

HIGH GRADE MACHINABLE TYPE 316L STEEL

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 effected by measurement of ferrite content and grain size. Forged bar is ultrasonically tested to ASTM A388.

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 A262-93a Practice E or DIN 50914 for 24 hours.

CHEMICAL COMPOSITION

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

MINIMUM MECHANICAL PROPERTIES

| 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 | 2020 |
| Elongation on 5D, % (transverse) | 30 | - | - |
| Charpy V notch impact, J | 60 (transverse) | 100 (longitudinal) | 100 (longitudinal) |

Hardness maximum of HRC 22.

TECHNICAL SALES ASSISTANCE

Our resident team of qualified metallurgists and engineers will be pleased to assist further on any technical topic.

AMINOX is a registered Trade Mark of Advanced Metals International

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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-Merkblätter W2
- DIN EN 10272
- ASTM A182 and ASME A182 S31603
- NORSOK M-630 MDS S01
- NACE MR01-75 / ISO 15156

AVAILABILITY

Bar

MACHINING AND WELDING

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