

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 1 is unalloyed titanium providing optimum ductility and cold formability combined with useful mechanical strength (typical yield strength 221 MPa). Grade 1 titanium has a density of 4.51 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.

MATERIAL SPECIFICATIONS

- UNS R50250
- ASTM B348 Grade 1
- BS TA1
- AMS 4940
- AIR 9182 T-35
- ASTM 265 Grade 1

FABRICATION

Weldability – excellent
 Specified bend radius for <0.070 in. x thickness – 1.5
 Specified bend radius for >0.070 in. x thickness – 2.0
 Welded bend radius x thickness – 2.0 (min.)

AVAILABILITY

Bar, wire, strip, sheet, plate, foil, extrusions, forgings, seamless pipe/tube.

CHEMICAL COMPOSITION

Weight %	C	Fe	N ₂	O ₂	H ₂ (sheet)	H(bar)	Ti
Min.							
Max.	0.1	0.2	0.03	0.18	0.015	0.0125	Balance

MECHANICAL PROPERTIES

	Minimum	Typical
UTS, MPa	241	345
0.2% PS, MPa	172	221
Elongation on 2 in., %	25	37
Reduction of area, %	35	-
Elastic modulus, GPa	-	103
Hardness, HBN	-	120

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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