

SS 17/4 PH[®]



SS 17/4 PH[®] (UNS S17400)

SS 17/4 PH[®] is a precipitation hardenable Martensitic stainless steel with high strength, and good corrosion resistance. It is easily heat treated from the annealed temper.

GENERAL INFORMATION

The corrosion resistance of the alloy is comparable to SS 302. It is heat treated at 900° F/1 Hour for highest strength. Other thermal treatments can be utilized to provide greater toughness and improved formability. Joining of the alloy is accomplished by the usual methods that are effective for stainless steel.

AVAILABILITY

SS 17/4 PH[®] is available from Hamilton Precision Metals as strip product in thicknesses from 0.001" to 0.050" (0.0254 mm to 1.27 mm) and widths up to 12.0" (304.8 mm). The material conforms to AMS 5604, ASTM A693 and UNS S17400.



Technical Data

TYPICAL MECHANICAL PROPERTIES ¹		
	ANNEALED	ANNEALED HEAT TREATED
Ultimate Tensile Strength	160,000 PSI	200,000 PSI
Yield Strength (0.2% Offset)	145,000 PSI	180,000 PSI
Elongation in 2" *	5%	3%
Modulus of Elasticity (Tension)	28.5 x 10 ⁶ PSI	
Poisson's Ratio	0.27	

*The measured elongation will be less as thickness decreases to 0.002" and less.

¹ These values may be adjusted by control of process variables – consult HPM for desired values.

NOMINAL COMPOSITION	
Chromium	15.3%
Nickel	4.3%
Copper	3.3%
Columbium/ Tantalum	0.25%
Carbon	0.04%
Iron	Balance

PHYSICAL PROPERTIES ²	
Density (Heat Treated)	0.282 lbs/cu.in.
Electrical Resistivity (Heat Treated)	80 Microhm · cm
Thermal Expansion Coefficient (21° to 93°C) – Heat Treated	10.8 x 10 ⁶ /°C
Thermal Conductivity @ 150°C	17.9 W/m · K
Magnetic Attraction	Yes

² Typical values to guide alloy selection but are not a guarantee of minimum or maximum.