Stainless steel 15-5 PH | 1.4545 | X5CrNiCu15-5

Stainless Steel 15-5 PH offers high strength and toughness as a precipitation-hardening grade.

Mechanical properties

Ultimate tensile strength	890 - 1200 MPa
Yield strength	590 - 890 MPa
Young's modulus (modulus of elasticity)	190 - 196 GPa
Elongation at break	7 - 16 %

Physical properties

Corrosion resistance	Good
Magnetism	Magnetic
Weldability	Good

Thermal properties

Maximum service temperature	820 °C
Thermal expansion coefficent	10.4 - 11.7 10^-6/ºC
Thermal conductivity	17 - 22 W/(m·°C)

Electrical properties

Electrical resistivity	77 µΩ*cm

Post treatments

Post-Processing	Hot working, Age hardening, Annealing
Anodizing compatibility	Not suitable

Common applications

Fittings & shafts in aircraft components	

Chemical process equipment	
Equipment for nuclear reactors	
High pressure corrosive environments Gears & Fasteners	

Stainless Steel 15-5 PH CNC Machining Applications & Parts

Stainless Steel 15-5 PH is a precipitation-hardening martensitic stainless steel known for its high strength, excellent corrosion resistance, and toughness. We excel at machining this material in its various aged conditions to deliver components with exceptional mechanical properties and dimensional stability.

Typical Parts We Machine from Stainless Steel 15-5 PH:

- **Aerospace & Defense:** Aircraft fittings, missile components, engine parts, fasteners
- **Chemical Processing:** Valve shafts, pump components, nuclear waste containers
- **Medical Devices:** Surgical instrument components, orthopedic implants, dental tools

Our Machining Advantage:

We possess in-depth knowledge of heat treatment interactions, allowing us to machine 15-5 PH pre or post-age-hardening to achieve your desired combination of precision and material performance.

Get an Instant Quote for your custom Stainless Steel 15-5 PH parts today.