17-4PH Stainless Steel (S17400)

Smiths High Performance

Remarkable Strength

17-4PH (UNS S17400) conforms to AMS 5604, AMS 5622 & AMS 5643.

17-4PH precipitation hardening stainless steel is highly suitable for engineering applications requiring much higher strength.

The nickel-chromium-based alloy combines this strength with high toughness, resulting in a material with excellent mechanical properties. We stock and supply **17-4PH stainless steel bars** in various sizes, shapes and tempers to suit your engineering requirements.

Production:

Precipitation hardening gives the alloy the capacity for mechanical properties to be precisely crafted and, once heat-treated, results in a product with considerably higher strength. Additional performance benefits include high fatigue resistance and good stress corrosion resistance. 17-4PH also offers improved galling resistance and good corrosion resistance.

Suitability:

17-4PH is highly suitable for motorsport engineering applications requiring high strength and toughness with good corrosion resistance. Typical applications include valve stems, engine gear components and fasteners.

Machining:

The material is straightforward to machine and is readily weldable by conventional methods. Unlike standard hardenable stainless steel alloys, 17-4PH does not require pre or post-heating.

Product Benefits:

- Outstanding strength
- High toughness
- High fatigue resistance
- Good stress corrosion and galling resistance

Motorsport Applications:

- Valve stems
- Gears
- High strength structural parts
- High performance fasteners

About Smiths High Performance

Smiths High Performance is a leading stockholder and supplier of high-performance engineering materials. We are material supply chain partners supporting **high-technology market sectors**.

SCAN ME

Further technical data available on the reverse of this Datasheet

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* Chemical Composition (weight, %)

	C	Mn	P	S	Si	Cr	Ni	Cu	Mo	Nb
Min:						15.00	3.00	3.00		5xC
Max:	0.07	1.00	0.04	0.03	1.00	17.50	5.00	5.00	0.50	0.45

* As per AMS 5643

Mechanical Properties

Type	Tensile Strength	Proof Stress	Hardness (Brinell)	Elongation A	Specification
Bar - Solution Annealed (up to 100mm Dia. / Thickness)	1200 MPa (max)		360 HB (max)		EN 10088-3:2005
Bar - at P800 (up to 100mm Dia. / Thickness)	800 - 950 MPa (max)	520 MPa (min)		18% min	EN 10088-3:2005
Bar - at P930 (up to 100mm Dia. / Thickness)	930 - 1,100 MPa (max)	720 MPa (min)		16% min	EN 10088-3:2005
Bar - at P960 (up to 100mm Dia. / Thickness)	960 - 1,160 MPa (max)	790 MPa (min)		12% min	EN 10088-3:2005
Bar - at P1070 (up to 100mm Dia. / Thickness)	1,070- 1,270 MPa (max)	1,000 MPa (min)		10% min	EN 10088-3:2005

...where performance matters...

When you purchase high-performance materials from **Smiths High Performance**, you will join some of the biggest and best global engineering companies. We are a Tier 1 supply chain partner to the world's leading motorsport companies. Our unique business structure and ethos allow us to offer services otherwise unavailable in this market sector.

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