

SPECIALTY METALS

Common Name: CP Grade 2
Titanium Grade 2

UNS Number: R50400

General Information: Titanium Alloy Grade 2 is “unalloyed” titanium offering an excellent balance of strength and ductility. The material has good toughness and is readily weldable. This material is very corrosion resistant in highly oxidizing and mildly reducing environments. The material is castable and is often utilized in cast valves and fittings. In plate form, the alloy is also used explosively bonded to make clad plate. The alloy is available as castings, wire, welded tube, pipe, plate, sheet, strip, forgings, bar, and billet.

Common Specifications:	Specification:	Product Form:
	AMS 4902	Strip, Sheet, and Plate
	AMS 4941	Welded Tubing
	AMS 4942	Seamless Tubing
	AMS 4951	Wire, Welding
	ASME SB265	Sheet, Strip, and Plate
	ASME SB348	Bar and Billet
	ASME SB367	Casting
	ASME SB381	Forgings
	ASTM B265 (Grade 2)	Strip, Sheet, and Plate
	ASTM B338	Tube, Seamless and Welded
	ASTM B348 (Grade 2)	Bar and Billet
	ASTM B363	Fittings
	ASTM B367 (Grade 2)	Castings
	ASTM B381	Forgings
	ASTM B861	Seamless Pipe
	ASTM B862	Welded Pipe
	ASTM B863	Wire
	ASTM B831	Forgings
	ASTM F67 (Grade 2)	Unalloyed Titanium for Surgical Implants
	AWS A5.16 ERTi-2	Weld Wire
	ISO 5832-2 (Grade 2)	Unalloyed Titanium for Surgical Implants

Chemistry Requirements: % Maximum unless given as a range.

N	C	H	Fe	O	Residuals Each Max.	Residuals Max. Total	Ti
0.03	0.08	0.015	0.3	0.25	0.1	0.4	Balance

Minimum Tensile Properties:

Condition	UTS ksi (Mpa)	0.2%YS ksi (MPA)	% El.	% RA*
As specified (shape)	50 (345)	40 (275)	20	30

Typical Tensile Properties:

Condition	UTS ksi (Mpa)	0.2%YS ksi (MPA)	% El.	% RA
As provided	70 (483)	51 (352)	28	-

Note: Typical properties are not to be utilized as a requirement, but are only listed for guidance. These properties may or may not be attainable in all circumstances.

* %Ra not required by all specifications

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