

Tantalum

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1-800-348-6268

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Ta

180.95

Tantalum

Tantalum is a blue-gray, transition metal that is fabricated by the process of hydrometallurgy. Part of the refractory metals group, tantalum is very hard, extremely ductile in the annealed condition, highly conductive of heat and electricity and has the fourth highest melting point (3017°C) of any metallic element. Tantalum is best noted for its chemical inertness and high resistance to corrosion by acids. In fact, below 150°C it is almost completely immune to corrosion by aqua regia. Tantalum has proven to be a cost-effective solution for dental and medical devices due to resistance to attack by body fluids.

APPLICATIONS

Electronic Industry: Capacitors, cathodes for use in electrochemical analysis, computer components, cameras

Medical Industry: Surgical implants, hypodermic needles, surgical tools

Dental Industry: Dental instruments and dental spatulas

Typical Physical Properties

Density	lb/in ³	0.60
	gm/cm ³	16.60
Melting Point	°F	5463
	°C	3017
Electrical Resistivity	Micro-ohm-cm	12.40
Thermal Conductivity	Cal/cm ² /cm°C/sec	0.13
Specific Heat	Cal/gm°C	0.036
Coefficient of Linear Thermal Expansion	Micro-in/°F x 10 ⁻⁶	3.60
	Micro-in/°C x 10 ⁻⁶	6.60

Typical Mechanical Properties

Tensile Strength	KSI (MPa) RT	50 (345)
	KSI (MPa)-500 °C	35 (240)
	KSI (MPa)-1000 °C	15 (100)
Elongation	% in 1.0"	20
Typical Hardness	DPH/RC	220
Modulus of Elasticity	KSI (GPa)	27 (186)

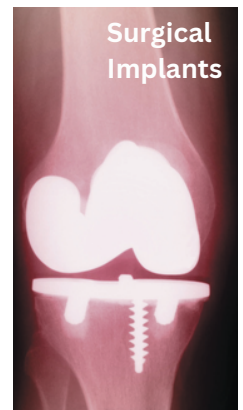
Forms | Sizes

Coil/Strip	0.010"-2.000"
Plate	0.1875"-0.500"
Round Bar	0.010"-2.000"
Sheet	0.005"-0.187"
Wire	0.001"-0.250"

If you do not see the size you require listed above, please call us at 800-348-6268. We can custom stock products in the size you require. No order is too small.



Capacitors



Surgical Implants

CHEMISTRY

99.2 Tantalum (Ta) Minimum



Specifications

AMS 7849 ASTMB365 UNS R05200