



## Material - SAE Hastelloy X

### Standard Specification for Nickel and Nickel Alloy Tube

Group - Non-Ferrous Nickel Alloys

Sub Group - SAE Hastelloy X Nickel and Nickel Alloy Tube

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

Grade Belongs to the Industry - Tube

| Chemical Composition |      |                 | Heat Treatment   |  |
|----------------------|------|-----------------|--|--|
| Carbon               | C %  | 0.050 - 0.150   | As-Cast or Annealing or Age Hardning   |  |
| Silicon              | Si % | 1.000 max.      |  |  |
| Manganese            | Mn % | 1.000 max.      |  |  |
| Chromium             | Cr % | 20.500 - 23.000 |  |  |
| Cobalt               | Co % | 0.500 - 2.500   |  |  |
| Copper               | Cu % | 0.500 max.      |  |  |
| Molybdenum           | Mo % | 8.000 - 10.000  |  |  |
| Aluminium            | Al % | 0.500 max.      |  |  |
| Boron                | B %  | 0.010 max.      |  |  |
| Iron                 | Fe % | 17.000 - 20.000 |  |  |
| Phosphorus           | P %  | 0.040 max.      | <b>Mechanical Properties</b><br>Tensile Strength in Mpa      379 min.<br>Yield Strength in Mpa      241 min.<br>Elongation in %      8 min.<br>Reduction of Area in %      64 - 65<br>Hardness in HB      277 max.<br>Impact in Joule      - |  |
| Sulphur              | S %  | 0.030 max.      |  |  |
| Tungsten             | W %  | 0.200 - 1.000   |  |  |
| Nickel               | Ni % | Balance         |  |  |
| -                    | -    | -               |  |  |
| -                    | -    | -               |  |  |
| -                    | -    | -               |  |  |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| 2.4665                | DIN      | Germany | Strip and Sheet              |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |

**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)**

All information in our data sheets and website is indicative only and is not intended to be a substitute for the full specification from which it is extracted. It is intended to provide typical values to allow comparison between metal alloy option rather than a definitive statement of mechanical performance or suitability for a particular application as these will vary with temperature, product type and product application. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of business.