



Elgiloy Specialty Metals – Strip Products

AL-6XN[®] alloy

UNS N08367

Applicable Specifications

Strip and Foil | ASTM B688, ASTM A240

Description: AL-6XN[®] alloy is a corrosion resistant iron-base super-austenitic stainless steel specifically designed for seawater resistance. The alloy surpasses the performance of conventional duplex stainless steels and can be a lower-cost alternative than other nickel-base alloys. AL-6XN[®] also has resistance to a wide range of other corrosive environments, including protection from chloride induced stress corrosion cracking and pitting/crevice corrosion in oxidizing solutions.

Applications include: Mixing tanks, Heat exchangers, Extraction/distillation columns, Pipes, Pumps, Food processing equipment, Caustic chloride systems

Industries supplied include: Chemical Processing, Oil & Gas, Nuclear Power Generation, Food Processing

Nominal Composition

| | C | Mn | P | S | Si | Ni | Cr | Mo | N | Cu | Fe |
|-----|-------|------|-------|-------|------|------|-------|------|------|------|-----|
| min | - | - | - | - | - | 23.5 | 20.00 | 6.00 | 0.18 | - | Bal |
| max | 0.030 | 2.00 | 0.040 | 0.030 | 1.00 | 25.5 | 22.00 | 7.00 | 0.25 | 0.75 | - |

Physical Properties

| | At 70°F | At 20°C |
|---------------------------|-----------------------------------|-------------------------|
| Density | 0.291 lb/in ³ | 8.06 g/cm ³ |
| Modulus of Elasticity (E) | 28.3 x 10 ³ ksi | 195 GPa |
| Modulus of Rigidity (G) | 10.8 x 10 ³ ksi | 74 GPa |
| Coefficient of Expansion | 7.9 μin/in-°F (70-212°F) | 14.2 μm/m-°C (20-100°C) |
| Electrical Resistivity | 35 μohm-in | 89.0 μohm-cm |
| Thermal Conductivity | 7.5 Btu-in/ft ² -hr-°F | 14.1 W/m-°C |

Typical Mechanical Properties

| Condition | Heat Treatment | Tensile Strength | Suggested Operating Conditions |
|-----------|---------------------------|---------------------------|-----------------------------------|
| Annealed | 2030-2192°F (1110-1200°C) | 100-130 ksi (690-900 MPa) | -320°F to 800°F (-196°C to 427°C) |

AL-6XN[®] is a registered trademark of ATI Properties, Inc.

Limitation of Liability and Disclaimer of Warranty:

- The content in these data sheets is provided primarily by third-party melting mills and is provided for reference only. It is not intended for engineering or design.
- Applications may be discussed, however, Elgiloy Specialty Metals, a Division of Combined Metals of Chicago L.L.C., does not recommend or endorse any material for any particular end use or application.
- The data included in this data sheet are typical values and may vary.
- Elgiloy Specialty Metals, a Division of Combined Metals of Chicago L.L.C., makes no representations or warranties, express or implied, as to the accuracy, completeness, condition, suitability, performance, fitness for a particular purpose, or merchantability of any information contained in any data sheet.
- In no event will Elgiloy Specialty Metals, a Division of Combined Metals of Chicago L.L.C., be liable for any damages whatsoever arising from the use of the information included in the data sheets.

For further information:
 Email: stripinquiries@elgiloy.com
 Phone: 1-888-843-2350

Elgiloy Specialty Metals - Strip Products
 1565 Fleetwood Dr.
 Elgin, IL 60123 USA

www.elgiloy.com

Rev Date: 8/26/2020