

ELGILOY Specialty Metals – Strip Products

Hastelloy® C-4 alloy

UNS N06455
W. Nr 2.4610

HASTELLOY® C-4 alloy is a nickel-chromium-molybdenum alloy with excellent resistance to stress-corrosion cracking and to oxidizing atmospheres at high temperature. It has virtually the same corrosion resistance as C-276. It exhibits exceptional resistance to a wide variety of chemical process environments.

Applications include: Chemical processing, nuclear fuel processing, marine applications.

Nominal Composition

| | C | Mn | Si | P | S | Cr | Co | Mo | Ti | Fe | Al | W | Ni |
|-----|-------|------|------|-------|-------|-------|------|-------|------|------|----|---|-----|
| min | - | - | - | - | - | 14.00 | - | 14.00 | - | - | - | - | |
| max | 0.015 | 1.00 | 0.08 | 0.040 | 0.030 | 18.00 | 2.00 | 17.00 | 0.70 | 3.00 | - | - | BAL |

Physical Properties

| | At 70°F | At 20°C |
|---------------------------|------------------------------------|-------------------------|
| Density | 0.312 lb/in ³ | 8.64 g/cm ³ |
| Modulus of Elasticity (E) | 30.8 x 10 ³ ksi | 211 GPa |
| Modulus of Rigidity (G) | 11.4 x 10 ³ ksi | 78.6 GPa |
| Coefficient of Expansion | 7.4 microinches/in.-°F (70-1000°F) | 13.3 μm/m-°C (20-538°C) |
| Electrical Resistivity | 49.1 μ ohm.in | 1.25 μ ohm.cm |
| Thermal Conductivity | 70 Btu-in./ft. ² hr.-°F | 10.1 W/m-K |

Applicable Specifications

Strip

ASTM B575, NACE MR0175

Typical Mechanical Properties – Spring Applications

| Condition | Heat Treatment | Tensile Strength | Suggested Operating Conditions |
|-----------|-----------------|--|-----------------------------------|
| Annealed | 1950°F (1065°C) | 100 ksi (690 MPa) min 125 ksi (860 MPA) typ | -300°F to 750°F (-184°C to 400°C) |

Hastelloy® is a registered trademark of Haynes International, Inc.

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Products

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