

# Material: UNS N30012

## Standard Specification for Castings, Nickel and Nickel Alloy

**Group:** Non-Ferrous Nickel Alloys

**Sub Group:** UNS N30012 Castings, Nickel and Nickel Alloy

**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.      |                                      |          |
| Phosphorus           | P %  | 0.040 max.      |                                      |          |
| Sulphur              | S %  | 0.030 max.      |                                      |          |
| Chromium             | Cr % | 1.000 max.      |                                      |          |
| Iron                 | Fe % | 4.000 - 6.000   |                                      |          |
| Molybdenum           | Mo % | 26.000 - 30.000 |                                      |          |
| Vanadium             | V %  | 0.200 - 0.600   |                                      |          |
| Nickel               | Ni % | Balance         |                                      |          |
| -                    | -    | -               | Mechanical Properties                |          |
| -                    | -    | -               | Tensile Strength in Mpa              | 525 min. |
| -                    | -    | -               | Yield Strength in Mpa                | 275 min. |
| -                    | -    | -               | Elongation in %                      | 6 min.   |
| -                    | -    | -               | Reduction of Area in %               | -        |
| -                    | -    | -               | Hardness in BHN                      | -        |
| -                    | -    | -               | Impact in Joule                      | -        |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| A 494 N7M             | ASTM     | USA     | Casting                      |
| SA-494 N7M            | ASME     | USA     | Casting                      |
| C-NiMo31              | AFNOR NF | France  | Casting                      |
| NC0012                | AFNOR NF | France  | Casting                      |
| ND30-M                | AFNOR NF | France  | Casting                      |
| N30007                | UNS      | USA     | Casting                      |
| -                     | -        | -       | -                            |

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