

17-7PH Stainless

Smiths Advanced Metals

Rev: SAM/datasheets/stainless-steel-bar/17-7ph/feb-2022

Page: 1 of 1

17-7PH Stainless Steel Bar

Excellent mechanical properties.

17-7PH is an American grade precipitation hardening stainless steel suitable for applications requiring excellent mechanical properties and medium corrosion resistance.

The chromium-nickel-aluminium stainless steel offers an attractive combination of hardness and high strength with excellent fatigue resistance. The alloy provides good formability with minimum distortion after heat treatment. Hard-drawn 17-7 PH wire is a perfect spring material, particularly in manufacturing flat springs. When the wire is heat-treated at 482°C (900°F), the material takes on elastic characteristics resulting in a perfect wire for musical instruments or springs.

With such attractive performance characteristics, the alloy is popular in aerospace applications. Formability is good, but work hardens rapidly, so intermediate annealing may be required to produce intricate parts.

Smiths Advanced Metals stocks [17-7PH steel bars](#) and wires in the solution heat-treated (annealed) condition.



Grades / Specifications

- 1.4568
- UNS S17700
- X7CRNIAL 17-7
- AMS5644
- AMS5678
- ASTM A313
- ASTM A564

Benefits

- High strength
- Good corrosion resistance
- Excellent fatigue strength
- Good formability

* 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 5644

* Mechanical Properties (at room temperature)

Tensile Strength	170,000 psi min
0.2% Yield	140,000 psi min
Elongation	6% min
Reduction of area	25% min
Hardness	363 HBW min

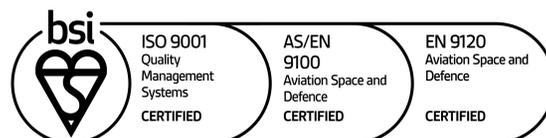
* Properties as per AMS 5644, below 3" diameter

www.smithsadvanced.com

info@smithsadvanced.com



Stratton Business Park,
London Road, Biggleswade,
Bedfordshire SG18 8QB
Tel: **+44 (0) 1767 604710**



All information in our data sheet is based on approximate testing and is stated to the best of our knowledge and belief. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of trading.