

Alloy 17-4

A precipitation hardenable chromium-nickel-copper grade, Alloy 17-4 offers excellent corrosion resistance, high creep rupture strength and high tensile strength.

Most commonly used in the oil and gas, aerospace and motorsport markets, Alloy 17-4 offers excellent corrosion resistance, high creep rupture strength, high tensile strength and hardness.

PRODUCT FORMS

PRODUCT FORM	SIZE RANGE FROM	SIZE RANGE TO
Alloy 17-4 round bar	6.35 mm	304.8 mm
Alloy 17-4 sheet & plate	3.048 mm	76.2 mm

Can't find the size you need? **Please contact us at onsales@neonickel.com**

CHEMICAL ANALYSIS

%	NI	CR	MO	MN	CU	SI	C	CB+TA	S	P	FE
Min	3	15	-	-	3	-	-	5 x c	-	-	-
Max	5	17.5	0.05	1	4	1	0.07	0.45	0.03	0.04	Balance

APPLICATIONS

- Gate valves
- Pump shafts, gears and plungers
- Valve stems, balls, bushings and seats
- Fasteners

ABOUT ALLOY 17-4

Alloy 17-4 is an age-hardening martensitic stainless combining high strength with the corrosion resistance of stainless steel. The alloy maintains high tensile strength and hardness up to 316°C and excellent oxidation resistance up to 593°C. Alloy 17-4 has good creep-stress rupture properties up to 482°C. Hardening is achieved by a short-time, simple low-temperature treatments. Unlike conventional martensitic stainless steels, such as type 410, Alloy 17-4 is more weldable. The strength, corrosion resistance and simplified fabrication can make Alloy 17-4 stainless a cost-effective replacement for high strength carbon steels as well as other stainless grades.

For more information on 17-4 Stainless, or to enquire about our inventory then please [contact us](#), alternatively fill in our online quote form and we'll get right back to you.

PROPERTIES

Density:	7.81 g/cm ³
Poisson's ratio :	0.272
Melting range:	1404.4 – 1440.6 °C
Electrical resistivity:	7.7 x 10 ⁻⁷ Ωm

MECHANICAL & PHYSICAL PROPERTIES

MECHANICAL & PHYSICAL PROPERTIES	21°C	100°C	200°C	300°C
Coefficient of Thermal Expansion $\mu\text{m}/\text{m}^\circ\text{C}$		13	13.5	14
Thermal Conductivity/kcal/(hr.m.°C)	12.8	13.7	14.6	15.5
Modulus of Elasticity/ $\times 10^5$ MPa	2	1.94	1.86	1.8

REPRESENTATIVE TENSILE PROPERTIES, LONGITUDINAL DIRECTION

	H900	H925	H1025	H1075	H1100	H1150	H1150-M
Ultimate Tensile Strength, ksi	200	190	170	165	150	145	125
0.2% Yield Strength, ksi	185	175	165	150	135	125	85
Elongation % in 2" or 4XD	14	14	15	16	17	19	22
Reduction of Area, %	50	54	56	58	58	60	68
Hardness, Brinell (Rockwell)	420 (C44)	409 (C42)	352 (C38)	341 (C35)	332 (C35)	311 (C33)	277 (C27)
Impact Charpy V-Notch, ft – lbs	15	25	35	40	25	30	100

SPECIFICATIONS

UNS Number:	S17400
W.Nr.Number:	1.4542, 1.4548
Standards:	ASTM A693, A564, A705, AMS 5604, 5622, 5643, 5825