

STAINLESS STEEL

UNS S17400 - 17-4PH



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UNS S17400, commonly known as 17-4PH (Precipitation Hardening) stainless steel renowned for its unique combination of strength, hardness and corrosion resistance. The mechanical properties of 17-4 PH stainless steel can vary significantly depending on the heat treatment condition. The alloy can be heat-treated to different conditions such as Condition A (solution-treated), H900, H1025, H1075, H1150 and others.

KEY FEATURES

- High strength and hardness
- Good corrosion resistance
- Precipitation hardening
- Machined using standard techniques
- Good weldability

CHEMICAL PROPERTIES

Chromium (Cr)	Nickel (Ni)	Copper (Cu)	Manganese (Mn)	Silicone (Si)	Carbon (C)	Phosphorus (P)	Niobium (Nb)	Sulphur (S)
15-17.5%	3-5%	3-5%	1%	1%	0.07%	0.04%	0.15-0.45%	0.03%

MECHANICAL PROPERTIES

Tensile strength (N/mm ²)	1030-1400
Yield strength (N/mm ²)	965-1310
Elongation (% in 4D)	10-16
Hardness - Rockwell C (HRC) max	30-45
Hardness - Brinell (HB) max	311-388

PHYSICAL PROPERTIES

Density (kg/m ³)	7780	
Modulus of elasticity (Gpa)	200	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	10.8
	0-350°C (µm/m/°C)	11.3
	0-538°C (µm/m/°C)	12.1
Thermal conductivity	at 100°C (W/m.K)	15.5
	at 500°C (W/m.K)	18.0
Specific Heat 0-100°C (J/kg.K)	460	
Electrical resistivity (nΩ.m)	793	
Melting point (°C)	1420	

MARKET SECTORS



Food & Beverage Industry

Processing equipment, parts, containers



Chemical Processing

Pump shafts, valve components, pipes



Engineered Components

Tooling, dies, components in gears, shafts, bearings



Oil & Gas Industry

Valve components, drilling equipment



Automotive Industry

Fasteners, drive shafts, suspension components



Aerospace Industry

Landing gear, structural parts, missile components