

Specification Sheet : Alloy 17-4PH

(UNS S17400) W. N. 1.4542 Tensile 630

A Precipitation-Hardening Martensitic Stainless Steel with High Strength and Hardness and Good Corrosion Resistance

Chemical Analysis

Weight % (all balance elements are in trace amounts unless otherwise indicated)

Element	Min. - Max.	Element	Min. - Max.
Chromium	15.0 min. - 17.5 max.	Phosphorus	0.04
Nickel	3.0 min. - 5.0 max.	Sulfur	0.03
Carbon	3.0 min. - 5.0 max.	Silicon	1.0
Cadmium	0.07	Nitrogen	0.15 min. - 0.45 max.
Magnesium	1.0	Iron	Balance

Physical Properties (Cold Condition)

70-800 | 21-427 | 6.3×10^{-6} | 11.3×10^{-6}

Table 1

HEAT TREATMENT		Y.S. 0.2%		UTS		Elongation %
		MPa	ksi	MPa	ksi	
Hardening 496 °C (925 °F) 4 hours — air cooling	Min.	1070	155	1170	170	8
	Typ.	1207	175	1310	190	14
Hardening 593 °C (1100 °F) 4 hours — air cooling	Min.	790	115	965	140	10
	Typ.	931	135	1034	150	17

Standards

ASTM A 693
ASME SA 693
AMS 5604



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