Materials

Tantalum

Tantalum was discovered by Swedish chemist Anders Ekeberg and is derived from the Greek word (God) Tantalus. Tantalum is supplied in only one basic form—pure. Due to its relatively low abundance in the earth's crust, tantalum minerals such as tantalite, microlite, and wodginite, are costly to locate, mine, and supply. Although highly resistant to common acids, tantalum is used sparingly in the semiconductor equipment industry.

Although the ASTM specification for tantalum chemistries is generally met, each raw material supplier may have slightly different conformance rules and quality level. Typical chemistries are noted below. Contact the Electro-Graph Engineering Department for a more detailed review of individual needs.

Carbon	20ppm	Aluminum	10ppm
Calcium	<25ppm	Columbium	<5ppm
Chromium	<1ppm	Copper	1ppm
Iron	9ppm	Magnesium	<1ppm
Manganese	<1ppm	Molybdenum	<12ppm
Niobium	40ppm	Nickel	1ppm
Silicon	6ppm	Tin	<1ppm
Titanium	<5ppm	Tungsten	65ppm

Typical applications: Arc chamber components where molybdenum cross contamination and tungsten halogen cycling must be minimized. High temperature, chemically inert tubing and complex shapes not otherwise manufacturable from tungsten.

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