

## Material - ASTM A 743 Grade N-12M

Standard Specification for Castings, Iron-Chromium, Iron-Chromium-Nickel Corrosion Resistant, for General Application

Group - Non-Ferrous Nickel Alloys

Sub Group - ASTM A 743 Grade N-12M Castings, Iron-Chromium, Iron-Chromium-Nickel Corrosion Resistant, 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 %  | 0.120 max.      | As-Cast or Annealing or Age Hardning                                                                                                                                                               |  |
| Silicon              | Si % | 1.000 max.      |                                                                                                                                                                                                    |  |
| Manganese            | Mn % | 1.000 max.      |                                                                                                                                                                                                    |  |
| Chromium             | Cr % | 1.000 max.      |                                                                                                                                                                                                    |  |
| Iron                 | Fe % | 6.000 max.      |                                                                                                                                                                                                    |  |
| Molybdenum           | Mo % | 26.000 - 33.000 |                                                                                                                                                                                                    |  |
| Phosphorus           | P %  | 0.040 max.      |                                                                                                                                                                                                    |  |
| Sulphur              | S %  | 0.030 max.      |                                                                                                                                                                                                    |  |
| Cobalt               | Co % | 2.500 max.      |                                                                                                                                                                                                    |  |
| Vanadium             | V %  | 0.600 max.      |                                                                                                                                                                                                    |  |
| Nickel               | Ni % | Balance         | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 495 min.<br>Yield Strength in Mpa 315 min.<br>Elongation in % 6 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 |
| 10774 Grade 14        | IS       | India   | Casting                      |
| N-12M                 | NMX      | Maxico  | Casting                      |
| N10001                | UNS      | USA     | Casting                      |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |

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