



PLANT PURCHASING SPECIFICATION

HY 10790

REV. No: 02

PAGE 1 OF 3

SEAMLESS AUSTENITIC STAINLESS STEEL TUBES

(Gr. TP 304)

(ORDERING DESCRIPTION)

1. GENERAL :

The tubes shall comply with the latest version of ASTM:A 269, TP 304 and with the following additional requirements.

2.0 APPLICATION :

For use as impulse pipes in instrumentation for compression fittings.

3.0 DIMENSIONS & TOLERANCES :

The tubes shall be supplied to the dimensions (OD x Thickness) specified in the order. The length of the tube shall be 6 metres unless otherwise specified.

4.0 MANUFACTURE :

- a) Shall be made by the seamless process.
- b) Either hot finished or cold drawn.

5.0 FINISH :

Finished tubes shall be reasonably straight and have smooth ends free from burns. They shall be free from injurious defects and shall have a workman like finish. Minor defects may be removed by grinding, provided the wall thicknesses are not decreased to less than that permitted tolerances.

6.0 HYDROSTATIC OR NON-DESTRUCTIVE ELECTRIC TEST :

Each tube shall be subjected to hydrostatic test as per ASTM: A 450. As an alternative to the Hydrostatic test, each length of the tube having wall thickness of 3.6 mm including and below shall be subjected to Eddy current test and tubes having wall thickness of more than 3.6 mm shall be subjected to ultrasonic test as per BHEL Standard AA0850144. Norms of acceptance shall be as specified in the respective standards mentioned above.

Revisions:

Revised in line with
latest ASTM A 269

ISSUED :

**STANDARDS ENGINEERING
DEPARTMENT**

Rev.No. 02

Amd.No.

Reaffirmed

Prepared:

Approved:

Dt. of 1st issue

Dt. APR.99

Dt.

Year:

MATLS. ENGG.

Specialist
Testing & TSD

SEP.86

**7.0 FLARING TEST :**

One test shall be made on specimens from one end of one tube from each lot of finished tubes as per ASTM: A 450

8.0 HARDNESS :

Two Nos. of tubes per lot shall be hardness tested and the values shall be as given in ASTM A 269.

9.0 INSPECTION OF SUPPLIER'S WORKS :

The representative of BHEL shall have free access to the supplier's works at all times during the execution of the order, to satisfy himself that the material is produced as per the quality requirements of this specification. All reasonable facilities shall be extended to him, free of charge. He may also witness the sampling, testing and marking called for in this specification.

10.0 TEST CERTIFICATE :

Five copies of the test certificate giving the following details shall be furnished.

- a) BHEL Order No.
- b) BHEL Specification No. HY 10790 Rev.02
- c) ASTM: A 269, TP 304
- d) Melt No.'
- e) Size
- f) Heat treatment details and batch No.
- g) Results of Melt analysis.
- h) Results of Hardness test.
- i) Results of Hydrostatic test / NDT.
- j) Results of Flaring test.

11.0 PACKING AND MARKING :

11.1 Marking : The following details shall be marked on each tube.

- a) BHEL Order No.
- b) BHEL Specification No. HY 10790 Rev.02
- c) ASTM: A 269, TP 304-Seamless
- d) Size (OD x Thickness x Length)
- e) Melt/Heat No.
- f) Supplier's Name



PLANT PURCHASING SPECIFICATION

HY 10790

REV. NO.02

PAGE 3 OF 3

11.2 Packing : Tubes of same size shall be wrapped with a polyethylene sheet to avoid movements and rubbing and packed in wooden boxes. The ends shall be covered with suitable plastic end covers.

Each box shall be of convenient weight for easy handling. The weight of each case shall not exceed 1000 kg (gross). Special lifting tackles, such as, I beams shall be provided with each case and sufficient stiffening shall be provided at the slinging locations. The bottom of the case shall be rigid to enable the tubes to mention straightness. The method of packing and details of lifting tackles, if any, shall be submitted to BHEL for approval.

12.0 REJECTION AND REPLACEMENT :

In the event of any material proving defective during the course of further processing or testing, such material shall be rejected and the supplier shall make immediate arrangements to replace the same free of cost.



AMENDMENT - NOTIFICATION

HY 10498 REV.NO.00

PAGE 4 OF 1

**CARBON STEEL PRESSURE VESSEL PLATES FOR
LOW AND MODERATE TEMPERATURE SERVICE
(ORDERING DESCRIPTION FOR ASME: SA516, GR.70)**

Clause: 5.0

Delete the following sentence.

“However, for plates over 5000 mmmechanical properties .”

REF: Brought in line with SA516 Gr. 70	Amd. No. 01	APPROVED DGM (P,T&I SERVICES)	ISSUED STDS. ENGG.	DATE 8.7.98	CUM. Sr.No. A 0251
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