BIBUS METALS

Technical datasheet Alloy 17-4PH / W-Nr. 1.4548 / W-Nr. 1.4542

17-4PH stainless steel is one of the most widely used precipitation hardening stainless steels known for its combination of high strength, good corrosion resistance, and ease of fabrication.

Available products

Product form	Size range from	Size range to
Round Bar	6.35 mm (0.25") diameter	88.9 mm (3.5") diameter
Flat bar	Please enquire or see stock flyer	

Chemical composition (%)

Fe	Cr	Ni	Cu	Mn	Mo	Si	C	P	S	Nb
Balance	15.0-17.5	3.0-5.0	3.0-5.0	1.0 max	0.50 max	1.0 max	0.07 max	0.040 max	0.030 max	5xC - 0.45 max

Major specifications

AMS 5643	UNS S17400
	DIN 1.4548, 1.4542

Physical properties

Density	7.75 g/cm^3
Melting range	1404-1440°C

Mechanical properties – minimum properties per AMS 5643 heat treated to H1025

Yield strength	1000 MPa	Hardness	331-401 HB
Tensile strength	1069 MPa		34-42 HRC
Elongation	12 %		

Key attributes

17-4PH stainless steel is one of the most widely used precipitation hardening stainless steels. It contains around 17% chromium and 4% nickel with additions of copper. Its martensitic structure and is strengthened by precipitation heat treatment. Corrosion resistance is comparable to 304 stainless steel in most media. The resulting outstanding combination of high strength and good corrosion resistance at temperatures up to 316°C makes this grade highly versatile and an effective solution in many applications.

Round bar is available in the annealed "A" condition for ease of machining and fabrication or in the H900 or H1150 heat treated conditions. Flat bar is available in the H900 or H1150 conditions.

Applications

High strength shafts
Airframe structural components
Valves
Fasteners
Pumps
Chemical processing and refining equipment
High strength corrosion resistant components

All information is subject to change without notice. The properties correspond to the material in the heading. They may vary for other specifications. Please contact us for more details.