

## Material: DIN 1.4931

### Standard Specification for Steel Castings for Pressure Purposes

**Group:** Ferrous Stainless Steel Alloys

**Sub Group:** DIN 1.4931 Steel Castings for Pressure Purposes

**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 - 0.260   | Normalizing or Annealing or Hardening + Tempering |           |
| Silicon              | Si % | 0.400 max.      |                                                   |           |
| Manganese            | Mn % | 0.500 - 0.800   |                                                   |           |
| Phosphorus           | P %  | 0.030 max.      |                                                   |           |
| Sulphur              | S %  | 0.020 max.      |                                                   |           |
| Chromium             | Cr % | 11.300 - 12.200 |                                                   |           |
| Molybdenum           | Mo % | 1.000 - 1.200   |                                                   |           |
| Nickel               | Ni % | 0.100 max.      |                                                   |           |
| Vanadium             | V %  | 0.250 - 0.350   |                                                   |           |
| Tungsten             | W %  | 0.500 max.      |                                                   |           |
|                      |      |                 | Mechanical Properties                             |           |
| Copper               | Cu % | 0.300 max.      | Tensile Strength in Mpa                           | 690 - 880 |
| Iron                 | Fe % | Balance         | Yield Strength in Mpa                             | 540 min.  |
| -                    | -    | -               | Elongation in %                                   | 15 min.   |
| -                    | -    | -               | Reduction of Area in %                            | -         |
| -                    | -    | -               | Hardness in BHN                                   | -         |
| -                    | -    | -               | Impact in Joule                                   | 21 J @ RT |

| Cross Reference Table |          |                |                              |
|-----------------------|----------|----------------|------------------------------|
| Material              | Standard | Country        | Grade Belong to the Industry |
| 1.4931                | EN       | European Union | Casting                      |
| 1.4931                | DIN      | Germany        | Casting                      |
| GX23CrMoV12-1         | EN       | European Union | Casting                      |
| GX23CrMoV12-1         | AFNOR NF | France         | Casting                      |
| G-X22CrMoV121         | ONORM    | Australia      | Casting                      |
| OTA23VMoCr120         | STAS     | Romania        | Casting                      |
| GX23CrMoV12-1         | UNI      | Italy          | Casting                      |

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