

A near-alpha alloy, primarily used for high strength and toughness, with good creep resistance up to 1000°F. Forging and machining characteristics similar to those of Ti 6Al-4V. Applications include compressor components, hot airframe skin, and engine afterburner structures. The weldability of Ti 6-2-4-2 is fair, using AMS 4952 weld wire. Several different treatments are available.

Sheet & Strip under 0.1875" thickness: Duplex anneal:  $1650 \pm 25^{\circ}F$ ),  $30 \pm 3$  minutes, air cool, followed by  $1450 \pm 25^{\circ}F$   $15 \pm 2$  minutes, air cool. Triplex anneal:  $1650^{\circ}F$   $\frac{1}{2}$  hour, air cool, followed by  $1450^{\circ}F$   $\frac{1}{4}$  hour, air cool,  $1100^{\circ}F$  2 hours air cool.

Plate 0.1875 inch thickness and over: Duplex anneal:  $650\pm25^{\circ}F$   $60\pm5$  minutes, air cool, followed by  $1100\pm25^{\circ}F$  8 hours  $\pm15$  minutes, air cool. Triplex anneal:  $1650^{\circ}F$   $\frac{1}{2}$  hour, air cool, followed by  $1450^{\circ}F$   $\frac{1}{4}$ , air cool,  $1100^{\circ}F$  2 hours air cool.

Bar and Forgings: Duplex anneal: Solution anneal 25-50°F below. Beta transus 1 hour, air cool or faster, 1100°F 8 hours air cool.

## **Specifications**

UNS: UNS R54620 W. Nr./EN: 3.7145 AMS: 4919, 4975, 4976, T-9046 MIL: T-9047, T-81556, F-82142

### Chemical Composition, %

		Al	Sn	Zr	Мо	С	N	Н	0	Si	Fe	Υ	Others, Each	Others, total	Ti
MI	N	5.5	1.8	3.6	1.8	-	-	-	-	0.06	-	-	-	-	-
M	١X	6.5	2.2	4.4	2.2	0.05	0.05	0.015	0.12	0.1	0.25	0.005	0.1	0.3	balance

#### **Features**

- Machinability similar to austenitic stainless steels
- Easily welded if proper precautions are taken to prevent oxygen, nitrogen and hydrogen contaminations
- Long term stability for temperatures up to 800°F

#### **Applications**

- Compressor discs, blades
- Airframe structure, skin
- Engine afterburner components
- Hush kits

#### **Physical Properties**

Density: 0.160 lb/in³ Beta Transus: 1825±25°F Thermal Conductivity: 4.00 Btu • hr/ft² • hr°F Coefficient of Thermal Expansion: 32-212°F 4.3 x10<sup>6</sup> in/in°F Modulus of Elasticity: 16.5x10<sup>6</sup> psi

# Mechanical Properties

#### Minimum Tensile Properties, AMS 4919, Duplex Annealed

Thickness, in	0.025≤0.062	>0.062≤1.000	>1.000≤3.000
Tensile Strength, ksi	135,000	135,000	135,000
0.2% offset Yield Strength, ksi	125,000	125,000	125,000
Elongation, %	8	10	10

## Bend Factors, Duplex Annealed, AMS 4919

Nominal Thickness, in	≤0.070	>0.070<0.1875		
Factor, 105° Bend	9	10		

claudioczarnobai@intwinds.com +55 (11) 3825 2966 www.itwmetals.com.br





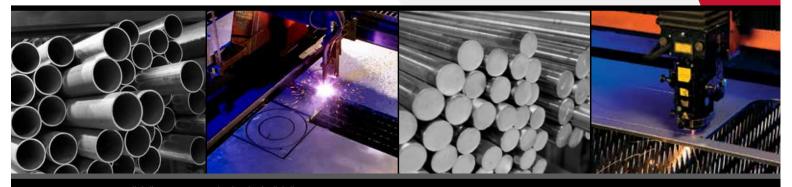
**CLAUDIO CZARNOBAI** 

COMMERCIAL MANAGER ClaudioCzarnobai@intwinds.com

**F** +55 11 3825 2966

C +55 11 99112 2703





www.itwmetals.com.br
Bulletin No. 1056BZp 03/15
Rolled Alloys, RA are registered trademarks of Rolled Alloys
makes no
legal liability or responsibility or results to be obtained in any particular situation, and shall not be liable for any direct, indirect, special, or consequential damage therefrom. This material is subject to revision without prior notice.