



CORPORATE PURCHASING SPECIFICATION

AA 104 04

Rev. No. 04

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CARBON STEEL PLATES FOR PRESSURE VESSELS FOR INTERMEDIATE AND HIGH TEMPERATURE SERVICES

ORDERING DESCRIPTION FOR ASME SA 515, Gr.: 70

1.0 GENERAL:

The plates shall conform to the latest version for ASME SA 515, Gr:70 and comply with the following additional requirements.

2.0 APPLICATION:

For high temperature service at stress levels and temperatures allowed by ASME Boiler & Pressure Vessel Code, Section I and Indian Boiler Regulations.

3.0 MANUFACTURE:

0.8 to 50 mm thickness in the controlled rolled condition. Above 50 mm thickness in normalised condition.

4.0 HEAT TREATMENT:**4.1** Only for test samples.

4.2 The mill test samples shall be normalised at a temperature not less than 820⁰ C with minimum soaking at the rate of 30 minutes for every 25mm thickness soaking at the rate of 30 minutes for every 25 mm thickness and air cooled to 150⁰C or below and then stress relieved at 600-650⁰C at the rate of 1 hour per 25 mm of thickness and furnace cooled to 300⁰ C or below.

5.0 CHEMICAL COMPOSITION:

5.1 Carbon content shall be restricted to 0.25% upto 25 mm thick and 0.30% above 25 mm thick.

5.2 Carbon equivalent to be restricted to 0.52.

6.0 TEST SAMPLES:

6.1 One tensile and one bend sample from each plate.

7.0 MECHANICAL PROPERTIES:

Bend test as per S14 of ASME SA 20 shall be conducted.

Revisions :

Cl: 28.2.3 of MOM of MRC-FCF+HTM

APPROVED :

INTERPLANT MATERIAL RATIONALISATION
COMMITTEE-MRC (FCF+HTM)

Rev. No. 04

Amd.No.

Reaffirmed

Prepared

Issued

Dt. of 1 st Issue

Dt: 01.01.2004

Dt :

Year :

TRICHY

Corp. R&D

September, 1978

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8.0 ADDITIONAL TESTS:

8.1 Ultrasonic examination and acceptance standards shall be as per ASME SA 435 or SA 578 / level B.

9.0 INSPECTION AT SUPPLIER'S WORKS:

BHEL's representative shall have free access at all times to all parts of the manufacture's works, until the work on the contract of BHEL is being performed. The manufacturer shall offer BHEL's representative all reasonable facilities, without charge, to satisfy the latter that the material is being furnished in accordance with the specification.

10.0 EDGE PROCESSING:

Edge processing shall be accomplished by procedures which will not result in edge cracking.

11.0 MARKING:

11.1 Hard stamping of melt number, specification and grade, plate number and the inspection authority's stamp on the plates along rolling direction and bordered by white paint.

11.2 Painting of purchase order number, melt number, specification, size, net weight and BHEL on the plates and protected by transparent varnish coating.

11.3 Rust preventive coating for plates less than 20 mm thickness.

12.0 REPAIR:

12.1 Fusion welding is prohibited.

12.2 When done by mechanical means, the specified thickness to be met with and the surface to be smoothly dressed up from any sharp edges.

13.0 CERTIFICATION

13.1 As per IBR FORM IV

13.2 In addition to above, the following details shall be furnished with the test certificates.

a) Heat treatment status for the plate.

b) Heat treatment temperature, soaking time and cooling medium for mill test samples.

14.0 REJECTION AND REPLACEMENT:

In the event of any material proving defective during the course of preparation, machining, testing or erection such material shall be rejected notwithstanding any previous certification of satisfactory testing and/or inspection.

The supplier shall under take to replace the rejected material at his own cost and the rejected material shall be taken back by the supplier after fulfilling the commercial terms and condition.