Hastelloy® C-276 (Alloy C-276), UNS N06985
Shaped, Flat, Square, Round, Fine Wire, Plated and Bare Wire
ASTM B582

Hastelloy® C-276 Alloy Description

Alloy C-276, a nickel-molybdenum-chromium-tungsten alloy with excellent general corrosion resistance and good formability. It resists the formation of grain boundary precipitates in the weld-heat affected zone making it a candidate for most chemical and petrochemical processing applications in the as-welded condition. C-276 is readily fabricated by welding using methods similar to those utilized for nickel-based alloys.

Applications

Marine hardware
Chemical processing components
Agrichemical and petrochemical production.

Chemistry Typical

Nickel: Balance
Chromium: 14.50 – 16.50
Molybdenum: 15.00 – 17.00
Iron: 4.00 – 7.00
Tungsten: 3.00 – 4.50
Cobalt: 2.50 max
Manganese: 1.00 max
Carbon 0.010 max
Vanadium: 0.35 max
Phosphorus: 0.040 max
Silicon: 0.08 max
Sulfur: 0.030 max

**Physical Properties**

Density: 0.321 lbs/in³, 8.89 g/cm³

Mean Coefficient of Thermal Expansion: in/in/°F (mm/m/°C):
70- 212°F (20- 100°C): 6.2 x 10⁻⁶ (11.2)

Thermal Conductivity: BTU-in/h-ft-°F (W/m-°K):
70°F (21°C): 71(10.2)

Modulus of Elasticity: KSI (MPa)
29.8 x 10³ (205 x 10³) in tension

Melting Point: 2500°F (1371°C)

**Mechanical Properties at Room Temperature**

**Annealed Typical**
Ultimate Tensile Strength: 100 KSI min (690 MPa min)
Yield Strength: (0.2% offset) 45 KSI min (310 MPa min)
Elongation: 40% min
Hardness: Rb 100 min (aim)

**Properties Tempered**
Alloy C-276 can be cold rolled to achieve the temper properties required by specific customers and/or manufacturing requirements. Contact Ulbrich Wire for details.

**Additional Properties**

**Corrosion Resistance**
Refer to NACE (National Association of Corrosion Engineers) for recommendations
Standard Wire Finishes

**Extra Clean:** (XC) Extra clean is also referred to as “bright annealed” or “bright annealed and cold rolled”

**Grease (round wire only):** Drawn in a heavy grease produces an “Ultra bright” finish for decorative applications

**Soap (round wire only):** Soap is used as a lubricant in the drawing process and is not removed. It acts as a lubricant during customer part forming operation. A soap finish is available in tempered products.

**Plated:** Many plating options are available.

*Special finishes are available: Contact Ulbrich Wire Sales with special finish and plating requests.

**Forms**
Continuous Coils
Cut to lengths
Precision cutting

**Heat Treatment**
Alloy C-276 Alloy cannot be hardened heat treating

**Welding**
For best results refer to: SSINA's “Welding of Stainless Steels and Other Joining Methods

Hastelloy® C-276 is a registered trademark of Haynes Alloys

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