Stainless steel 316/316L | 1.4401/1.4404 | X5CrNiMo17-12-2/X2CrNiMo17-12-2

Stainless Steel 316/316L is tougher to CNC machine but offers superior corrosion resistance.

Mechanical properties

Ultimate tensile strength	480 - 600 MPa
Yield strength	170 - 230 MPa
Young's modulus (modulus of elasticity)	190 - 205 GPa
Elongation at break	38-55 %

Physical properties

Corrosion resistance	Excellent
Magnetism	Non-magnetic
UV resistance	Excellent
Weldability	Excellent

Thermal properties

Maximum service temperature	750 - 925 °C
Thermal expansion coefficent	15 - 18 10^-6/ºC
Thermal conductivity	13 - 17 W/(m·°C)

Electrical properties

Electrical resistivity	69 - 81 µΩ*cm

Post treatments

Post-Processing	Annealing & Cold working
Anodizing compatibility	Not suitable

Common applications

Marine applications	
Wastewater treatment	
Potable water	
Medical devices	
Pharmaceutical equipment	
Food processing	
Chemical and petrochemical industry	

Stainless Steel 316/316L CNC Machining Applications & Parts

Stainless Steel 316/316L offers superior corrosion resistance, particularly against chlorides and acids, due to the addition of molybdenum. We precision machine this "marine-grade" stainless for the most demanding environments.

Typical Parts We Machine from Stainless Steel 316/316L:

- **Marine & Saltwater:** Boat fittings, propeller shafts, underwater sensors, fasteners
- **Medical & Pharmaceutical:** Implants, surgical instruments, sterilization equipment, MRI components
- **Chemical Processing:** Reactor vessels, heat exchangers, piping systems, pump components

Our Machining Advantage:

Our machining protocols for 316/316L are specifically designed to handle its higher work hardening rate and strength, utilizing sharp, wear-resistant tooling to maintain precision and surface integrity.

Get an Instant Quote your custom Stainless steel 316/316L | 1.4401/1.4404 | X5CrNiMo17-12-2/X2CrNiMo17-12-2 parts today.