

## Material: EN X 12 CrMnNiN 18 9 5

### Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels and for General Applications

**Group:** Ferrous Stainless Steel Alloys

**Sub Group:** X 12 CrMnNiN 18 9 5 Chromium and Chromium-Nickel Stainless Steel for Pressure Vessels and for General Applications

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

**Grade Belongs to the Industry:** Steel

| Chemical Composition |      |                 | Heat Treatment          |           |
|----------------------|------|-----------------|-------------------------|-----------|
| Carbon               | C %  | 0.150 max.      | Solution Annealing      |           |
| Silicon              | Si % | 1.000 max.      |                         |           |
| Manganese            | Mn % | 7.500 - 10.500  |                         |           |
| Phosphorus           | P %  | 0.045 max.      |                         |           |
| Sulphur              | S %  | 0.015 max.      |                         |           |
| Chromium             | Cr % | 17.000 - 19.000 |                         |           |
| Nickel               | Ni % | 4.000 - 6.000   |                         |           |
| Nitrogen             | N %  | 0.050 - 0.250   |                         |           |
| Iron                 | Fe % | Balance         | Mechanical Properties   |           |
| -                    | -    | -               | Tensile Strength in Mpa | 600 - 880 |
| -                    | -    | -               | Yield Strength in Mpa   | 320 min.  |
| -                    | -    | -               | Elongation in %         | 35 min.   |
| -                    | -    | -               | Reduction of Area in %  | -         |
| -                    | -    | -               | Hardness in BHN         | -         |
| -                    | -    | -               | Impact in Joule         | 60 J @ RT |

| Cross Reference Table |          |         |                                     |
|-----------------------|----------|---------|-------------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry        |
| A240 UNS S20200       | ASTM     | USA     | Steel, Plate, Sheet and Strip       |
| 202                   | AISI     | USA     | Bar, Wire, Shape, Steel and Forging |
| 202                   | SAE      | USA     | Bar, Wire, Shape, Steel and Forging |
| X12CrMnNiN18-9-5      | AFNOR NF | France  | Steel                               |
| X12CrMnNiN18-9-5      | DIN      | Germany | Steel                               |
| X12CrMnNiN18-9-5      | UNI      | Italy   | Steel, Sheet, Strip and Plate       |
| SUS 202               | JIS      | Japan   | Steel, Plate, Strip and Sheet       |

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