# Stainless Steel 17-4 PH Datasheet

## Overview

Stainless Steel 17-4 PH is a versatile metal widely utilized across numerous industries. Known for its exceptional strength and hardness, it is perfect for specialized sectors like aerospace, tooling, and petrochemicals.

**As-printed Part's Tolerance: ±300μm or 0.3%**

**Maximum Printing Size: 420*420*450mm**

## Properties

| Dense Properties | Metric | Method |
|---|---|---|
| Relative Density | 96.4% | ASTM B923 |
| **Mechanical Properties** | **Metric** | **Method** |
| Tensile Strength | 1230MPa | ASTM E8 |
| Yield Strength | 1050MPa | ASTM E8 |
| Elongation at Break | 13% | ASTM E8 |
| Tensile Modulus | 170GPa | ASTM E8 |
| Hardness | 38 HRC | ASTM E18 |
| **Other Properties** | **Metric** | **Method** |
| Corrosion | PASS | ASTM F1089 |

## Pros

Stainless Steel 17-4 PH is renowned for its high strength, hardness, excellent corrosion resistance, and superior mechanical properties, especially at elevated temperatures, along with impressive thermal capabilities. It is commonly used for producing prototypes, spare parts, and functional components like turbine blades, pumps, and valves.

## Cons

It is a more expensive material and somewhat heavier than other metal 3D printing options. Products made from powdered metal tend to have grainy or pitted surfaces.

## Applications

Automotive Parts and Supplies  Wrenches and Sockets  Pump Shafts

Mixers and Blenders  Mechanical Seals  Gas Turbines

Jigs and Fixtures  Enclosures and Housings  Load Cells and Screws