

# 17-7PH Stainless

Smiths Advanced Metals

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Page: 1 of 1

## Chromium-Nickel-Aluminium Sheet

Precipitation Hardened Stainless Steel.

17-7PH precipitation hardening stainless steel offers a combination of attractive properties that make the alloy particularly suitable for aerospace engineering applications.

17-7PH provides high strength and hardness with good corrosion resistance and good formability. Other attractive characteristics include excellent fatigue resistance and minimal distortion when heat treated. The corrosion resistance of the alloy is generally superior to most hardenable stainless steel though this superiority depends on particular delivery conditions. 17-7PH precipitation hardening alloy may be formed in a soft austenitic condition and hardened to a high strength level by low-temperature heat treatments. Typical applications include aerospace components, chemical processing components and oil refinery components.

We stock [17-7PH stainless steel sheets](#) in the annealed condition and in various thicknesses. We also process your stainless steel sheets in-house.



### Grades / Specifications

- 1.4568
- UNS S17700
- AMS5528
- ASME A693
- ASTM A693

### Grades / Specifications

- Good formability
- High strength
- Good resistance to corrosion
- Good formability
- Minimal distortion after heat-treatment

### Chemical Composition (weight %)

|      | C    | Mn   | P    | S    | Si   | Cr    | Ni   | Al   |
|------|------|------|------|------|------|-------|------|------|
| min. |      |      |      |      |      | 16.00 | 6.50 | 0.75 |
| max. | 0.09 | 1.00 | 0.04 | 0.03 | 1.00 | 18.00 | 7.75 | 1.50 |

\* As per AMS 5528

### Mechanical Properties

| Size                              | Tensile Strength | 0.2% Yield    | Elongation | Hardness   |
|-----------------------------------|------------------|---------------|------------|------------|
| <b>Solution Heat Treated</b>      |                  |               |            |            |
| 0.13-0.25mm (incl.)               | 1,034 MPa max    | 448 MPa max   | 20% min    | 92 HRB max |
| 0.25 and over                     | 1,034 MPa max    | 379 MPa max   | 20% min    | 92 HRB max |
| <b>Response to Heat Treatment</b> |                  |               |            |            |
| 0.13-0.25mm (incl.)               | 1,241-1,448 MPa  | 1,035 MPa min | 4% min     | 38-46 HRC  |
| 0.25-0.48mm (incl.)               | 1,241-1,448 MPa  | 1,035 MPa min | 5% min     | 38-46 HRC  |
| 0.48-25.40mm (incl.)              | 1,241-1,448 MPa  | 1,035 MPa min | 6% min     | 38-46 HRC  |

\* Properties as per AMS 5528

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