



AM 350® Stainless Steel, UNS S35000

Shaped, Flat, Square, Round, Fine Wire, Plated and Un-plated
AMS 5548, ASTM A693, MIL S 8840

AM 350 Alloy Description

AM 350® is a precipitation hardening chromium-nickel-molybdenum alloy. AM 350® brings together the strength of heat treatable martensitic grades with the corrosion resistance of some of the chromium nickel austenitic grades. Generally used in applications under 1000°F where a combination of strength and good corrosion resistance are required.

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Applications

Bellows

Industrial cutters and knives

Gas turbine components

Chemistry Typical

Carbon: 0.07- 0.11

Manganese: 0.50-1.25

Chromium: 16.00-17.00

Nickel: 4.00-5.00

Molybdenum: 2.50-3.25

Nitrogen: 0.07-0.13

Silicon: 0.50 max

Phosphorus: 0.040 max

Sulfur: 0.030 max

Physical Properties

Density (annealed): 0.287 lb/in.³, 7.94 g/cm³

Thermal Conductivity: BTU/hr/ft²/ft/°F,(W/m•K)

At 200°F (93°C): 6.0 (11.3)

At 600°F (316°C): 6.5 (12.2)

At 800°F (427°C): 6.8 (12.6)

At 1000°F (538°C): 6.97 (13.0)

Mean Coefficient of Thermal Expansion: in/in/°F (µm/m•K)

70-200°F (21-93°C): 9.17×10^{-6} (16.5)

70-600°F (21-315°C): 9.47×10^{-6} (17.0)

70-800°F (21-427°C): 9.64×10^{-6} (17.4)

70-1000°F(21-538°C): 9.78×10^{-6} (17.6)

Modulus of Elasticity: KSI (MPa)

27.5-30.4 x 10³ (190-210 x 10³) in tension

Mechanical Properties at Room Temperature

Annealed Typical:

Ultimate Tensile Strength: 200 KSI max (1380 MPa max)

Yield Strength: (0.2% offset) 85 KSI max (585 MPa max)

Elongation:

8% min: gauges < 0.010 inches

12% min: gauges > 0.010 inches

Hardness: Rc 30 max

Tempered:

AM350 is not supplied tempered.

Heat Treated Properties

Typical 850°F

Ultimate Tensile Strength: 185 KSI min (1275 MPa min)

Yield Strength: (0.2% offset) 145 KSI min (1000 MPa min)

Elongation:

2% min: gauges 0.0005-0.0015 inches

4% min: >0.0015-0.002 inches

6% min: >0.002-0.010 inches

8% min: > 0.010 inches

Typical 1000°F

Ultimate Tensile Strength: 165 KSI min (1140 MPa min)

Yield Strength: (0.2% offset) 150 KSI min (1035 MPa min)

Elongation:

2% min: gauges 0.0005-0.0015 inches

4% min: > 0.0015-0.002 inches

6% min: > 0.002-0.010 inches

8% min: > 0.010 inches

Additional Properties

Corrosion Resistance

Alloy AM 350® has a similar corrosion as some of the austenitic stainless steels. See NACE (National Association of Corrosion Engineers) for more information

Standard Wire Finishes

Extra Clean: 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

Welding

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

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