

# Material: ASTM A 567 Grade 1

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

**Group:** Non-Ferrous Nickel Alloys

**Sub Group:** ASTM A 567 Grade 1 Castings, Investment, Carbon and Low Alloy Steel for General Application and Cobalt alloy for High Strength at Elevated Temperatures

**Application:** Intended for Valve, Pump, General Engineering, Automotive, Medical and other Industries

**Grade Belongs to the Industry:** Casting

| Chemical Composition |      |                 | Heat Treatment                                                                                                                                                                               |  |
|----------------------|------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.200 - 0.300   | As-Cast or Annealing or Age Hardning                                                                                                                                                         |  |
| Silicon              | Si % | 1.000 max.      |                                                                                                                                                                                              |  |
| Manganese            | Mn % | 1.000 max.      |                                                                                                                                                                                              |  |
| Chromium             | Cr % | 25.000 - 29.000 |                                                                                                                                                                                              |  |
| Sulphur              | S %  | 0.040 max.      |                                                                                                                                                                                              |  |
| Molybdenum           | Mo % | 5.000 - 6.000   |                                                                                                                                                                                              |  |
| Phosphorus           | P %  | 0.040 max.      |                                                                                                                                                                                              |  |
| Boron                | B %  | 0.007 max.      |                                                                                                                                                                                              |  |
| Iron                 | Fe % | 3.000 max.      |                                                                                                                                                                                              |  |
| Nickel               | Ni % | 1.750 - 3.750   |                                                                                                                                                                                              |  |
| Cobalt               | Co % | Balance         | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 360 min.<br>Yield Strength in Mpa -<br>Elongation in % 10 min.<br>Reduction of Area in % -<br>Hardness in BHN -<br>Impact in Joule - |  |
| -                    | -    | -               |                                                                                                                                                                                              |  |
| -                    | -    | -               |                                                                                                                                                                                              |  |
| -                    | -    | -               |                                                                                                                                                                                              |  |
| -                    | -    | -               |                                                                                                                                                                                              |  |
| -                    | -    | -               |                                                                                                                                                                                              |  |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| A 732 Grade 21        | ASTM     | USA     | Casting                      |
| 5385                  | SAE      | USA     | Casting                      |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |

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