

AMS 5643, AMS 5604, AMS 5622, 17-4ph Stainless Steel

Typical Applications

Motor Shafts

Aircraft Structural Parts

Valve Stems

Gears

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.

Technical specification

Related Specifications

AMS 5604

AMS 5622

AMS 5643

UNS S17400

W.Nr 1.4548

Specific Gravity

7.74 g/cm³

Chemical Composition (WT %)

	Min	Max
C	-	0.07
Si	-	1.00
Mn	-	1.00

P		-	0.040
S		-	0.030
Cr		15.00	17.50
Mo		-	0.50
Ni		3.00	5.00
Cb		5 x %C	0.45
Cu		3.00	5.00
Fe		Bal	-

Typical Mechanical Properties in the Annealed Condition

			-	H900	H925	H1025	H1075	H1100	H1150
0.2% Proof Stress	MPA	Min	-	1172	1069	1000	862	793	724
Tensile Strength	MPA	Min	-	1310	1172	1069	1000	965	931
Elongation	%	Min	L	10	10	12	13	14	16
Reduction of area	%	Min	L	40	44	45	45	45	50
Hardness	HRC	Min	-	388	375	331	311	302	277

Hardness

HB

Max

-

444

429

401

375

363

352

Need more information? [Get in touch](#)

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