



Titanium Grade 1- Commercially Pure (A35), UNS R50250

Shaped, Flat, Square, Round, Fine Wire, Plated and Un-plated
ASTM B265 GR1, ASTM F67

Commercially Pure Grade 1 Titanium Alloy Description

Commercially Pure Titanium Grade 1 is soft/ductile grade exhibiting the greatest formability. It has excellent corrosion resistance property, excellent weldability and is used in a wide variety of applications.



Applications

Metal gaskets
Marine applications
Medical devices
Heat exchanger components
Deep drawing applications

Chemistry Typical

Titanium: Balance
Iron: 0.20 max
Oxygen: 0.18 max
Carbon: 0.08 max
Nitrogen: 0.03 max
Hydrogen: 0.015 max
Residuals each 0.10 max, total 0.40 max

Physical Properties

Density, 0.163 lbs/in³, 4.51 g/cm³

Mean Coefficient of Thermal Expansion, in/in/°F (mm/m/°C):

70-212°F (20-100°C): 4.78×10^{-6} (8.6)

Thermal Conductivity: BTU-in/h-ft-°F (W/m-°K):

At 70°F (21°C): 111 (16)

Modulus of Elasticity, KSI (MPa)

15.2×10^3 (105×10^3) in tension

Melting Range: 3040°F (1670°C)

Mechanical Properties at Room Temperature

Properties Annealed:

Ultimate Tensile Strength: 35 KSI min (240 MPa min)

Yield Strength (0.2% offset): 25-45 KSI (170-310 MPa)

Elongation: 24%

Properties Tempered

Commercially Pure Titanium Grade 1 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

Commercially Pure Titanium Grade 1 can only be hardened by cold work

Welding

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

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