

## Material - ASTM A732 Grade 21

Standard Specification for Castings, Investment, Carbon and Low Alloy Steel for General Application, and Cobalt Alloy for High Strength at Elevated Temperatures

Group - Non Ferrous Cobalt Alloys

Sub Group - ASTM A732 / A7323M Casting, Investment, Carbon and Low Alloy Steel for General Application

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 - 3.000   | Annealing or Normalising or Hardening + Tempering |           |
| Silicon              | Si % | 1.000 max.      |                                                   |           |
| Manganese            | Mn % | 1.000 max.      |                                                   |           |
| Phosphorus           | P %  | 0.040 max.      |                                                   |           |
| Sulphur              | S %  | 0.040 max.      |                                                   |           |
| Chromium             | Cr % | 25.000 - 29.000 |                                                   |           |
| Nickel               | Ni % | 1.700 - 3.800   |                                                   |           |
| Molybdenum           | Mo % | 5.000 - 6.000   |                                                   |           |
| Iron                 | Fe % | 3.000 max.      | Mechanical Properties                             |           |
| Boron                | B %  | 0.007 max.      | Tensile Strength in Mpa                           | 360 min.  |
| Cobalt               | Co % | Balance         | Yield Strength in Mpa                             | -         |
| -                    | -    | -               | Elongation in %                                   | 10 min.   |
| -                    | -    | -               | Reduction of Area in %                            | -         |
| -                    | -    | -               | Hardness in BHN                                   | -         |
| -                    | -    | -               | Impact in Joule                                   | 27 J @ RT |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |

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)

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