

347 Stainless

Technical Datasheet



Austenitic Stainless Steel with added Columbium

Service. Quality. Value.

Typical Applications

- Oil refineries
- Fired heater tubes
- Thermowells
- Fluid catalytic cracking units (FCC)
- Hanger rods
- Reactor components

Product Description

Type 347 stainless is an austenitic steel alloy with added Niobium/Columbium which acts as a stabiliser. This makes the alloy suitable for service in aqueous and low temperature environments as the alloy has good resistance to intergranular attack. The alloy also offers good resistance to polythionic acid stress corrosion cracking and is therefore a useful material for use around reactor plants. Type 347 is essentially non-magnetic in the annealed condition and can only be hardened by cold working. The alloy is used in the oil, gas and chemical sector as well as the nuclear industry.

Key features

- A multi-purpose austenitic stainless steel
- Excellent heat and corrosion resistance
- Better mechanical properties than 304 make it suitable for many arduous high temperature applications.

Machinability

Good machinability.

Weldability

Weldable by common fusion and resistance techniques.

Availability

Round Bar, plate, sheet, wire tube.

Corrosion resistance

Excellent pitting resistance and good resistance to most chemicals.

Chemical Composition (weight %)

	Cr	Ni	NG+Ta (8xc)	C	Si	Mn	P	S	Fe	
min	17.00	9.00	0.04							
max	19.00	13.00	1.00	0.08	0.75	2.00	0.045	0.03	Bal	

Mechanical Properties

Tensile strength	520 - 680	MPa
Elongation A5	<60	%

Physical Properties

Density	7.93	kg/m ³
Melting Point	1400 - 1425	°C
Modulus of Elasticity	190-210	GPa
Maximum use temperature in air	800	°C
Thermal Expansion	16 - 18	x10 ⁻⁶ /K ⁻¹

Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

UK Service Centres:

Smiths Belfast **02895 908 897**
 Smiths Biggleswade **01767 604 704**
 Smiths Birmingham **0121 728 4940**
 Smiths Bristol **0117 971 2800**
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 Smiths Verwood **01202 824 347**
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Quality & Testing:



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