

Precipitation Hardened Steel Alloys

1 Excellent • 2 Very Good • 3 Good • 4 Fair • 5 Poor

HRB Rockwell Hardness, B Scale

HRE Rockwell Hardness, E Scale

HRC Rockwell Hardness, C Scale

BHN Brinell Hardness Scale



No Data Available
metal not usually
used in this condition

Alloy	Similar Designation	Usual Condition	Castability	Machinability	Corrosion Resistance	Weldability	Hardenable	Density (g/cm ³)	As-Cast Tensile Strength (psi)	As-Cast Yield Strength (psi)	As-Cast Elongation (%)	As-Cast Hardness	Annealed Tensile Strength (psi)	Annealed Yield Strength (psi)	Annealed Elongation (%)	Annealed Hardness	Heat Treated Tensile Strength (psi)	Heat Treated Yield Strength (psi)	Heat Treated Elongation (%)	Heat Treated Hardness	Comments
15-5 PH (J92110)	AMS 5357 ASTM A747	Homogenized, Solution Treated and Aged	3	3	2	3	Yes	7.8					160,000	130,000	8	HRC 36 max	200,000	185,000	14	HRC 40/45	Same as 17-4 except greater ductility.
17-4 PH (J92180)	AMS 5355 ASTM A 747 MIL S 81591	Homogenized, Solution Treated and Aged	2	3	2	2	Yes	7.8					180,000	160,000	6	HRC 36 max	200,000	185,000	12	HRC 40/45	Very good corrosion resistance and hardness. Easily machined. Very popular alloy.
25-5 PH (J933370)	ASTM A351 ASTM A743	Solution Treated and Aged	3	3	2	2	Yes	7.8					100,000	70,000	12	HRC 30				HRB 55	Best combination of strength and corrosion resistance.



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