



Tantalum

Powders, Alloys and Customized Fabricated Products

Meets or Exceeds ASTM Specifications
Economical and Competitive
Alternative for Plansee and HC Starck

Standard Specification

- ASTM B365 Tantalum and Tantalum Alloy Rod and Wire
- ASTM B521 Tantalum and Tantalum Alloy Seamless and Welded Tubes
- ASTM B708 Tantalum and Tantalum Alloy Plate, Sheet, and Strip
- ASTM F560 Unalloyed Tantalum for Surgical Implant Applications

Tantalum & Tantalum Alloy

- R05200, unalloyed tantalum, electron-beam furnace or vacuum-arc melt, or both
- R05400, unalloyed tantalum, powder-metallurgy consolidation.
- R05255, tantalum alloy, 90 % tantalum, 10 % tungsten
- R05252, tantalum alloy, 97.5 % tantalum, 2.5 % tungsten
- R05240, tantalum alloy, 60 % tantalum, 40 % niobium

Benefits

99.95% and 99.99% materials
Exceeds ASTM Standards

Tantalum Metal & Tantalum Alloy

Shapes: Lump | Ingot | Foil | Strip | Sheet | Plate | Tube | Pipe | CapillaryBar | Rod | Wire | Wire Mesh | Disc | Mesh | Crucible | Flange Marker Band | Ribbon | Powder |

Purity: ≥99.9%, ≥99.95%, ≥99.99%

Powders

- Tantalum metal powder (Ta): ≥99.9%, ≥99.95%, ≥99.99%
- Tantalum Oxide (Tantalum Pentoxide, Ta₂O₅): ≥99.9%, ≥99.95%, ≥99.99%
- Tantalum Chloride (Tantalum Pentachloride, TaCl₅): >99.9%
- Tantalum Carbide (TaC): ≥99.7%, ≥99%
- Tantalum Silicide (TaSi₂): ≥99.9%

Properties of Tantalum

| | | | |
|------------------|----------------------------|--------------------------------|---------------------------|
| Atomic number | 73 | CAS number | 7440-25-7 |
| Atomic mass | 180.95 | Melting point | 2 996 °C |
| Boiling point | 5 450 °C | Atomic volume | 0.0180 [nm ³] |
| Density at 20 °C | 16.60 [g/cm ³] | Crystal structure | body-centred cubic |
| Lattice constant | 0.3303 [nm] | Abundance in the Earth's crust | 2.0 [g/t] |



Tantalum and Tantalum Alloys



Materials R05200 99.95% Ta R05400 99.99% Ta R05252 Ta-2.5W R05255 Ta-10W

| Product | Description | Standard |
|---------------------------------|---|------------------------|
| Tantalum Sheet / Tantalum Plate | Thickness: 0.003" – 0.4" (0.07–10 mm) Width: 1.18" – 40" (30–1000 mm) Length: 1.18" – 118" (30–3000 mm) | ASTM B708 |
| Tantalum Foil / Tantalum Strip | Thickness: 0.005"–0.020" (0.1270 - 0.50 mm) Width & Length: < 36" x coil (< 915 mm x coil) | ASTM B708 |
| Tantalum Tube / Tantalum Pipe | OD: 0.04" – 6" (1.0-150mm) WT: 0.008" – 0.2" (0.2-5.0mm) L: 8" – 236" (200-6000mm) | ASTM B521 ASTM F560 |
| Tantalum Capillary | OD: 0.012" – 1.38" (0.31–35.00 mm) WT: 0.003" – 0.04" (0.08–1.00 mm) L: <40" (< 1000mm) | ASTM B521 ASTM F560 |
| Tantalum Bar / Tantalum Rod | Diameter: 1" – 8" (25.4 – 200mm), Length: < 236" (< 6000mm) | ASTM B365 |
| Tantalum Wire | Diameter: 0.004" – 0.16" (0.1– 4mm x coil) | ASTM B365 ASTM F560 |

| Material | Product |
|--|--|
| Tantalum Metal Powder, Ta | 99.99%, metallurgical grade 99.95%, metallurgical grade 99.95+% ~ 99.98+%, Capacitor Grade 99.95%, Tantalum Thermal Spray Powder |
| Tantalum (V) Oxide, Ta ₂ O ₅ | 99.99%, -325 mesh, -200 mesh, -150 mesh, -80 mesh 99.95%, -325 mesh, -200 mesh, -150 mesh, -80 mesh 99.6%, -325 mesh, -200 mesh, -150 mesh, -80 mesh |
| Tantalum Chloride, TaCl ₅ | 99.9%, Tantalum Chloride, TaCl ₅ |
| Tantalum Carbide Powder, TaC | 99.7%, APS <3 μm 99%, APS <3 μm |



Stanford Advanced Materials
23661 Birtcher Dr.
Lake Forest, California, 92630
Tel: (949) 407-8904
Fax: (949) 812-6690
E-mail: sales@SAMaterials.com
Website: <http://www.samaterials.com/>