# Stainless Steel 17-4 PH | 1.4542 | X5CrNiCuNb16-4 - Annealed state

Stainless Steel 17-4 PH provides high strength and corrosion resistance for aerospace and medical parts.

## Mechanical properties

| | |
|---|---|
| Ultimate tensile strength | 790 - 1200 MPa |
| Yield strength | 520 - 860 MPa |
| Young's modulus (modulus of elasticity) | 197 - 207 GPa |
| Elongation at break | 3 - 16 % |

## Physical properties

| | |
|---|---|
| Corrosion resistance | Excellent |
| Magnetism | Magnetic |
| UV resistance | Excellent |
| Weldability | Moderate |

## Thermal properties

| | |
|---|---|
| Maximum service temperature | 282 - 316 °C |
| Thermal expansion coefficent | 12.5 - 13.1 10^-6/ºC |
| Thermal conductivity | 17.3 - 18.7 W/(m·°C) |

## Electrical properties

| | |
|---|---|
| Electrical resistivity | 75 - 85 µΩ*cm |

## Post treatments

| | |
|---|---|
| Post-Processing | Not suitable |
| Anodizing compatibility | Not suitable |

## Common applications

| | |
|---|---|
| Aerospace applications | |
| Base plates | |
| Chemical processing equipment | |
| Nuclear components | |
| Oil and petroleum refining equipment | |

**Stainless Steel 17-4 PH CNC Machining Applications & Parts**

Stainless Steel 17-4 PH is one of the most widely used precipitation-hardening stainless steels, offering an outstanding balance of high strength, good corrosion resistance, and ease of heat treatment. Our CNC services produce precise and reliable parts from this versatile material.

**Typical Parts We Machine from Stainless Steel 17-4 PH:**

- **Marine & Offshore:** Shafts, valves, pump impellers, fittings
- **Oil & Gas:** Downhole tools, valve trim, wellhead components
- **Food Processing:** Mixer shafts, cutter blades, molds

**Our Machining Advantage:**

Our experience with 17-4 PH across various H-condition tempers ensures optimal tool selection and machining parameters for superior surface finishes and extended tool life.

**Get an Instant Quote for your custom Stainless Steel 17-4 PH parts today.**