

Aminox AS-1™

Smiths Advanced Metals

Rev: SAM/datasheets/stainless-steel-bar/aminox-as1/feb-2022

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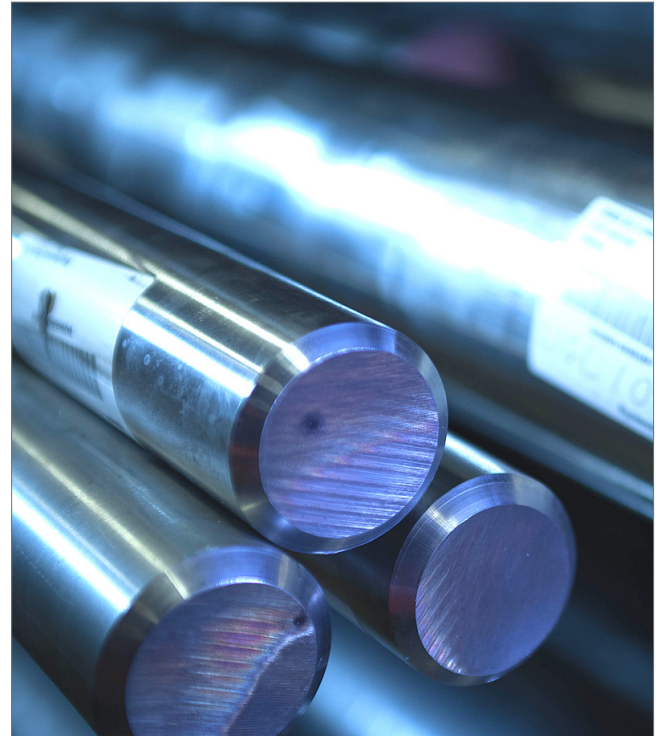
High Grade Stainless Steel Bar

With closely controlled chemical composition.

Aminox AS-1™ is an austenitic stainless steel based around Type 316L but with much closely controlled chemical composition.

The alloy includes 17% chromium, 12% nickel and 2% molybdenum. Aminox AS-1™ offers moderate tensile strength with good corrosion resistance to a broad range of media. The quality of this alloy is assured due to the testing regime in place. Testing methods include notch impact, hardness and intercrystalline corrosion testing. Measurement of the ferrite content and grain size controls the effects of the microstructure of the alloy. Aminox AS-1™ has low levels of carbon which reduces the occurrence of weld decay (sensitisation) during welding. Susceptibility to intercrystalline corrosion is tested under ASTM A262-a Practice E or DIN 50914 for 24 hours. Ultrasonic inspection is to ASTM A388.

Smiths Advanced Metals stocks [Aminox AS-1™ stainless steel bars](#) in a solution treated condition. We supply bars in closer incremental sizes, which may remove any further need for machining.



Grades / Specifications

- 1.4404
- Aminox AS-1™
- UNS S31603
- X2CrNiMo17-12-2
- AD2000-W2
- ASME SA484
- ASTM A182, ASME SA182
- ASTM A276, ASME SA276
- ASTM A479, ASME SA479
- DIN17440
- NACE MR0175
- Norsok M-630

Benefits

- Good corrosion resistance in various of medias
- Very good machinability
- Moderate mechanical strength
- Closely controlled chemical composition

* Chemical Composition (weight %)

	C	S	P	Si	Mn	Cr	Ni	Mo	N	Nb	Ti	Cu
min.		0.015				16.50	10.00	2.00				
max.	0.030	0.020	0.045	0.40	2.00	18.00	13.00	2.50	0.10	0.20	0.10	0.70

* As per Aminox AS-1™

* Mechanical Properties (UNS S31600 - annealed)

Diameter	>160mm	35 to 160mm (incl)	≤35mm
Ultimate Tensile Strength, MPa	515-700	515-700	515-900
0.2% Proof Stress, MPa	205 min	205 min	205 min
Elongation on 5D, % (longitudinal)	35%	40%	20%
Elongation on 5D, % (transverse)	30%	-	-
Reduction of Area	50%	50%	40%
Charpy	50 (transverse)	100 (longitudinal)	100 (longitudinal)

* Properties as per Aminox AS-1™

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