

# 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 the table unless otherwise indicated)

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

## Physical Properties (Cold Condition)

70-800      21-427      6.3 x 10<sup>-6</sup>      11.3 x 10<sup>-6</sup>

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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