

# STAINLESS STEEL

## UNS S17400 - 17-4PH

# BORNMORE METALS



### UNS S17400 - 17-4PH

UNS S17400, commonly known as 17-4 PH (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)	Silicon (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 <sup>2</sup> )	1030-1400
Yield strength (N/mm <sup>2</sup> )	965-1310
Elongation (% in 4D)	10-16
Hardness - Rockwell C (HRC) max	30-44
Hardness - Brinell (HB) max	311-388

### PHYSICAL PROPERTIES

Density (kg/m <sup>3</sup> )	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