

# CP Grade 2

Smiths Advanced Metals

Rev: SAM/datasheets/titanium/cp-grade-2-tube/feb-2022

Page: 1 of 1

## Commercially Pure Titanium Tube

CP Grade 2 is an unalloyed titanium grade with moderate strength.

Our CP Grade 2 tubes offer a low density of 4.51 g/cm<sup>3</sup>, 45% less than ferrous alloys.

It is a moderate strength alloy with a typical yield strength of 352MPa. The alloy combines good ductility and formability and also promotes good weldability. The inclusion of iron and oxygen achieves high strength and formability.

CP Grade 2 shares similar performance characteristics to Grade 1, including excellent corrosion resistance in oxidising environments. However, the alloy is also stronger than Grade 1. CP Grade 2 is a versatile alloy popular in numerous applications and finds everyday use in heat exchangers.

Smiths Advanced Metals stocks [CP Grade 2 titanium tube](#) in various sizes and seamless forms.



## Grades / Specifications

- AMS4942

## Benefits

- Excellent resistance in oxidising atmospheres
- Excellent weldability
- Good formability

## Key Applications

- Marine components
- Aerospace components
- Medical components

### \*Chemical Composition (weight %)

	Ti	C	N	O	H	Fe	Others (each)	Others (total)
min.	Bal							
max.	Bal	0.10	0.03	0.25	0.015	0.30	0.10	0.30

\* As per AMS 4942

### \*Mechanical & Physical Properties

Density	4.51 g/cm <sup>3</sup>
Melting Point	3020°F (660°C)
Thermal Conductivity	22 W/m°C (12.7 BTU) für RT
Elastic modulus	103 GPa
Tensile Strength	345 MPa (min.)
0.2% Yield Strength	276 - 448 MPa
Elongation	20% (min.)

\* Properties as per AMS 4942

## Weight Reduction

With low density and superior strength to weight ratio, CP Grade 2 titanium tubes are popular in applications where weight reduction is required without reducing overall strength.

With good ductility, cold formability is possible and welding may be undertaken using conventional TIG and MIG methods, although inert gas shielding is critical to prevent embrittlement in the welding zone.

[www.smithsadvanced.com](http://www.smithsadvanced.com)

[info@smithsadvanced.com](mailto:info@smithsadvanced.com)



Stratton Business Park,  
London Road, Biggleswade,  
Bedfordshire SG18 8QB  
Tel: **+44 (0) 1767 604710**

