



CORPORATE PURCHASING SPECIFICATION

AA 121 28

Rev. No. 04

PREFACE SHEET

SEAMLESS ADMIRALITY BRASS TUBES

FOR INTERNAL USE ONLY
REMOVE THIS PREFACE SHEET BEFORE ISSUE TO SUPPLIERS

Comparable Standards:

1. AMERICAN : ASME SB III - CODE 2001

Suggested / Probable Suppliers and Grades:

User plant vendor's list

User Plants References:

1. HYDERABAD : CD-0031/75
 2. HARDWAR : STD/MS/NF-001
 3. BHOPAL : PS 12034

Revisions :

Cl. 19.10.33 of MOM of MRC (NFCW+HE)

APPROVED :

**INTERPLANT MATERIAL RATIONALISATION
 COMMITTEE-MRC (NFCW+HE)**

Rev. No. 04

Amd.No.

Reaffirmed

Prepared

Issued

Dt. of 1st Issue

Dt.:15.11.2004

Dt :

Year :

HYDERABAD

Corp. R&D

MARCH, 1978



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SEAMLESS ADMIRALITY BRASS TUBES

(ORDERING DESCRIPTION)

1.0 GENERAL:

This specification is applicable for ordering Seamless Admiralty Brass Tubes of alloy C 44300 as per latest ASME SB III with the following additional requirements.

2.0 APPLICATION:

For use in condensers and heat exchangers.

3.0 CONDITION OF DELIVERY:

The tubes shall be in annealed (O) temper condition and shall be cut square, cleaned and deburred.

The tubes shall be temper annealed through out their lengths and must be suitable for expansion and bell mouthing at both ends.

4.0 DIMENSIONS AND TOLERANCES:

4.1 Sizes:

The tubes shall be supplied to the nominal wall thickness and dimensions specified in BHEL order.

4.2 Tolerances:

The tolerances on outside diameter, wall thickness and length shall be as per Tables 6, 7 and 8 of ASME SB III.

4.3 Straightness:

The deflection of the tubes shall not exceed 2mm/metre.

5.0 TEST METHODS:

All the properties and chemical composition enumerated in ASME SB III for alloy C 44300 shall be determined in accordance with clause 18 (Test methods) of ASME SB III.

6.0 NON-DESTRUCTIVE TESTS:

6.1 Each tube shall be subjected to eddy current test as per clause 13.1.1 of ASME SB III.

6.2 Each tube shall be subjected to either Hydro test as per clause 13.1.2 or Pneumatic test as per clause 13.1.3 of ASME SB III.

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7.0 QUALITY ASSURANCE REQUIREMENT:

The manufacturer shall conduct all the test required to ensure that the tubes offered confirm to the requirements of the applicable codes and standards. Manufacturer shall submit a detailed quality plan with their offer as per the standard format which should include all the tests / checks to be carried out by them at the various stages of manufacturing the item. This quality plan shall be reviewed by BHEL and BHEL reserves the right to ask for any more checks, details if required at the time of quality plan finalization. The manufacturer shall manufacture the item as per quality plan duly approved by BHEL.

8.0 DOCUMENTS TO BE BUSMITTED:

Following documents shall be furnished along with the offer:

1. A process chart clearly indicating the sequence of manufacturing.
2. Heat treatment details
3. Packing box drawing.
4. Quality plan.

9.0 CHECK LIST:

Supplier shall fill the enclosed check list as per Annexure-A.

10.0 TEST CERTIFICATE:

Three copies of mill test certificates shall be supplied.
In addition the supplier shall ensure to enclose one copy of test certificate alongwith their despatch documents to facilitate quick clearance of material.

The test certificate shall bear the following information:

BHEL References:
BHEL order No.
AA 121 28, Rev.No. 04: Seamless Admiralty Brass Tubes

Supplier's References:
Manufacturer's Name
Test certificate No.
Heat or Cast No.
Size & Quantity
Process of manufacture
Identification Marks
Heat treatment & Batch No.

Results of Tests:
Results of all other tests as per ASME SB III, Alloy C 44300.

If specified in BHEL order, the test certificate shall be attested by BHEL representative/third party inspection agency approved by BHEL.

11.0 PACKING AND MARKING:

Shall be as per BHEL standard AA 0490 00 02: PRESERVATION, PACKING AND MARKING OF HEAT EXCHANGER TUBES.

12.0 REFERRED STANDARDS (Latest Publications Including Amendments):

1. AA 049 00 02
2. ASME SB III

**CORPORATE PURCHASING SPECIFICATION****AA 121 28****Rev. No. 04****PAGE 3 OF 3****ANNEXURE - A (Clause 9.0)****CHECK LIST FOR AA 121 28: SEAMLESS ADMIRALITY BRASS TUBES
(To be filled by Supplier)**

- A. Name of Principal Supplier :
- B. Name of Indian Agent :
1. Grade of material as per specification : Yes/No
2. Tolerance on diameter, length and thickness as per specification and drawing : Yes/No
3. Straightness as per specification : Yes/No
4. Surface finish as per specification : Yes/No
5. Chemical composition as per specification : Yes/No
6. Mechanical properties as per specification : Yes/No
7. Tests : (i) Expansion test : Yes/No
(ii) Flattening test : Yes/No
(iii) Mercurous Nitrate test : Yes/No
8. NDT tests offered : (i) Eddy current test : Yes/No
(ii) Pneumatic /Hydro test : Yes/No
9. Microstructural examination : Yes/No
10. Quality plan : Yes/No
11. Details of previous experience enclosed : Yes/No.
(For New suppliers only)
12. Lifting beam offered : Yes/No
13. Packing box drawing enclosed : Yes/No
14. End guides included (Both ends) : Yes/No
- C. Deviations taken (Please specify clearly, if any) : Yes/No.
1
2
3

Date:

Place:

Signature
and
Seal of Supplier