

## Material - ASTM A1001 Grade 2

### Standard Specification for High Strength Steel Castings in Heavy Sections

Group - Ferrous Mild Steel Alloys

Sub Group - ASTM A1001 High Strength Steel Castings in Heavy Sections

Application - Intended for Valve, Pump, General Engineering, Automotive and Other Industries

Grade Belongs to the Industry - Casting

| Chemical Composition |      |               | Heat Treatment                                    |                 |
|----------------------|------|---------------|---------------------------------------------------|-----------------|
| Carbon               | C %  | 0.200 - 0.280 | Normalising or Annealing or Hardening + Tempering |                 |
| Silicon              | Si % | 0.300 - 0.600 |                                                   |                 |
| Manganese            | Mn % | 1.000 - 1.400 |                                                   |                 |
| Phosphorus           | P %  | 0.020 max.    |                                                   |                 |
| Sulphur              | S %  | 0.015 max.    |                                                   |                 |
| Chromium             | Cr % | 0.800 - 1.200 |                                                   |                 |
| Nickel               | Ni % | 1.000 - 1.300 |                                                   |                 |
| Molybdenum           | Mo % | 0.600 - 0.850 |                                                   |                 |
| Aluminium            | Al % | 0.030 max.    |                                                   |                 |
| Other                | %    | 0.600 max.    | Mechanical Properties                             |                 |
| Iron                 | Fe % | Balance       | Tensile Strength in Mpa                           | 655 min.        |
| -                    | -    | -             | Yield Strength in Mpa                             | 525 min.        |
| -                    | -    | -             | Elongation in %                                   | 11 min.         |
| -                    | -    | -             | Reduction of Area in %                            | -               |
| -                    | -    | -             | Hardness in BHN                                   | -               |
| -                    | -    | -             | Impact in Joule                                   | 20 min. @ -40°C |

| Cross Reference Table |          |                |                                     |
|-----------------------|----------|----------------|-------------------------------------|
| Material              | Standard | Country        | Grade Belong to the Industry        |
| A1001 Grade 3         | ASTM     | USA            | Casting                             |
| A757 A1Q              | ASTM     | USA            | Casting                             |
| J03002                | UNS      | USA            | Casting                             |
| 1.0619                | DIN      | Germany        | Casting                             |
| 1.0619                | EN       | European Union | Casting                             |
| A660 WCB              | ASTM     | USA            | Fusion Welding, Bending and Forming |
| SA 660 WCB            | ASME     | USA            | Centrifugal Casting                 |

**For any further inquiries, please do not hesitate to contact us. You may visit our website at [AMTECH TECHNOCAST PVT. LTD.](http://AMTECH TECHNOCAST PVT. LTD.), call us at [+91 9879817994](tel:+919879817994), or email us at [manish@amtechtechnocast.com](mailto:manish@amtechtechnocast.com)**

All information in our data sheets and website is indicative only and is not intended to be a substitute for the full specification from which it is extracted. It is intended to provide typical values to allow comparison between metal alloy option rather than a definitive statement of mechanical performance or suitability for a particular application as these will vary with temperature, product type and product application. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of business.