIMUM OF 60 DAYS. Offers with price validity less than 60 days will be liable for rejection.

9) We require the shipment of the tubes to be as per the dates mentioned against the individual items in the enquiry.

10) All tubes are to be supplied to the specific length detailed in the description.


11) Confirmation for partial ordering to be indicated in the offer itself.

12) Lowest price received against BHEL tenders need not be the technically acceptable one and in that case, BHEL reserves the right not to consider the same.

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13)BHEL reserves the right to negotiate L1 rate or re float the tender opened if L1 price is not the lowest acceptable price to them inter-alia other reasons.

14)For the evaluation purposes, exchange rate (TT selling rate of SBI) as on schedule date of tender opening (Part I, i.e technical bid, in case of two part bid) shall be considered.

15)Import Bidders - Payment will be made on Cash against documents basis, i.e Payment will be made 45 days from the date of submission of complete set of documents as specified in the PO at our bank.
Requests for LC will be loaded at 1.5% of the basic charge.

Indian Bidders - The payment term is 100% payment after 45 days of satisfactory acceptance of materials at BHEL, Tiruchy. As per policy, LC will not be opened. Offers with LC requests/advance payments are liable for rejection.

16)The offer is to be signed and sealed in original by the bidder.
Without this, the offer is liable for rejection.

17)The Bidder, in the event of an order, should furnish a bank Guarantee from BHEL's consortium banks(List attached) or counter-guaranty by vendor's bank to BHEL's consortium banks, at no extra cost to BHEL, in a proforma prescribed by BHEL, provided along with the order, for an amount equivalent to 10% (Ten percent) of the value of the contract.
The BG shall be valid for period of 18 months from the date of last shipment or 12 months from the date of receipt / acceptance / at BHEL, Tiruchi which ever is later, with a claim period of two months.

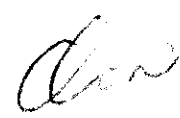
18)Liquidated damages : If the supplier fails to deliver the raw materials/ components/equipments within the period specified in the contract BHEL shall deduct liquidated damages a sum equivalent to 0.5% of the price for each week of delay or part thereof upto a maximum of 15% of the price of delayed/undelivered portion to be reckoned from the contract delivery date to the date of Bill of lading/air way bill date for CFR contracts and to the cargo readiness date (i.e final inspection agency's signed date in the test certificate) for FOB contracts.

19)Risk purchase : BHEL at its option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or despatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute thereof. The supplier shall be liable for any loss which BHEL may sustain by reason of such risk purchases in addition to LD at the maximum rate mentioned in the LD clause above.

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

Offers from vendors who are under hold/rejection by BHEL for the tendered material category will also not be considered.

21) BHEL prefers the manufacturers to quote directly. In case this is not possible and the offer is being submitted by an Indian agent, the following details are to be furnished along with the offer:

- a. The letter from their Principal authorising the Indian agent to submit the offer on their Principal's behalf. In case the Indian agent submits offer on their own letter head then a covering letter (in original) from the Principal should be enclosed, clearly mentioning that they are bound by the offer submitted by the Indian agent on their behalf.
- b. Precise relationship between foreign suppliers and their Indian agents and their mutual interest in business, should be clearly spelt out.
- c. Any payment, which the agent receives in India or abroad, from the foreign supplier, whether as a commission or as a general retainer fee is to be mentioned in the offer.
- d. All services to be rendered by the agent, whether of general nature or in relation to the particular contract, must be clearly stated by the foreign supplier and the Indian agent.
- e. The amount of agency commission agreed to between the foreign principal and the Indian agent should be specifically disclosed and the agency commission will be paid in Indian Rupees only on satisfactory completion of the contract.
- f. For calculation of rupee equivalent of agency commission, exchange rate as prevailing on the date of order will be taken.
- g. Copy of current agency agreement is to be enclosed.

Offers with non-compliance to any of the above will be liable for rejection.

22) Offer from stockists is not acceptable and will not be considered for evaluation.


23)BIDDERS WHO ARE NOT REGISTERED VENDOR OF BHEL TRICHY HAVE TO SUBMIT THE FILLED IN SUPPLIER REGISTRATION FORMS (SRF) AVAILABLE IN THE BHEL WEBSITE - www.bhel.com AND THE OTHER REQUIRED DOCUMENTS CALLED FOR IN THE SRF (INCLUDING D&B REPORTS FOR IMPORT VENDORS, THE FACILITIES AVAILABLE AT THE MILL TO MEET THE TDC REQUIREMENTS) ALONG WITH THE TECHNICAL BID WITHOUT FAIL.

OFFERS SUBMITTED WITHOUT THIS WILL BE REJECTED.

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24)IN ADDITION, VENDORS WHO ARE NOT IN THE BHEL VENDOR LIST AS PERMANENT VENDORS FOR THIS MATERIAL CATEGORY SHOULD SUBMIT AN EXPERIENCE CERTIFICATE DETAILING THE QUANTITY SUPPLIED SPEC WISE YEAR WISE ALONG WITH THE UNPRICED PO COPIES AND PROOF OF SUPPLY(SUCH AS INVOICE & BILL OF LADING COPIES) ALONG WITH THE OFFER FOR ALL THE TENDERED SPECIFICATIONS.

WITHOUT SATISFYING THIS CONDITION, OFFER WILL NOT BE CONSIDERED.

25)Tenders can be deposited in our tender box designated as "MM-TUBES-FB-150-SEC 25" located at discussion Room.1,4th floor,24 building.

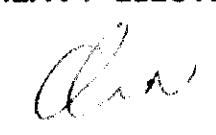
Enclosures:

"LD clause has to be confirmed without fail."

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Product: SEAMLESS STEEL TUBES FOR SUPERCRITICAL BOILER (SA213 T12, T23, T91, T92 & SUPER 304)

Document No.: TDC:0:124

Rev. No.: 03

Effective date: 26/05/2012

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Revision record:

Rev: 00 / 07.01.2010: Fresh issue

Rev: 01 / 08.06.2011: CI 2.0 – Manufacturing process clarified. CI 4.0 – Heat Treatment temperature for T12 deleted.

CI 4.1.1 - Modified. CI 5.0 – Yield Strength for T91 added, Impact test for T23 added. CI 9.0, 12.0 – Modified.

Rev: 02 / 23.11.2011: CI 5.0 Yield Strength for T91 corrected.

Rev: 03 / 26.05.2012: CI 5.0 – Tensile Strength for T91 updated as per latest Alstom Purchase Specification.

1. MATERIAL:

Specification : ASME {Latest on date of Purchase Order (PO)};
 ALLOY STEEL (AS) : SA 213 Gr.T12, SA 213 Gr.T23 (Code case: 2199), SA213 Gr.T91,
 SA 213 Gr.T92 (Code Case: 2179)
 STAINLESS STEEL (SS) : SUPER 304 (Code Case: 2328)
 Additional Requirement : As listed below (Supplementary to Specification)
 Size and Qty. : As per Purchase order

2. CHEMICAL COMPOSITION AND PROCESS OF MANUFACTURE:

AS: Tubes shall be made by seamless process and shall be either cold finished or Hot finished.

SS: Tubes shall be manufacture only by hot extrusion method and shall be of hot finishing, followed by Cold finishing to the final size.

Ladle & Product analysis is required for all steels.

For SA 213 T12: Aluminium: 0.025%max.Silicon:0.20%min.on product analysis and the values shall be reported in the test certificate.

3. DIMENSIONAL TOLERANCES:

(a) For hot finished tubes the tolerance shall be as follows:

For Outside Diameter: ± 0.4 mm.

For Thickness (t) : 0% to +22% for 't' > 4.5 mm
 : 0% to +24% for 't' between 3.6 and 4.5 mm (both inclusive)
 : 0% to +28% for 't' < 3.6 mm

(b) For cold finished tubes the tolerance shall be: As per SA 1016.

For thickness (t): For OD ≤ 38.1 mm=0% to +20% and For OD > 38.1 mm= 0% to +22%

4. HEAT TREATMENT:

4.1 ALLOY STEEL (AS): All the Tubes shall be Normalized and Tempered.

4.1.1 for SA213 Gr.T23, T91 and T92: Normalizing: 1050-1080°C. Tempering: 730°C-780°C.

(The total thickness of the decarburized material (Both on ID&OD of the tube) shall be measured once per Heat treatment lot. The measurement shall be determined from a representative sample that has been sectioned, polished and examined at 100 xs. The total decarburization thickness shall not exceed 7% of the specified minimum wall thickness and shall be reported in the test certificate.)

4.2 STAINLESS STEEL (SS): Solution Annealing as per the Specification (Code Case).

5. MECHANICAL TESTS:

Number of Test: (as per IBR) Minimum 2 tubes for first 100 tubes and 1 per 100 or part thereof for tubes over 100 numbers. For tension tests the shape and size of the specimen shall be mentioned on the Test Certificate. (viz., Full tube tensile or strip tensile or round tensile) Additionally the material supplied shall meet the requirements as below.

T91-Tensile strength:Min:630MPa,Max:850MPa. Yield Strength:Min:450MPa Hardness(HB):Min:191/Max:250

T92-Tensile strength: Min:620 MPa, Max:850 MPa. Hardness(HB):Min:191 / Max:250

T23-Tensile strength: Min:510 MPa, Max:730 MPa. Hardness(HB):Min:150 / Max:220

Charpy Impact Test at the mill as per SA 370 for SA 213 T23:

- **Impact testing frequency** - minimum of two tubes per each heat treatment lot produced.
- **Impact test Procedure:** As per ASTM A370. For specimen size as per ASME SA 370.
- **Test temperature:** 20°C.
- **Acceptance:** All specimens shall absorb energies at or above 40 ft-lb (55Joules) for a full size specimen (10mm thickness). The energy requirement is proportionally reduced for subsize specimens as specified in ASME SA 370, Table 9.
- The fracture surfaces on all specimens must exhibit 100% ductile appearance regardless of the absorbed energy values obtained.
- Any specimen exhibiting an absorbed energy less than 40 ft-lb/cm³ (55Joules/cm³) or less than 100% ductile behavior shall constitute permanent rejection of the entire lot of tubing.

Product: SEAMLESS STEEL TUBES FOR SUPERCRITICAL BOILER (SA213 T12, T23, T91, T92 & SUPER 304)

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6. NON DESTRUCTIVE TEST: (In house Automated On Line Testing Only)

(a) **Ultrasonic Testing:** Notch depth: 5% of thickness (min. of 0.3mm). Scanning: Clockwise & anti clockwise. For thickness \geq 3.6 mm to be conducted as per ASTM E213

Each tube shall be examined full section over its entire length.

Calibration: 2 axial 50mm long notches, one in outer surface and the other in inside surface.

For OD < 30mm one notch in outer surface only.

(b) **Eddy current Test:** For thickness < 3.6mm as per ASTM E309 / E426 as applicable,

Calibration: Longitudinal notch depth: 5% max. (min. of 0.3 mm.) or drilled hole as per SA 106.

7. HYDROSTATIC TEST:

Extent of test: All tubes of thickness < 3.6 mm as per SA 450 Cl 22.3 with S=80% of specified min. yield strength at room temperature. For others if specified in the Purchase Order.

8. FINISH AND REPAIR

Inside and outside surfaces are shall be free from scales and defects like laps, seams, folds, cracks, pitting etc. Repairs by welding are prohibited. Surface defects can be removed mechanically, ensuring smooth curved surface and maintaining specified minimum thickness without affecting the workmanlike finish.

9. MARKING: (in English only)

Details to be identified: Each tube will be marked continuously & repeatedly along its entire length with the following.

(1) PO Number, (2) Maker's emblem/code, (3) Specification & grade, (4) Code case (if applicable)
(5) TDC number, (6) Heat number, (7) Size, (8) No. of tubes, (9) Inspector's seal, (10) Condition: Hot Finished or Cold Finished, (11) Tube Minimum Wall Thickness Designation.

- Below OD 31.8mm. (Excl.) - Sl.No:1 to 11 to be stamped on metal/plastic tag attached to bundle.
- OD 31.8-76.1mm. (Incl.) - Sl. No: 1 to 7, 10 and 11 to be paint stenciled, repeatedly through the entire length of the tube. Also Sl.No:1 to 11 to be stamped on Metal/Plastic tag attached to bundle
- OD>76.1 mm. - Sl.No: 2, 3,4,6,7 & 9 to be hard stamped with round edge stamp at 100mm from both ends and Sl.No:1 to 7, 10 and 11 to be paint stenciled on each tube.

Colour Coding: Continuous longitudinal colour coding shall be done on the entire length of all tubes.

Colour coding scheme as per Procedure SIP: PP: 21 (latest).

10. PRESERVATION:

All the alloy steel tubes shall be applied with resin type rust preventive coating with visibility to stenciled Details on outside and either with rust preventive coating or rust inhibitor inside.

Stainless Steel tubes shall be surface treated as per ASTM A380 both inside and outside. Ends are to be closed with plastic end caps / plugs secured for storage.

11. PACKING:

Thickness \leq 2.5mm in boxes and others in bundles. Bundles to be \leq 4 tons of equal no. of tubes, Fastened with galvanized strap(1x25mm.min.) or annealed wire for Alloy Steel and by Nylon strap for Stainless steel at both ends & at 1m interval in between. Wooden pallets to cover tubes are not permitted.

12. INSPECTION AND CERTIFICATION:

Products shall be inspected at works and the applicable IBR Form must be countersigned by The Inspecting Authority as indicated below:

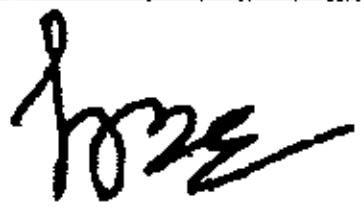



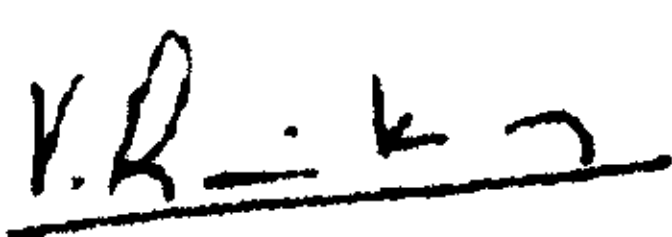
Imported Items: Inspecting Authority approved by IBR for the Country of origin. (To be concurred by BHEL Before placing PO). **Indigenously Supplied items:** Boiler Inspectorate/Directorate of respective State.

12.1) Certification IBR Form-IIIE (Annexure-I) for IBR items from "IBR-Well Known Tube Maker" and for Others IBR Form-IIIB (i) (Annexure – II) as per enclosed format to be submitted.

12.2) **Manufacturer's Test certificate (MTC)** (ORIGINAL in ENGLISH with following details)

- a) Purchase Order No. (BHEL), TDC No. & Test certificate No., Size and Quantity-Melt wise.
- b) Specification and Grade with year of code, Code case number, Heat Number, Steel & Tube making process, chemistry including incidental elements-Ladle and product Analysis.
- c) Heat Treatment details with actual temperature and soaking time, Mechanical test Results.
- d) Detailed N.D.E. report with reference norms, Acceptance standards and test results.

In the MTC a clause for Certificate of Compliance (as per SA 1016) shall be added stating that: All material components supplied in every Purchase Order shall meet all requirements contained in the PO, this Technical delivery condition and applicable ASME specification.

				
Haritha.C/QA PREPARED BY	Kalyanaraman.V/QA	M.Dharmalingam/QC	V.Prabhakaran/MM	V.Ravikumar/QA APPROVED BY

COMPANY EMBLEM AND DETAIL													
(As published in IBR)													
FORM III B (i)													
CERTIFICATE OF MANUFACTURE AND TEST													
[REGULATION 4(e)]													
TC No. , & Date:			TDC No./Rev :				P.O No. & Date						
Specification & Year			Finishing Operation				Hot finished/Cold Finished						
Name of part													
Intended working pressure													
Maximum recommended metal temperature													
Material													
Process of manufacture													
Fully killed/rimmed													
Tubes													
Main dimensions													
Tolerances													
Mode of manufacture													
Identification marks													
Drawing numbers													
Supply particulars		PO item No		Size D x T x L		Heat No		Weight (Kgs)		Qty			
Chemical composition													
Elements ^{N1}	C	S	P	Si	Mn	Ni	Cr	Mo	V	Cu	Sn	Al	Cb
min													
max													
Heat													
Product													
Heat treatment details		Type of HT		Soaking Temp° C				Soaking time		Cooling medium			
		Product											
Mechanical Properties ^{N2}				Longitudinal / Transverse direction									
Specified		YS		UTS		%E		%RA				Hardnes s	
		Kg/mm ²		Kg/mm ²		GL=50mm						BHN	
Min		---		---		---		---					
Max		---		---		---		---					
Test results													
Bend test on tube													
Bend test on weld													
Flattening test													
Crushing test													
Flare test													
Flange test													
Surface Treatment Details(SS Only)													
Appearance and dimensions													
Hydrostatic test													

N1 : As applicable to the specification
 N2 : The tests specified shall be made on minimum 2 tubes for the first 100 tubes and 1 per 100 or part thereof for tubes over 100 numbers

Surface preparation and preservation

Other tests

Ultrasonically tested to UTUTUTUTUTUT and found satisfactory to UTAUTAUTA. Eddy current tested to EDEDEDEDE and found satisfactory to EDAEDAEDAEDA Dimensions satisfactory.

Final hydraulic test

NOTE.- In addition, the following information in respect of the material shall be furnished in a tabular form as indicated. The information may be given from the established test data or if the material is of standard quality, an extract from the standard may be furnished instead.

Metal temperature upto °C	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600
E _t															
S _e															
S _r															

Tensile strength at 20°C.

Where

E_t Yield point at temperature t (0.2% proof stress)

**S_e Average stress to produce an elongation of 1% (creep) in 100,000 hours at various working metal temperatures.

**S_r Average and lowest stress to produce rupture in 100,000 hours at the various working metal temperatures.

Temperature range in the table may extend upto the limit of applicability of the material.

The value of S_c and S_r need be furnished only in respect of Pipes/Tubes intended to be used for working metal temperature above 454°C.

Certified that the particulars entered herein are correct.

The part has been designed and constructed to comply with the variations from the standard conditions laid down in the Indian Boiler Regulations, 1950, for material, design and construction features which have been permitted by the Board or the Inspecting Authority under the Indian Boilers Act, 1923 and satisfactorily withstood a water test of _____ on the _____ day of _____, 20__, in the presence of our responsible representative whose signature is appended hereunder.

Maker's Representative
(Name and Signature)

Maker _____

We have satisfied ourselves that the tubes have been constructed in accordance with the variations from the standard conditions laid down in the Indian Boiler Regulations, 1950 and Specifications, for material, design and construction permitted by the Board. The tests conducted on the sample taken from the finished tubes have been witnessed by us and the particulars entered herein are correct.

Place _____
Date _____

Name and Signature of
Inspecting Authority

Note (1) This form is intended for the use of the both tube manufacturers and tube fabricators. Only such of the columns or paragraphs that are applicable, or information that can be obtained and furnished from other certificates, need be filled or entered in this form.

Note (2) In the case of fabrications made from steel tubes obtained from elsewhere, particulars in regard to the "material" and "Tubes" shall be taken from similar forms of certificates obtained in respect of tubes and noted in the appropriate columns or paragraphs.

In the case of tubes made from steel, made and tested by Well Known steel makers in India or other countries particulars regarding the 'material' as certified by them (in any form) shall be noted in the appropriate columns or paragraphs in this "certificate".

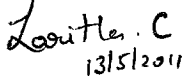
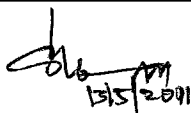
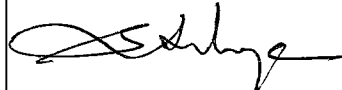
**BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI 620 014**

QUALITY ASSURANCE

SIP:PP:21/ 04

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**COLOUR CODES FOR TUBES AND PIPES
(FOR BOILERS, PRESSURE VESSELS & HEAT EXCHANGERS)**

REV	DATE	PREPARED	REVIEWED	APPROVED
01	05/02/99	R. Sasikumar	A.R.Reddy	K. Rengachari
02	22/07/04	K. Ganesan	U. Revisankaran	C.R.Raju
03	20/01/09	V.Kalyanaraman	S.Selvarajan	U.Revisankaran
04	13/05/2011	 C.Haritha 13/5/2011	 V.Kalyanaraman 13/5/2011	 S.Selvarajan 13.05.11

RECORD OF REVISIONS

Rev. No.	Clause No.	Details of Revision	Remarks
01	--	New Specifications included based on TDC revision.	
02	--	Amendment A1 dt. 26.04.01 issued for Rev. 01 incorporated. Colour code for SA 213 Gr. T23 added.	
03	--	1)Colour code for SA 213 Gr. T92, P23,P92,SA178 Gr. D added. 2)Colour code for SA 210 Gr. C modified to BLUE only. (From BLUE & GREEN)	
04	--	Colour code for SUPER304 (Code Case : 2328) added	

Following Colour codes are to be applied as **longitudinal bands** (if not specified in other documents) on tubes & pipes to identify them to specification during receipt, storage, issue and processing. For heat exchanger tubes circumferential colour code can be provided at both ends of tubes (300 mm away from end).

Specification	Colour 1	Colour 2	Colour 3
12 X 1 MØ	RED	YELLOW	
13 Cr Mo 44	ALUMINIUM	BLACK	
A 200 Gr. T5	ALUMINIUM	RED	YELLOW
A 200 Gr. T9	ALUMINIUM	GREEN	YELLOW
AISI 602	WHITE	YELLOW	
API 5L Gr. B	ALUMINIUM		
BS 3059 PART2 CDS/HFS 360	ALUMINIUM	BLACK	BROWN
BS 3059 P2 S2 440	ALUMINIUM	BLACK	RED
BS 3059 P2 S2 622 Gr. 490	ALUMINIUM	BLACK	GREEN
BS 3602 PART1 CDS 360	ALUMINIUM	BLACK	BLUE
NFA49-213 42C	ALUMINIUM	BLUE	BROWN
NFA49-213 TU 10CD9.10	ALUMINIUM	BLUE	RED
NFA49-213 TU 15CD2.05	ALUMINIUM	BLUE	GREEN
NFA49-213 TU Z10CD9	ALUMINIUM	BLUE	YELLOW
NFA49-213 TU Z10CDVNB09.01	ALUMINIUM	GREEN	RED
SA 106 Gr. B	RED		
SA 106 Gr. C	BLUE		
SA 178 Gr. D	ORANGE		
SA 179	BLACK	BLUE	GREEN
SA 192	WHITE		
SA 199 T5	BLUE	BROWN	RED
SA 209 Gr. T1	ALUMINIUM	RED	
SA 210 Gr. A1	YELLOW		
SA 210 Gr. C	BLUE		
SA 213 Gr. T11	ALUMINIUM	YELLOW	
SA 213 Gr. T12	BROWN	YELLOW	
SA 213 Gr. T2	BROWN	GREEN	
SA 213 Gr. T22	GREEN	RED	
SA 213 Gr. T23	RED	WHITE	
SA 213 Gr. T5	BLACK	BROWN	GREEN
SA 213 Gr. T9	BROWN	WHITE	
SA 213 Gr. T91	GREEN	YELLOW	
SA 213 Gr. T92	BROWN	BLUE	
SA 213 Gr. TP 304	BLUE	GREEN	YELLOW
SA 213 Gr. TP 304H	BLACK	BLUE	YELLOW
SA 213 Gr. TP 304L	BLUE	WHITE	YELLOW
SA 213 Gr. TP 309H	BLACK	BROWN	YELLOW
SA 213 Gr. TP 316	BROWN		
SA 213 Gr. TP 316 Ti	BLACK	BLUE	
SA 213 Gr. TP 316L	BLUE	BROWN	YELLOW
SA 213 Gr. TP 321	BLUE	WHITE	
SA 213 Gr. TP 321H	BLACK	WHITE	
SA 213 Gr. TP 347H	BLACK	YELLOW	
SUPER 304 (Code Case -2328)	BLACK	RED	GREEN
SA 268 Gr. TP 405	ALUMINIUM	GREEN	

Specification	Colour 1	Colour 2	Colour 3
SA 268 Gr. TP 410	BROWN	RED	YELLOW
SA 268 Gr. TP 443	BLUE	GREEN	WHITE
SA 269 TP 316	GREEN	RED	YELLOW
SA 312 Gr. TP 304	BLUE	YELLOW	
SA 312 Gr. TP 304L	BLUE	RED	YELLOW
SA 312 Gr. TP 316	BLACK	GREEN	
SA 312 Gr. TP 316L	BLACK	BLUE	BROWN
SA 312 Gr. TP 321	BLUE	BROWN	
SA 312 Gr. TP 347	BLUE	RED	WHITE
SA 333 Gr. 1	BLACK	BROWN	RED
SA 333 Gr. 3	BLACK	GREEN	RED
SA 333 Gr. 6	BLUE	GREEN	RED
SA 334 Gr. 1	BROWN	GREEN	RED
SA 334 Gr. 3	BLACK	RED	YELLOW
SA 334 Gr. 6	BLACK	BLUE	RED
SA 335 Gr. P1	BROWN	GREEN	YELLOW
SA 335 Gr. P11	GREEN	WHITE	
SA 335 Gr. P12	BLACK	RED	
SA 335 Gr. P2	BLUE	BROWN	GREEN
SA 335 Gr. P22	BLUE	RED	
SA 335 Gr. P23	RED	WHITE	
SA 335 Gr. P5	BLACK	BROWN	
SA 335 Gr. P9	ALUMINIUM	BROWN	
SA 335 Gr. P91	BROWN	RED	
SA 335 Gr. P92	BROWN	BLUE	
SB 163 Inconel	BLACK	GREEN	YELLOW
ST 35.4	ALUMINIUM	BLUE	
Steel 20	GREEN		
Structural Tubes & Pipes	BLUE	BROWN	WHITE
X20 Cr Mo V 121	BLACK		

@@@@@@@@@@

List of Consortium Bank		
	Nationalised Bank	Nationalised Bank
1	Allahabad bank	19 Vijaya Bank
2	Andhra bank	Public Sector Banks
3	Bank of Baroda	20 IDBI
4	Canara Bank	Foreign bank
5	Corporation bank	21 CITI Bank N.A
6	Central bank	22 Deutsche Bank AG
7	Indian Bank	23 The Hongkong and Shanghai Banking Corporation Limited
8	Indian Oversea Bank	24 Standard Chartered Bank
9	Oriental bank of Commerce	25 The Royal Bank of Scotland N.V.
10	Punjab National Bank	26 J P Morgan
11	Punjab & Sindh Bank	Private bank
12	State Bank of India	27 Axis Bank
13	State Bank of Hyderabad	28 The Federal Bank Limited
14	Syndicate Bank	29 HDFC
15	State Bank of Travancore	30 Kotak Mahindra Bank
16	UCO Bank	31 ICICI
17	Union Bank of India	32 Indusind Bank
18	United Bank of India	33 Yes Bank



PERFORMANCE BANK GUARANTEE

429-011

In accordance of M/s. Bharat Heavy Electricals Limited (A Government of India Undertaking, a company incorporated under the Companies Act, 1956 having its Registered Office at "BHEL House" SHRI Fort, New Delhi 110 049") through its Tiruchirappalli Division (hereinafter called the Company) having agreed to exempt _____ hereinafter called the said contractor which term includes 'suppliers' for the purpose of this Bond) from the demand under the terms and conditions of the Agreement dt _____ made between _____ and _____ for _____ (hereinafter called the said agreement) for Security Deposit for the due fulfilment by the said Contractor of the terms and conditions contained in the said Agreement on production of a Bank Guarantee for Rs. _____ (Rupees _____ only). We (indicate the name of the Bank), (hereinafter referred to as the Bank) at the request of _____ (Contractor(s) do hereby undertake to pay to the company an amount not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the Company by reason of any breach by the said Contractor (s) of any of the terms and conditions contained in the said Agreement.

2. We, (Indicate the name of the bank with full address), do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Company stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Company by reason of breach by the said Contractor (s) of any of the terms and conditions contained in the said Agreement or by the reason of the contractor(s) 'failure to perform' the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____

3. We undertake to pay unconditionally to the Company any money so demanded notwithstanding any dispute(s) raised by the contractor in any suit, or proceedings pending before any Court or Tribunal or Arbitration or before any other authority relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this Bond shall be a valid discharge of liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment. The payment under this guarantee would not wait till the disputes have been decided by any Court or Tribunal or in the arbitration proceedings or by any other authority.

4. We, (indicate the name of Bank), further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Company under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharge or till _____ office / Department / Division of the Company certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor (s) and accordingly discharges this guarantee.

5. (i) Unless a demand or claim under this guarantee is made on us in writing on or before the _____ we shall be discharged from all the liability under this guarantee thereafter. But where such claim or demand has been preferred by the Company with the Bank before the expiry of the said date the claim shall be enforceable notwithstanding the fact that the said enforcement is effected after the said date.

(ii) For the purpose of this clause, any letter making demand on the Bank by M/s. BHEL despatched by Registered Post with Ack. Due or by telegram addressed to the above mentioned address of the Bank shall be deemed to be the claim deemed in writing referred to above irrespective of the fact as to whether and when the said letter reaches the Bank, as also any letter containing the said demand or claim is lodged with the Bank personally.

6. We, (indicate the name of Bank), further agree with the Company that the company shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the said Agreement or to extent time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by any reason of any such variation or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the company or any indulgence by the company to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

8. It shall not be necessary for the company to proceed against the contractor before proceeding against the guarantor bank and the guarantee herein contained shall be enforceable against them notwithstanding any security, which the company may have obtained or obtain from the Contractor shall, at the time when proceedings are taken against the guarantor hereunder be outstanding or unrealised.

9. Any claim or dispute arising under the terms of this document shall only be enforced or settled in the Courts at Tiruchirapalli.

10. The guarantor hereby declare that it has power to execute this guarantee and the executant has full power to do so on its behalf under the Power of Attorney dated _____ granted to him by the proper authorities of the guarantor.

11. We (indicate the name of Bank) lastly undertake not to revoke the guarantee during its currency except with the previous consent of the company in writing.

In witness whereof we, (indicate the name of Bank) have hereunto set out our Bank Seal the _____ day _____ month

IMPORTS ENQUIRY TERMS AND CONDITIONS

1. OFFER:

Offer in ENGLISH LANGUAGE AND IN TRIPLICATE in a SEALED COVER SUPERSCRIBING the enquiry number and the due date shall be submitted addressed to:
THE MANAGER / PURCHASE / FB
BHARAT HEAVY ELECTRICALS LIMITED
HIGH PRESSURE BOILER PLANT
THIRUCHIRAPPALLI – 620 014
TAMIL NADU
INDIA

Offers should be firm for net FOB Nearest Sea Port price and C&F Chennai port, indicating the shipping specifications and the earliest delivery irrespective of offers from overseas suppliers. Offers from indigenous sources shall be firm for FOR TIRUCHIRAPPALLI

2. DOCUMENTS:

(1) Offers should be accompanied by detailed technical literature, catalogue and detailed dimensional drawings in ENGLISH and in TRIPLICATE, or otherwise, the offers will not be considered.

(2) In case overseas suppliers route their offer through their accredited selling agents, a letter of authority should be furnished mentioning

The name and address of their selling agents, who are authorized to bid, negotiate and conclude a contract on their behalf.

3. AGENCY COMMISSION:

(1) In respect of offers from overseas suppliers, agency commission, if any, payable to their agents in India, shall invariably be shown separately in the Performa invoice and this will be paid by us in India, in Indian rupees, on satisfactory completion of the contract.

(2) If overseas principal has any tie-up with any third party in respect of agency commission it should be declared while submitting offers.

(3) Copies of current agency agreement / authorization letter in respect of agency commission shall be furnished along with offer, if not made available earlier.

(4) For calculation of rupee equivalent of agency commission, exchange rate as prevailing on the date of order will be taken

4. SPARES:

The tenderer should quote separately for spares that are required for two years trouble free operation. The spares offer should accompany the offer of main equipment; otherwise the quotations will be overlooked.

5. VALIDITY:

The offers for main equipment and spares shall be kept open for acceptance for 120 days (one hundred and twenty days) from the date of opening of the tender.

6. TEST CERTIFICATES, OPERATING AND MAINTENANCE MANUALS:

The tenderer shall clearly mention in their offer, that test certificates and operation and maintenance manuals, etc., as called for in the technical specification, in the required number of copies will be provided at no extra cost. If any amount is payable as extra, the same shall be indicated separately in the offer

7. TERMS OF PAYMENT:

In the event of an order the purchaser will arrange for an irrevocable letter of credit against presentation of documents. Under no circumstances confirmed and irrevocable letter of credit will be established by the purchaser.

8. GENERAL:

(1) Preference will be given to suitable indigenous or ex-stock in ported offers, failing which imported offers from incoming consignment against the indigenous supplies "stock and license" will be accepted, if "stock and sale license" is not available with the indigenous suppliers, the same shall be indicated in their offer.

(2) Bank guarantee: the supplier in the event of an order, should furnish a bank guarantee from an approved bank at no extra cost in a Performa which will be supplied to the supplier, along with the order, for an amount equivalent to 10% of the value of the contract. The bank guarantee should remain in full force and effect during the period that would be taken for successful completion of the contract and shall continue to be enforceable till 12 months from the date of receipt of consignment at purchaser's site or 18 months from the date of last shipment at the port of delivery whichever is earlier.

9. LD/ PENALTY AND INTEREST ON ADVANCES FOR DELAY IN DELIVERY:

" If the supplier fails to deliver the raw materials / equipment / components within the period specified in the contract the purchaser shall deduct liquidated damages a sum equivalent to 0.5% of the price for each week of delay upto a maximum of 15% of the price of the delayed / price / total advance paid" goods, in addition to the recovery of interest at normal cash credit rate plus 2% for the unadjusted portion of the advance. If the delay in undelivered delivery of a part contributes to delay in execution of total system, LD and interest on advances will be recovered on the total contract

INDIGENOUS ENQUIRY TERMS AND CONDITIONS

1. QUOTATIONS: Each tender should be sent in double cover, inner cover should be sealed with tenderer's distinctive seal and super scribed with correct tender no. Item of supply and due date of opening the outer cover should only bear the address of this office and should not have any indication that a tender is within. Two or more quotations should not be sent in one cover but the quotation against each tender should be sent separately to avoid confusion. Tender should not be addressed to any individual's name but only by designation.

b) Tenders should be free from CORRECTION AND ERASURES. Corrections if any must be attested; all amounts shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

c) Price should be nett F.O.R. dispatching station inclusive of risk in transit and remain valid for 60 days from the due date.

d) If any sales tax is payable as extra to the quoted price is should be specifically stated in quotations along with CST & TNGST no falling which the purchaser will not be liable for payment of sales tax. Our T.N.G.S.T no 3560005 DT. 01.04.1995 CST no 239383 DT, 11.06.1991

e) No revision of prices will be entertained after tenders are opened.

f) Manufacturer's name trademark or patent no if any should be specified. Illustrative leaflets giving technical particulars are required along with quotation wherever necessary.

g) Products with I.S.I certification marks will be preferred.

h) The purchaser shall be under no obligation to accept the lowest or any other tender and shall be entitled to accept or full without assigning any reason whatsoever.

2. SAMPLES: Wherever possible sample should be submitted separately whether specifically requested or not so as to reach the purchaser on or before the due date of the enquiry. They should be clearly marked with the enquiry no and the date on the outside cover to facilitate identification.

3. PACKING AND MARKING: The supplier shall arrange for securely protecting and packing the stores to avoid loss or damages during transit.

4. TERMS OF PAYMENT: Payment will be made within 30 days of satisfactory receipt of materials at site. Wherever required by the purchaser, the successful tenderer must send the Operation and Maintenance manuals, Test Certificates, drawings, etc., for the materials ordered. These should be sent immediately after dispatch of the materials and a statement to that effect should be made in the invoice. Failure to comply with this provision will result in delay in payment of the bills. Goods dispatched either by V.P.P or by the document presented through bank will not be accepted unless agreed to by the purchaser.

The duplicate copy of the invoice meant for the transporters should accompany the material as stipulated under C.E. rules 52a and 173 c (or) 57gg. A Photostat copy of the above invoice for each Delivery Chelan should be submitted along with the original bills routed through bank or submitted directly to BHEL finance department.

5. SECURITY DEPOSIT: For purchases over Rs. 5000/- the successful tenderers may be requested to furnish a Bank Guarantee, Security deposit for an appropriate value as may be determined by BHEL

6. LIQUIDATED DAMAGES PENALTY AND INTEREST ON ADVANCES FOR DELAY IN DELIVERY:

If the supplier fails to deliver the raw material equipment components within the period specified in the contract the purchaser shall deduct liquidated damages a sum equivalent to 0.5% of the price for each week of delay up to maximum of 15% of the price of the delayed undelivered goods. In addition to the recovery of interest at normal cash credit rate plus 2% for the unadjusted portion of the advances. If the delay in delivery of a part contributes to delay in execution of total system, LD and interest on advances will be recovered on the total contract price total advance paid.

7. RISK PURCHASE: Alternatively the purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitutes therefore. The supplier shall be liable for any loss, which the purchaser may sustain by reason of such risk purchases in addition to penalty at the rate mentioned in clause 6 above.

8. PREFERENTIAL DELIVERY: It should be noted if a contract is placed on a higher tenderer as a result of this invitation to tender in preference to the lowest acceptable offer in consideration of the earlier delivery, the seller will be liable to pay to the purchaser the difference between the contract rate and that of the lowest acceptable tender on the basis of final price F.O.R destination, including all eliminates of freights. Sales tax, duties and other incidents, incidental in case of failure to complete suppliers in terms of such contract within the date of delivery specified in the tender and incorporated in the contract.

9. MODVAT CREDIT: If any Excise Duty is payable, the chapter head / Sub -head reference and the rate of the duty should be quoted. If the tender is availing MODVAT credit for this input material, the effect of Preformed credit should be passed on to the purchaser. Tenderer under "MODVAT" shall be preferred.

10. PURCHASE: Preference will be given to CPSUS as per. Government guidelines.

11. GENERAL: The purchaser reserves the right to split up the tender and place order for individual terms with different tenderers and also increase or decrease the quantity.

Any other conditions which might have been quoted by the seller and are in contravention to the terms prescribed in the order and which have not been specifically accepted in by purchaser will not be applicable to the contract.