

# 13-8PH Stainless

Smiths Advanced Metals

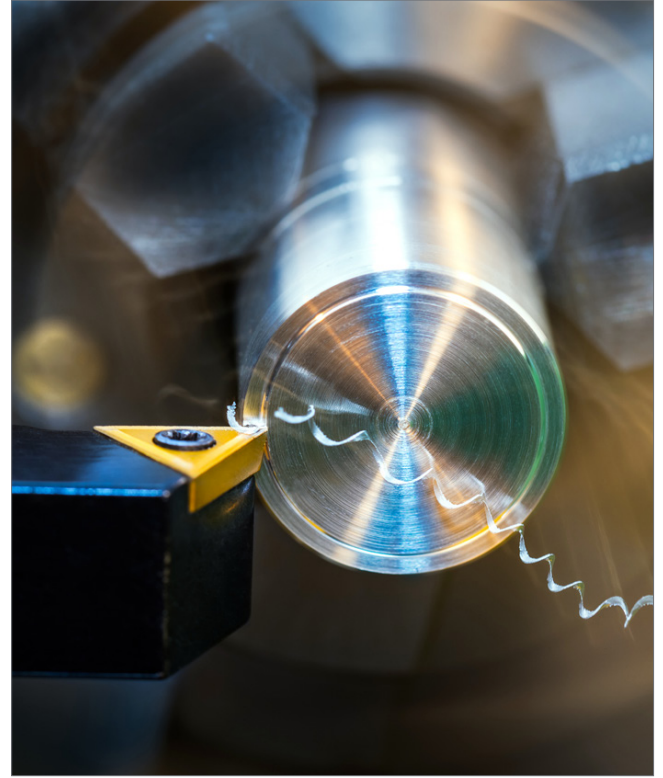
## Very High Strength Stainless Steel Bar

Precipitation hardening stainless steel

13-8PH is a precipitation hardening steel alloy that provides very high strength and toughness combined with good corrosion resistance.

Even in larger sections, the alloy consistently offers superior ductility and transverse toughness. The chemical composition of the alloy combined with a controlled melting practice ensures that the material's microstructure is typically ferrite-free. In production, the alloy is double melted in a vacuum induction furnace (VIM) followed by consumable electrode vacuum melt (CEVM / VAR). A single precipitation hardening heat treatment creates the performance characteristics of the alloy. 13-8PH offers suitability in applications where good ductility, corrosion resistance, stress-corrosion resistance, and high strength are predetermined requirements. Typical examples include aerospace structural parts, nuclear reactor components and high-performance shafts.

We stock [13-8PH stainless steel bars](#) in a wide range of sizes, shapes and tempers (including annealed, H950, H1025, H1050, H1100 and H1150 tempers).



### Grades / Specifications

- 1.4534
- UNS S13800
- AMS5629
- AMS5934
- LAT 1-9048

### Benefits

- Excellent strength
- Good fracture toughness
- Good resistance to corrosion
- Superior ductility and transverse toughness

#### \* Chemical Composition (weight %)

	C	Mn	P	S	Si	Cr	Ni	Mo	Al	N
min.						12.25	7.50	2.00	0.90	
max.	0.05	0.10	0.010	0.008	0.10	13.25	8.50	2.50	1.35	0.01

\* As per AMS5629

#### \* Mechanical Properties (minimum)

Condition	Tensile Strength (MPa)	0.2% Proof Stress (MPa)	Elongation (%)	Reduction of Area (%)
H950	1,517	1,413	10	45
H1000	1,413	1,310	10	50
H1025	1,276	1,207	11	50
H1050	1,207	1,138	12	50
H1100	1,034	931	14	50
H1150	931	621	14	50

\* Properties as per AMS 5629, longitudinal.