



Commercially Pure or C.P. Titanium in unalloyed. Grade 2 has higher levels of iron and oxygen than other C.P. grades, which offers excellent formability and moderate strength with superior corrosion resistance. It is a good candidate for chemical and marine, aerospace and medical applications.

**Specifications**

**ASTM:** B265, B348, F67  
**AMS:** 4902  
**AMS-T:** 9046A, 9047A  
**MIL-T:** 9046J, 9047G

**Chemical Composition, %**

|     | N    | C    | O    | Fe   | H      | Ti      | Other |
|-----|------|------|------|------|--------|---------|-------|
| MIN | —    | —    | —    | —    | —      | —       | —     |
| MAX | 0.03 | 0.10 | 0.25 | 0.30 | 0.0155 | Balance | 0.4   |

**Features**

- Excellent formability
- Superior corrosion resistance
- Moderate strength

**Applications**

- Airframe skins, ductwork, brackets, galley equipment
- Desalinization plant tubing and tube heaters
- Chemical processing condensers, evaporators, reaction vessels
- Cryogenic vessels
- Electroplating
- Medical devices

**Mechanical Properties**

Typical mechanical properties for C.P. Grade 2 titanium have an approximate Fatigue Limit Range for Smooth Axial Fatigue of R=0.1 – 275-345Mpa (40-50 ksi)

| Room Temperature Mechanical Properties | UTS<br>Ksi (MPa)   | YS<br>Ksi (MPa)    | %EI   | %RA   |
|--|--------------------|--------------------|-------|-------|
| Specified Minimum Properties           | 50 (345)           | 40 (275)           | 20    | 30    |
| Typical Properties                     | 74-88<br>(510-605) | 49-79<br>(335-545) | 21-29 | 47-54 |

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### Physical Properties

| Physical Property        | T (°F)            | T (°C)          | Value                                   | Value (SI)                       |
|--------------------------|-------------------|-----------------|---|----------------------------------|
| Density                  |                   |                 | 0.1630 lb/in <sup>3</sup>               | 4.512 g/cm <sup>3</sup>          |
| Beta Transus             | 1650-1700         | 899-927         |   |                                  |
| Melting (liquidus) Point | 3020-3040         | 1660-1671       |   |                                  |
| Specific Heat            | 73                | 23              | 0.1250 Btu/°F                           |                                  |
| Electrical Resistivity   | 104<br>210<br>606 | 40<br>99<br>319 | 294.8 μΩ·in<br>24.0 μΩ·in<br>39.4 μΩ·in | 7.5 μΩ·m<br>.61 μΩ·m<br>1.0 μΩ·m |
| Modules of Elasticity    |                   |                 | 15.0 x 10 <sup>3</sup> ksi              | 10.3 x 10 <sup>4</sup> MPa       |
| Magnetic Attraction      |                   |                 | none                                    |                                  |