

# A-286 Stainless Steel

## A-286 STAINLESS STEEL DATASHEET

A-286 Stainless Steel is a precipitation-hardenable super-alloy based on iron. The material finds use in applications requiring high strength, paired with corrosion resistance up to 1300 °F (700 °C). Besides, the alloy has other favorable properties, including excellent fabrication characteristics, low-temperature non-magnetic strength [down to -320 °F (-196 °C)], and ductility.

A-286 Stainless Steel finds use in various aircraft components, including jet engine components, fasteners, and springs. Moreover, the material is used in industrial gas turbines, aqueous solutions with moderate corrosion properties, and non-magnetic cryogenic parts. Other applications include high-temperature afterburner parts, tanks, piping, pumps, heat exchangers, and superchargers in the automotive industry.

Product forms include pipe, tube, fitting, flange, sheet, strip, plate, round bar, flat bar, fastener, forging stock, and hexagon.

### Standards

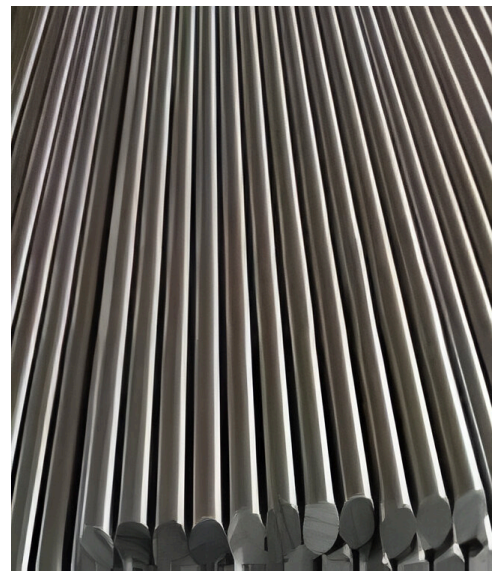
- UNS S66286
- AMS 5736, 5737
- AMS 5731, 5732
- ASTM A 638
- AMS 5734, 5735

### Physical Properties

- Density: 0.286 LB/in<sup>3</sup> (7.92 g/cm<sup>3</sup>)
- Melting Point: 2500–2690°F (1370–1430°C)
- Modulus of Elasticity: 28.8x10<sup>6</sup>psi (199 GPa)
- Magnetic Permeability: 1.010 Max

### Characteristics

- excellent fabrication characteristics, low-temperature non-magnetic strength [down to -320 °F (-196 °C)], and ductility.



### Chemical Composition

	C	Mn	S	P	Si	Cr	Ni	Ti	Mo	V	Al	B	Fe
MIN	-	-	-	-	-	13.50	24.00	1.90	1.00	0.10	-	0.003	-
MAX	0.08	2.00	0.025	0.025	1.00	16.00	27.00	2.30	1.50	0.50	0.35	0.010	balance

### Mechanical Properties

Tensile (min) KSI (Mpa)	Yield (min) KSI (Mpa)	Elongation (min) %	Reduction of Area (min) %	Hardness HRC (BHN)
89 (620)	39 (275)	40%	20%	32 (304) Min.

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