

21-6-9

Smiths Advanced Metals

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High Strength Stainless Steel Tube

For challenging working environments.

21-6-9 stainless steel is a high manganese content austenitic alloy strengthened with nitrogen.

The material provides outstanding oxidation resistance at elevated temperatures and excellent air corrosion resistance in the annealed condition. 21-6-9 possesses lower carbon content resulting in an alloy with excellent resistance to intergranular corrosion, even after welding. The weldability of the material is good by standard methods. The alloy combines excellent impact toughness with high mechanical strength and promotes workability similar to 301, 302, 304 and 316 stainless steel.

21-6-9 stainless is non-magnetic (even after cold working) and may be stress-relieved below 705°C (1300°F). However, such a process will reduce the mechanical properties of the alloy, particularly at temperatures above 1250°F. Annealing will soften the material, which will improve formability. The alloy finds typical use in aerospace applications, including hydraulic tubes and aircraft engine components.

We stock [21-6-9 stainless steel tubes](#) in a wide range of sizes and welded forms.



Grades / Specifications

- AMS5561
- BMS 7-185
- UNS S21900

Benefits

- High mechanical strength
- Good fabrication capabilities
- Excellent high temperature oxidation resistance
- Non-magnetic

*Chemical Composition (weight %)

	C	Mn	Ni	Cr	Mo	N	Si	P	S	Cu	Fe
min.		8.00	5.50	19.00		0.15					
max.	0.04	10.00	7.50	21.50	0.75	0.40	1.00	0.03	0.03	0.75	Bal

* As per AMS 5561

* Mechanical Properties

	Min	Max
Tensile Strength	979 MPa	1,117 MPa
0.2% Proof Strength	827 MPa	
Elongation	20%	

* Properties as per AMS 5561

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