BIBUS METALS

Technical datasheet

Alloy 15-5PH / W-Nr. 1.4545

15-5PH is a martensitic stainless steel containing around 15% chromium and 5% nickel with additions of copper.

Available products

Product form	Size range from	Size range to
Bar	12.7 mm (0.5") diameter	139.7 mm (5.5") diameter
Plate	63.5 mm thick	
Flat bar	25.5 x25.0 mm section	

Chemical composition (%)

Fe	Cr	Ni	Cu	Mn	Mo	Si	Nb	C	P	S
Balance	14.0-15.5	3.5-5.5	2.5-4.5	0.50 max	0.50 max	1.0 max	5xC - 0.45 max	0.07 max	0.030 max	0.015 max

Major specifications

AMS 5659	UNS S15500
	DIN 1.4545

Physical properties

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

Mechanical properties – minimum properties per AMS 5659 heat treated to H1025

Yield strength	1000 MPa
Tensile strength	1069 MPa
Elongation	12 %

Key attributes

It is a precipitation hardenable grade possessing all the properties of its predecessor 17-4PH. Close control of melting and processing gives a unique structure which contributes to the alloys increased toughness and ductility when compared to 17-4PH. In many corrosive environments its resistance is superior to grades such as 410 and is comparable to 302 and 304 stainless steels. Due to this combination of mechanical properties and corrosion resistance 15-5PH finds a wide range of applications.

Round bar is available in the annealed "A" condition for ease of machining and fabrication or in the H1025 heat treated condition. Flat bar is available in the H900 condition and plate in the H1025 condition.

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.