

Commercially Pure Grade 2 Titanium

Alternate names: CP Grade 2 Titanium, CP 2, Grade 2, CP 40

Description:

Commercially Pure (CP) Grade 2 Titanium is one of the most common grades of unalloyed titanium. CP Titanium mechanical properties are controlled by chemistry; specifically the input of Nitrogen, Oxygen and Iron which will increase strength of material. CP Grade 2 is higher in strength than CP Grade 1, but lower than CP Grades 3 and 4. It is also commonly called "CP 40" which is in reference to its approximate yield strength. It is an attractive grade of titanium due to its excellent corrosion resistance, good formability, and limited strength. It is used in a variety of industries such as chemical, marine, medical, recreational, and aerospace.

Condition:

CP Grade 2 Titanium typically comes in the Annealed condition.

Weldability:

Good weldability.

Machinability:

Low cutting speeds, heavy feed rates, sharp tools, and ample cutting fluid are prescribed.

Common Specs:

AMS 4902	ASTM F67 (Grade 2)
ASTM B348 (Grade 2)	AMS-T-9046 (CP-3 Grade 2)
ASTM B265 (Grade 2)	MIL-T-9046 (CP-3 Grade 2)

***The use of this information is strictly voluntary and should be used as a guideline only. This data contains generalizations and is in no way a substitute for your own research. This information is not intended as a warranty or fitness of any application. Should you require further information about Titanium CP Grade 2, please contact us and we will gladly refer you to additional sources.*



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PTG CP Grade 2 Data Sheet, created 9/20/18

Mechanical and Chemistry info for CP Grade 2 **Based on specs ASTM B265 & ASTM B348

Typical Composition Analysis

Iron
Oxygen (Maximum)
Carbon (Maximum)
Nitrogen (Maximum)
Hydrogen (Maximum)
Other Elements (Total)
Titanium

ASTM B265 (Plate, Sheet)	ASTM B348 (Round Bar, Forgings)
0.30%	0.30%
0.25%	0.25%
0.08%	0.08%
0.03%	0.03%
0.015%	0.015%
0.40%	0.40%
Balance	Balance

Typical Tensile Properties (Minimums)*

Tensile
Yield
Elongation
Reduction of Area

50 ksi	50 ksi
40-65 ksi	40 ksi
20%	20%
-----	30%

**Tensile property requirements vary based on orientation, section thickness/diameter, and cognizant engineering organization requirements.*

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To purchase ASTM specifications see: <http://www.astm.org>

Please call 888.772.8984 or email sales@performancetitanium.com for a quote on CP Grade 2 Titanium.

Data compiled from Dynamet "Technical Datasheet Titanium CP Titanium Grade 2, Edition Date: 07/01/2000", Timet "TMC-0161" Data Sheet, ATI "Technical Data Sheet", RTI "Titanium Alloy Guide" and ASTM specification & data sheets, as well as "Materials Properties Handbook: Titanium Alloys" by Gerhard Welsch, Rodney Boyer, & E. W. Collings.

