

## Technical datasheet

SAE 51431 | 1.4044

### Major specifications

WL 1.4044.6 hardened and tempered

Z15CN 17-03

### Available product forms

Round bars

The current stock range can be found on [www.sd-metals.com](http://www.sd-metals.com).

Further dimensions available upon request.

Use our Service Centre to have the available sizes cut to your desired dimensions.

### Key features

SAE 51431 is a stainless steel containing about 16% chromium with additions of nickel and achieves high mechanical properties through a conventional arc melting process. Due to moderate corrosion resistance, SAE 51431 is used in areas with lower corrosive requirements but higher mechanical properties than those of 410 stainless steel.

### Applications

- machine tool industry
- aircraft fittings
- pump shafts
- valve components
- bolts and screws
- chemical equipment

### Chemical properties

#### Composition - limits in %

| Cr          | Ni        | Si       | Mn       | C          | P          | S          | Fe   |
|-------------|-----------|----------|----------|------------|------------|------------|------|
| 15,0 - 18,0 | 2,0 - 3,0 | max. 1,0 | max. 1,0 | 0,12 - 0,2 | max. 0,030 | max. 0,025 | Rest |

### Physical and thermal properties

|                                      |                       |
|--------------------------------------|-----------------------|
| Density                              | 7,7 g/cm <sup>3</sup> |
| Melting temperature                  | 1450 - 1510 °C        |
| Thermal conductivity at 20°C         | 25 W/m • °C           |
| Coefficient of expansion at 21-100°C | 10,6 µm/m • °C        |

### Typical mechanical properties (room temperature, WL 1.4044.6 hardened and tempered)

|                  |                         |
|------------------|-------------------------|
| Yield strength   | min. 700 MPa            |
| Tensile strength | min. 900, max. 1100 MPa |
| Elongation       | min. 12 %               |

All information is subject to change without notice.

The properties correspond to the material in the heading. They may vary for other specifications.

Please contact us for more details.