Xometry

Datasheet

Stainless Steel 17-4PH

Alternative Designations

XSCrNiCuNbl 6-4

Key Features

Stiffness • Corrosion resistance • Chemical resistance • Properties can be enhanced with heat treatment (annealing)

Product Description

Stainless Steel 17-4PH is an iron-based alloy known for its corrosion resistance and strength. It can be machined, shot-peened, and polished in both as-built and heat-treated states. Achieving optimal hardness and mechanical properties requires solution annealing and aging treatment, following ASTM A564-13 standards. Typical applications include acid and corrosion-resistant engineering parts and medical instruments such as surgical tools and orthopedic instrumentation.

Xometry

Datasheet

Properties*

Yield strength (xy/z)	860.6/861.3 MPa
Tensile strength (xy/z)	886 / 924.2 MPa
Elongation at break (xy/z)	19.9/20.1%
Coefficient of thermal expansion (25 - 100°C)	10.410-6/K
Density	7.79 g/cm^3
Hardness	23.9 HRC
Corrosion resistance	5/5

*As manufactured, 40 pm layer thickness

Xometry

Datasheet

Stainless Steel 17-4PH

Applications

Engineering

Machine building

Medicine, dentistry

End-use parts

Chemical Composition

C	0.07	S	0.03
Cr	15-17.5	Si	1
Cu	3-5		
Mn			
Nb	3-5		
Nb + Ta	0.15-0.45		
P	0.04		