

## Material: ASTM A487 4(D)

### Standard Specification for Steel Castings Suitable for Pressure Service

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ASTM A487 / AA87M Steel Castings Suitable for Pressure Service

**Application:** Intended for Valve, Pump, General Engineering, Automotive and Other Industries Grade

**Belongs to the Industry:** Casting

| Chemical Composition |      |               | Heat Treatment                                                                                                                                                                                                  |  |
|----------------------|------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.300 max.    | Annealing or Normalising or Hardening + Tempering                                                                                                                                                               |  |
| Silicon              | Si % | 0.800 max.    |                                                                                                                                                                                                                 |  |
| Manganese            | Mn % | 1.000 max.    |                                                                                                                                                                                                                 |  |
| Phosphorus           | P %  | 0.035 max.    |                                                                                                                                                                                                                 |  |
| Sulphur              | S %  | 0.035 max.    |                                                                                                                                                                                                                 |  |
| Chromium             | Cr % | 0.400 - 0.800 |                                                                                                                                                                                                                 |  |
| Nickel               | Ni % | 0.400 - 0.800 |                                                                                                                                                                                                                 |  |
| Molybdenum           | Mo % | 0.150 - 0.300 |                                                                                                                                                                                                                 |  |
| Copper               | Cu % | 0.500 max.    |                                                                                                                                                                                                                 |  |
| Vanadium             | V %  | 0.030 max.    |                                                                                                                                                                                                                 |  |
| Tungsten             | W %  | 0.100 max.    | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 690 min.<br>Yield Strength in Mpa 515 min.<br>Elongation in % 17 min.<br>Reduction of Area in % 35 min.<br>Hardness in HB 235 min.<br>Impact in Joule - |  |
| Other                | Ot % | 0.600 max.    |                                                                                                                                                                                                                 |  |
| Iron                 | Fe % | Balance       |                                                                                                                                                                                                                 |  |
| -                    | -    | -             |                                                                                                                                                                                                                 |  |
| -                    | -    | -             |                                                                                                                                                                                                                 |  |
| -                    | -    | -             |                                                                                                                                                                                                                 |  |

| Cross Reference Table |          |         |                                     |
|-----------------------|----------|---------|-------------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry        |
| J13047                | UNS      | USA     | Casting                             |
| 8620                  | AISI     | USA     | Forging, Bar, Wire, and Shape       |
| 8620                  | SAE      | USA     | Bar, Wire, Sheet, Strip and Forging |
| 8620                  | AMS      | USA     | Bar and Forging                     |
| J12048                | UNS      | USA     | Casting                             |
| A487 4A               | ASTM     | USA     | Casting                             |
| A487 4E               | ASTM     | USA     | Casting                             |

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