AMINOX®-AS-1

Technical Datasheet

High Grade Machinable Type 316L Stainless Steel

Service. Quality. Value.

Typical Applications

- Components/equipment in oil & gas
- Chemical/petrochemical plant equipment
- High performance electrical connectors
- Pump and valve components
- Low magnetic permeability equipment
- General engineering

Product Description

AMINOX-AS-1 is a closely controlled chemical composition 17% chromium / 12% nickel / 2 molybdenum Type 316L austenitic stainless steel. The alloy combines moderate mechanical strength with good resistance to corrosion in a wide range of media. Optimum service performance for the product is assured by the application, as standard, of a wide range of testing regimes including hardness, notch impact and intercrystalline corrosion testing. Control of microstructure is affected by measurement of ferrite content and grain size. Forged bar is ultrasonically tested to ASTM A388.

Availability

Bar

Corrosion Resistance

The low level of carbon in AMINOX-AS-1 reduces the likelihood of sensitisation during welding sometimes referred to as 'weld decay'. Testing to establish freedom from any propensity to intercrystalline corrosion is performed to ASTM A262-a Practice E or DIN 50914 for 24 hours.

Material Specifications

- AMINOX-AS-1 (latest revision)
- EN 10088-3 1.4404 and 1.4401
- ASTM A479 and ASME SA79 S31603
- DIN 17440 1.4404 AD-Merkblatter W2
- DIN EN 10272
- ASTM A182 and ASME A182 S31603
- NORSOK M-630 MDS S01
- NACE MR01-75 / ISO 15156

Machining & Weldability

Stringent control of the chemical composition of AMINOX-AS-1 result in a consistent, highly machinable and readily weldable austenitic stainless steel.

Chemical Composition (weight %)

Weight (%)	C	S	P	Si	Mn	Cr	Ni	Mo	N
Min		0.015				16.5	10.0	2.0	
Max	0.030	0.020	0.045	0.40	2.0	18.5	13.0	2.5	0.10

Minimum Mechanical Properties (UNS S31800 - annealed)

Diameter	>160mm	>35≤160mm	≤35mm
UTS, MPa	≥515 <700	≥515 <700	≥515 <900
0.2% PS, MPa	205	205	205
Elongation on 5D, % (longitudinal)	35	40	20
Elongation on 5D, % (transverse)	30	-	-
Charpy V notch impact, J	60 (transverse)	100 (longitudinal)	100 (longitudinal)

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 Leeds	0113 307 5167
Smiths Biggleswade	01767 604 704	Smiths Manchester	0161 794 8650
Smiths Birmingham	0121 728 4940	Smiths Norwich	01603 789 878
Smiths Bristol	0117 971 2800	Smiths Nottingham	0115 925 4801
Smiths Chelmsford	01245 466 664	Smiths Redruth	01209 315 512
Smiths Gateshead	0191 469 5428	Smiths Verwood	01202 824 347
Smiths Horsham	01403 261 981	Main Office	0845 527 3331

Quality & Testing:

bsi ISO 9001 Quality Management Systems CERTIFIED

UKAS TESTING 1930

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