

17-4PH Stainless Steel

²⁴
Cr (Type 630)
52.00
Chromium

²⁸ ²⁶
Ni Fe
58.60 55.84
Nickel Iron



EFINEA

Capabilities Beyond Infinity

1-800-348-6268

Description

Type 17-4PH stainless steel, also referred to as Type 630, is a versatile alloy supplied in the solution-treated (annealed) condition. Known for its excellent combination of strength, corrosion resistance, and durability, it is particularly suited for manufacturing processes that build components layer by layer. The material exhibits typical mechanical properties after aging, such as those achieved with H900 and H1150 heat treatments, and is widely used in aerospace, automotive, and medical applications due to its ability to meet demanding performance requirements.

Typical Mechanical Properties After Aging

Property	Condition H900	Condition H1150
Density	0.2800 lb/in ³	0.2830 lb/in ³
Hardness (HRC)	44	33
Ultimate Tensile Strength	198 ksi	144 ksi
Yield Strength (0.2%)	183 ksi	126 ksi
Elongation in 2" (%)	15	20
Reduction of Area (%)	52	60

The material is supplied in the solution-treated (annealed) condition.

The H900 and H1150 properties listed are typical and exceed the minimums specified in ASTM-A564.

Markets & Applications

Aerospace: Aircraft and missile fittings.

Industrial: Shafts, gears, and chemical processing equipment.

Medical: Instrumentation and surgical tooling.

Energy and Defense: Valve components and reactor parts.

General Hardness

17-4 PH provides adjustable hardness levels depending on the heat treatment condition:

H900: Maximum hardness for applications demanding high strength.

H1150: Improved ductility and toughness with moderate hardness.



CHEMISTRY

Iron (Balance), Chromium (15.00–17.50%), Nickel (3.00–5.00%),
Copper (3.00–5.00%)

SPECIFICATIONS

ASTM A564 • AMS 5643 • UNS S17400
AMS STD CLASS A