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## TI 6-2-4-2, UNS R54620, UNS R54621

### (Ti-6Al-2Sn-4Zr-2Mo) Strip\*, Coil\*, Foil\* & Wire, AMS 4975

\* This item is in development in our strip facilities and not currently available in production quantities. Please contact our Technical Services for trials/prototypes.

Ulbrich Shaped Wire manufactures Titanium 6-2-4-2 in small to large production quantities.

#### Applications

Engine applications, afterburner cans, hot airframe components

#### Description

Titanium 6-2-4-2 is a near-alpha titanium alloy with a good combination of tensile strength, creep strength, and toughness. It is generally intended for high temperature use in environments up to 1000 °F (538 °C).

#### Chemistry Typical

Titanium: Balance  
Aluminum: 5.50-6.50  
Tin: 1.80-2.20  
Zirconium: 3.60-4.40  
Molybdenum: 1.80-2.20  
Silicon: 0.06-0.13  
Iron: 0.25 max  
Oxygen: 0.15 max  
Carbon: 0.08 max  
Nitrogen: 0.010-0.0125  
Residuals each 0.10 max, total 0.40 max

#### Physical Properties

Density: 0.164 lbs/in<sup>3</sup>, 4.54 g/cm<sup>3</sup>

Electrical Resistivity: 72.8 - 74.8 μ<sup>1/2</sup>•in, 1.85 - 1.90 μ<sup>1/2</sup>•m

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Specific Heat Capacity: 0.120 BTU/lb-°F, 0.502 J/g-°F

Thermal Conductivity: BTU-in/hr-ft<sup>2</sup>-°F (W/m-K):  
48.0 (6.92)

Mean Coefficient of Thermal Expansion:  $\mu\text{in/in-}^\circ\text{F}$  ( $\mu\text{m/m-}^\circ\text{C}$ ):  
32.0 – 212 °F (0 - 100 °C): 4.28 (7.70)

Magnetic Permeability Nonmagnetic Non-magnetic

Modulus of Elasticity: ksi (MPa)  
16.5 x 10<sup>3</sup> (11.4 x 10<sup>3</sup>) in tension

Melting Point: 2890 - 3120 °F (1588 - 1716 °C)

## Forms

Strip, Foil, Ribbon: Inquire with Ulbrich Stainless Steel  
Wire: Inquire with Ulbrich Shaped Wire

## Mechanical Properties at Room Temperature

### Properties: Annealed (Typical)

Ultimate Tensile Strength: 135 KSI (930 MPa )  
Yield Strength (0.2% offset): 125 KSI (862 MPa )  
Elongation: 8% Min

## Additional Properties

### Corrosion Resistance

Refer to NACE (National Associate of Corrosion Engineers) for recommendations.

### Finishes

Strip, Foil, Ribbon: Inquire with Ulbrich Stainless Steel  
Wire: Inquire with Ulbrich Wire

### Welding

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

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