

Material type

Metal

Material name

Stainless steel 416 | 1.4005 | X12CrS13

Process compatibility

CNC machining**Mechanical properties**

Ultimate tensile strength	440 - 580 MPa
Yield strength	275 - 345 MPa
Young's modulus (modulus of elasticity)	200 GPa
Elongation at break	7 - 25 %

Thermal properties

Maximum service temperature	675 - 760 °C
Thermal expansion coefficient	9.9 - 11.7 10 ⁻⁶ /°C
Thermal conductivity	24.9 - 28.7 W/(m·°C)

Post treatments

Post-Processing	Cold & hot working, Annealing, Tempering, Hardening
Anodizing compatibility	Not suitable

Physical properties

Corrosion resistance	Moderate
Magnetism	Magnetic
Weldability	Poor

Electrical properties

Electrical resistivity	57 μΩ*cm
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Common applications

Valves
Pump & motor shafts
Washing machine components
Gears & bolts
Nuts & studs
Automatic screw-machined components

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