

TITANIUM

TYPICAL APPLICATIONS

Components/equipment for architecture, medical engineering, automotive, chemical plant, pharmaceutical, brewing, food, oil & gas, pulp & paper and marine industries.

PRODUCT DESCRIPTION

CP (Commercially Pure) Grade 4 is unalloyed titanium providing reasonably high mechanical strength (typical yield strength 559 MPa) combined with good weldability. Compared with CP Grades 2 and 3 the Grade 4 possess lower toughness despite its higher strength. Grade 4 titanium has a density of 4.54 g/cc - less than 60% that of steel.

CORROSION RESISTANCE

This material offers high corrosion resistance in oxidising, neutral and mildly reducing media, including chlorides. The higher level of oxygen in this CP grade increases the susceptibility to stress corrosion cracking.

MATERIAL SPECIFICATIONS

- UNS R50700
- ASTM B348 Grade 4
- BS TA 6 to 9
- AMS 4901
- AIR 9182 T-60
- ASTM 265 Grade 4

FABRICATION

Weldability – good
 Specified bend radius for <0.070 in. x thickness – 2.5
 Specified bend radius for >0.070 in. x thickness – 3.0
 Welded bend radius x thickness – 3.0 (min.)

AVAILABILITY

Bar, strip, sheet, plate, forgings, castings.

CHEMICAL COMPOSITION

Weight %	C	Fe	N ₂	O ₂	H ₂ (sheet)	H(bar)	Ti
Min.							
Max.	0.1	0.5	0.05	0.4	0.015	0.0125	Balance

MECHANICAL PROPERTIES

	Minimum	Typical
UTS, MPa	552	683
0.2% PS, MPa	483	559
Elongation on 2 in., %	15	23
Reduction of area, %	30	-
Elastic modulus, GPa	-	104
Charpy, V notch impact, J	14	-
Hardness, HBN	-	250

TECHNICAL SALES ASSISTANCE

Our resident team of qualified metallurgists and engineers will be pleased to assist further on any technical topic.

Smiths High Performance

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