



## Material - DIN 1.4436

### Standard Specification for Seamless Steel Tubes for Pressure Purposes

Group - Ferrous Stainless Steel Alloys

Sub Group - DIN 1.4436 Seamless Steel Tubes for Pressure Purposes

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

Grade Belongs to the Industry - Steel

| Chemical Composition |      |                 | Heat Treatment          |            |
|----------------------|------|-----------------|-------------------------|------------|
| Carbon               | C %  | 0.050 max.      | Solution Annealing      |            |
| Silicon              | Si % | 1.000 max.      |                         |            |
| Manganese            | Mn % | 2.000 max.      |                         |            |
| Phosphorus           | P %  | 0.045 max.      |                         |            |
| Sulphur              | S %  | 0.030 max.      |                         |            |
| Chromium             | Cr % | 16.500 - 18.500 |                         |            |
| Nickel               | Ni % | 10.500 - 13.000 |                         |            |
| Molybdenum           | Mo % | 2.500 - 3.000   |                         |            |
| Nitrogen             | N %  | 0.110 max.      | Mechanical Properties   |            |
| Iron                 | Fe % | Balance         | Tensile Strength in Mpa | 500 - 2100 |
| -                    | -    | -               | Yield Strength in Mpa   | 190 min.   |
| -                    | -    | -               | Elongation in %         | 20 min.    |
| -                    | -    | -               | Reduction of Area in %  | 60 min.    |
| -                    | -    | -               | Hardness in HB          | 215 max.   |
| -                    | -    | -               | Impact in Joule         | 30 J @ RT  |

| Cross Reference Table |          |                |                                     |
|-----------------------|----------|----------------|-------------------------------------|
| Material              | Standard | Country        | Grade Belong to the Industry        |
| 10216-5 EN 1.4436     | BS       | British        | Tube                                |
| 1.4436                | EN       | European Union | Steel                               |
| X3CrNiMo17 13 3       | UNI      | Italy          | Steel, Sheet, Plate and Strip       |
| X3CrNiMo17 13 3       | AFNOR NF | France         | Steel                               |
| X3CrNiMo17 13 3       | DIN      | Germany        | Sheet, Plate and Strip              |
| 316                   | SAE      | USA            | Steel, Wire, Bar, Shape and Forging |
| X2CrNiMo17 12 3       | EN       | European Union | Steel, Rod, Bar and Extrusion       |

**Further any inquiry to discuss with Gravity Cast Pvt. Ltd. – Gravity Group of Companies team member Call on +918469160029, or email [marketing@gravitycastindia.com](mailto:marketing@gravitycastindia.com)**

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