Titanium 15-3-3-3, UNS R58153

Shaped, Flat, Square, Round, Fine Wire, Plated and Bare Wire
AMS 4914

Titanium 15-3-3-3 Alloy Description

Titanium 15-3-3-3 is a metastable beta titanium alloy that offers substantial weight reductions over other engineering materials. If used in the solution treated condition the alloy has excellent cold formability. In the aged condition, the alloy has high strength. The alloy is acceptable for use up to 550°F (228°C).

Applications

Springs
Fasteners
Aerospace applications

Chemistry: Typical

Vanadium: 14.0-16.0
Chromium: 2.5-3.5
Tin: 2.5-3.5
Aluminum: 2.5-3.5
Oxygen: 0.13 max
Carbon: 0.05 max
Nitrogen: 0.05 max
Hydrogen: 0.015 max
Iron: 0.25 max
Residuals each 0.10 max, total 0.40 max

**Physical Properties**
Density, 0.172 lbs/in³, 4.76 g/cm³

Modulus of Elasticity, ksi (MPa)
11.9 x 10³ (82 x 10³) in tension

Melting Point: 3034°F (1668°C)

**Mechanical Properties at Room Temperature**
Properties: Annealed (1450°F – A.Q.)
Ultimate Tensile Strength: 102 KSI min (703 MPa min)
Yield Strength (0.2% offset): 100 KSI min (690 MPa min)
Elongation: 12% min

**Tempered:**
15-3-3-3 Can be age hardened at 900-1000°F, aging time varies from 2-3 Hours.

Aged Properties: Typical
Aging Temp/Time: 1000°F /8 Hours
Ultimate Tensile Strength: 145 KSI min (1000 MPa min)
Yield Strength (0.2% offset): 170 KSI min (1172 MPa)
Elongation: 7% min

**Aging Temp/Time: 1100°F /8 Hours**
Ultimate Tensile Strength: 170 KSI min (1172 MPa min)
Yield Strength (0.2% offset): 160 KSI min (1103 MPa min)
Elongation: 5% min

**Aging Temp/Time: 1275°F /8 Hours**
Ultimate Tensile Strength: 180 KSI min (1241 MPa min)
Yield Strength (0.2% offset): 170 KSI min (1172 MPa min)
Elongation: 5% min

**Additional Properties**

**Corrosion Resistance**
Refer to NACE (National Association of Corrosion Engineers) for recommendations.

**Finishes**
Inquire with Ulbrich Wire

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

**Heat Treatment**
Titanium Alloy 15-3-3-3 can be hardened by aging

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

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