



宝鸡难熔金属开发公司

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TANTALUM PRODUCTS

◆ Products Properties:

- High melting point—2996℃
- High-density —16.6 g/cm³
- Excellent resistance to electrochemical corrosion,Chemical most stable below 150℃,
No reaction with HCl, HNO₃ and aqua regia.
- High Ductility
- Low coefficient of thermal expansion
- Easy be machined in the room temperature
- Appearance:Grayish silver,bright and smooth

◆ Chemical Composition:

Grade	Chief component		Chemistry %										
	Ta	Other	Impurities max										
			Fe	Si	Ni	W	Mo	Ti	Nb	O	C	H	N
Ta1	Balance		0.004	0.003	0.002	0.004	0.004	0.002	0.03	0.015	0.004	0.0015	0.002
Ta2.5W	Balance	W2.0~3.5	0.01	0.005	0.005	—	0.02	0.003	0.05	0.015	0.01	0.002	0.01
Ta10W	Balance	W9.5~11	0.01	0.005	0.005	—	0.02	0.003	0.05	0.015	0.01	0.002	0.01
TaNb3	Balance	Nb1.5~3.5	0.03	0.03	0.005	0.04	0.03	0.005	—	0.03	0.02	0.005	0.025

Note: Ta1=RO5200 Ta2.5W=RO5252 Ta10W=RO5255

◆ Specification:

Description	Diameter (mm)	Length (mm)
Wire	Φ0.25~Φ3.200	—
Rod	Φ1.00~Φ12.00	50~2000
Bar	Φ12.00~Φ20.00	50~2000
	Φ20.00~Φ30.00	50~1200
	Φ30.00~Φ60.00	50~1000
	> Φ60.00	50~600
Tube	Φ10.00~Φ100.00	<1300

Note:All the products can be supplied in according to customer's requirement.

● TANTALUM——Bar/Rod

✧ Mechanical requirements:

Grade	Annealed		
	Tensile strength psi (MPa) ≥	Yield strength psi (MPa) ≥	Elongation min, % (1 inch gage length) ≥
Ta1 (RO5200)	25000 (172)	15000 (103)	25
Ta2.5W (RO5252)	40000 (276)	28000 (193)	20
Ta10W (RO5255)	70000 (482)	55000 (379)	20

✧ Tantalum bar(rod) Tolerance:

Diameter (mm)	Diameter Tolerance (mm)	Length (mm)	Length Tolerance (mm)
3.0~4.5	±0.05	200~1500	+5
>4.5~6.5	±0.10	200~1500	
>6.5~10.0	±0.15	200~1500	
>10.0~16.0	±0.20	200~1200	+20
>16.0~18.0	±1.00	200~2000	
>18.0~25.0	±1.50	200~2000	
>25.0~40.0	±2.00	200~4000	+20
>40.0~50.0	±2.50	200~3000	
>50.0~65.0	±3.00	200~1500	
>65.0~95.0	±4.00	200~1000	

Note:Special demands on tolerance available.

● TANTALUM — Wire

✧ Mechanical requirements:

Grade	Annealed		
	Diameter, inch (mm)	Tensile strength psi (MPa) \geq	Elongation min, % \geq
Ta1 (RO5200)	0.010(0.254)~0.0149(0.379)	35000 (241)	10
	0.010(0.254)~0.0149(0.379)	35000 (241)	15
	0.025(0.635)~0.124(3.14)	30000 (207)	20
Ta2.5W(RO5252)	0.010(0.254)~0.0149(0.379)	40000 (276)	5
	0.015(0.381)~0.0249(0.633)	40000 (276)	10
	0.025(0.635)~0.124(3.14)	40000 (276)	15
Ta10W(RO5255)	0.010(0.254)~0.0149(0.379)	70000 (482)	5
	0.015(0.381)~0.0249(0.633)	70000 (482)	10
	0.025(0.635)~0.124(3.14)	70000 (482)	15

✧ Tantalum wire Tolerance:

Diameter, inch (mm)	Tolerance, +/-inch (mm)
0.010~0.020 (0.254~0.508)	0.0005 (0.013)
0.020~0.030 (0.508~0.762)	0.00075 (0.019)
0.030~0.060 (0.762~1.524)	0.001 (0.025)
0.060~0.090 (1.524~2.286)	0.0015 (0.038)
0.090~0.125 (2.286~3.175)	0.002 (0.051)
0.125~0.187 (3.175~4.750)	0.003 (0.076)
0.187~0.375 (4.750~9.525)	0.004 (0.102)
0.375~0.500 (9.525~12.70)	0.005 (0.127)
0.500~0.625 (12.70~15.88)	0.007 (0.178)
0.625~0.750 (15.88~19.05)	0.008 (0.203)
0.750~1.000 (19.05~25.40)	0.010(0.254)
1.000~1.500 (25.40~38.10)	0.015 (0.381)
1.500~2.000 (38.10~50.80)	0.020 (0.508)
2.000~2.500 (50.80~63.50)	0.030 (0.762)

Note:Special demands on tolerance available.

● TANTALUM—Tube

✧ Mechanical requirements:

Grade	Annealed		
	Tensile strength δ bpsi (MPa) \geq	Yield strength δ 0.2, psi (MPa) \geq	Elongation min, % (1"/2" inch gage length) \geq
Ta1 (RO5200)	30000 (207)	20000 (138)	25
Ta2.5W (RO5252)	40000 (276)	28000 (193)	20
Ta10W (RO5255)	70000 (482)	60000 (414)	15

✧ Tantalum tube Tolerance:

Out Diameter (mm)	Diameter Tolerance (mm)	Length (mm)	Length Tolerance (mm)
>1-3	± 0.04	$\geq 200 \sim 1000$	+3 0
>3-5	± 0.06	$\geq 200 \sim 1000$	
>5-15	± 0.08	$\geq 200 \sim 1000$	
>15-25	± 0.10	$\geq 200 \sim 1000$	+6 0
>25-35	± 0.12	$\geq 1000 \sim 3000$	
>35-50	± 0.15	$\geq 1000 \sim 3000$	
>50-65	± 0.17	$\geq 1000 \sim 3000$	

Note: 1. The tube wall thickness deviation should be allowed to do not exceed the nominal wall thickness of $\pm 10\%$

2. All the products can be supplied in according to customer's requirement.

● TANTALUM PRODUCTS SHOW

