ASTM A387 Grade 91 Class 2 Pressure Vessel Steel PLATE

1.Chrome Moly Plate Home Page

ASTM A387

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2.We supplies A387 Grade 91 Class 2 chrome moly plates to the petrochemical industry. High quality A387 Grade 91 Class 2 – manufactured at some of the world's finest steel mills, this chrome–molybdenum alloy has excellent resistance to high working temperatures making it ideal for use in the oil, gas, chemical and power generation industry applications. We supply to fabricators who serve these industries on a global basis.

3.Our plates can be supplied from our own stockholding or directly from the mill – all plates come with mill test certification and individual stampings. Third party testing can be arranged at the customers request.

4.Equivalents

|  |  |  |  |
| --- | --- | --- | --- |
| BS | EN | ASTM/ASME | DIN |
| ... | ... | A387-91-2 | ... |

5.Specifications

Chromium & Molybdenum content (according to the ASTM specification):

|  |  |  |
| --- | --- | --- |
| Designation | Nominal ChromiumContent (%) | Nominal MolybdenumContent (%) |
| A387 Grade 91 | 9.00% | 1.00% |

6.Tensile Requirements for Class 2 Plates

|  |  |  |
| --- | --- | --- |
| Designation: | Requirement: | Grade 91 |
| A387 Grade 91 | Tensile strength, ksi [MPA] | 85 to 110 [585 to 760] |
|   | Yield strength, min, ksi [MPa]/(0.2% offset) | 60 [415] |
|   | Elongation in 8 in. [200mm], min % | ... |
|   | Elongation in 2 in. [50mm], min, % | 18 |
|   | Reduction of area, min % | ... |

7.Chemical Requirements

|  |  |  |
| --- | --- | --- |
| Element |   | Chemical Composition (%) inc. Grade & UNS No. |
|   |   | Grade 91 (UNS: S50200) |
| Carbon: | Heat Analysis: | 0.08 - 0.12 |
|   | Product Analysis: | 0.06 - 0.15 |
| Manganese: | Heat Analysis: | 0.30 - 0.60 |
|   | Product Analysis: | 0.25 - 0.66 |
| Phosphorus: | Heat Analysis: | 0.020 |
|   | Product Analysis: | 0.025 |
| Sulphur (max): | Heat Analysis: | 0.010 |
|   | Product Analysis: | 0.012 |
| Silicon: | Heat Analysis: | 0.20 - 0.50 |
|   | Product Analysis: | 0.18 - 0.56 |
| Chromium: | Heat Analysis: | 8.00 - 9.50 |
|   | Product Analysis: | 7.90 - 9.60 |
| Molybdenum: | Heat Analysis: | 0.85 - 1.05 |
|   | Product Analysis: | 0.80 - 1.10 |
| Nickel, max: | Heat Analysis: | 0.40 |
|   | Product Analysis: | 0.43 |
| Vanadium: | Heat Analysis: | 0.18 - 0.25 |
|   | Product Analysis: | 0.16 - 0.27 |
| Columbium: | Heat Analysis: | 0.06 - 0.10 |
|   | Product Analysis: | 0.05 - 0.11 |
| Nitrogen: | Heat Analysis: | 0.030 - 0.070 |
|   | Product Analysis: | 0.025 - 0.080 |
| Aluminium: | Heat Analysis: | 0.02 |
|   | Product Analysis: | 0.02 |
| Titanium: | Heat Analysis: | 0.01 |
|   | Product Analysis: | 0.01 |
| Zirconium: | Heat Analysis: | 0.01 |
|   | Product Analysis: | 0.01 |

8.Tension Test Requirements:

We shall be tested using a test specimen will confirm to the tensile requirements as outlined in Table 2.

9.Other requirements:

The following requirements and testing procedures (which are not mandatory) are considered suitable for Chrome Molybdenum steel:

Vacuum treatment

Product Analysis

Additional Tension Test

Charpy V-Notch Impact Test

Drop Weight Test

High Temperature Tension Test

Ultrasonic Examination

Magnetic Particle Examination

10.To find out more about Masteel's services and ASTM A387 Grade 12 Class 2 steel plates which we can supply directly to you from stock or from the mill, Please contact us.