

## AMS 5643, AMS 5604, AMS 5622, 17-4PH STAINLESS STEEL

The 17/4PH is an austenitic stainless steel alloy that has superior resistance to corrosion and outstanding mechanical properties. Conforming to the stringent AMS 5604, AMS 5622, and AMS 5643 specifications, this alloy is meticulously engineered to meet the most demanding industrial requirements.

The exceptional corrosion resistance of the 17/4PH alloy stems from its carefully crafted chemical composition, blending chromium, nickel, and copper in precise proportions, this unique formulation imbues the material with an unrivaled ability to withstand a broad spectrum of corrosive environments.

Moreover, the alloy's precipitation hardening capabilities allow for precise control over its mechanical properties, through a carefully controlled heat treatment process, 17/4PH can achieve remarkable strength and hardness levels while maintaining excellent toughness and ductility.

The remarkable combination of high strength and lightweight characteristics makes the 17/4PH alloy exceptionally well-suited for applications where optimal strength-to-weight ratios are paramount. From aerospace components that demand superior performance without compromising on weight, to oil and gas equipment subjected to harsh environments, and intricately designed precision engineering parts requiring meticulous craftsmanship, this versatile material excels across a wide range of demanding applications.

Specific Gravity											
7.74 g/cm <sup>3</sup>											
Typical Applications						Related Specifications					
Motor Shafts  Aircraft Structural Parts  Valve Stems  Gears						<b>AMS 5604</b>  <b>AMS 5622</b>  <b>AMS 5643</b>  <b>UNS S17400</b>  <b>W.Nr 1.4548</b>					
Chemical Composition (Wt %)											
	C	Si	Mn	P	S	Cr	Mo	Ni	Cb	Cu	Fe
Min	–	–	–	–	–	15.00	–	3.00	5 x %C	3.00	Bal
Max	0.07	1.00	1.00	0.040	0.030	17.50	0.50	5.00	0.45	5.00	–
Typical Mechanical Properties (AMS5643)											

	<b>0.2% Proof Stress</b>	<b>Tensile Strength</b>	<b>Elongation</b>	<b>Reduction of area</b>	<b>Hardness</b>	
	MPA	MPA	%	%	HB	
	Min	Min	Min	Min	Min	Max
			L	L		
<b>H900</b>	1172	1310	10	40	388	444
<b>H925</b>	1069	1172	10	44	375	429
<b>H1025</b>	1000	1069	12	45	331	401
<b>H1075</b>	862	1000	13	45	311	375
<b>H1100</b>	793	965	14	45	302	363
<b>H1150</b>	724	931	16	50	277	352

\* This data has been supplied in good faith and is indicative only. It has been provided for general information purposes only and is not to be relied upon in place of the full specification. Mechanical properties can vary considerably with different supply conditions such as heat treatment or temper and product dimensions.

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