



Burundi Mine Site #1

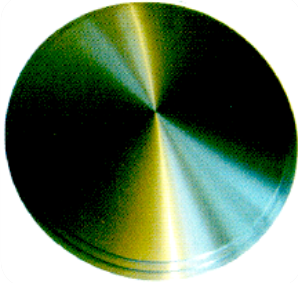
주식회사 티이시(TEC Co., Ltd.)

[www.tec-korea.com]

Product Catalogue

Tantalum Metal

☞ Complete Customization Possible



Target

Circular targets: Diameter 25-600mm *Thickness 3-28mm

Rectangular targets :

Thickness 1-20mm *Width 10-1000mm *Length 200-2000mm

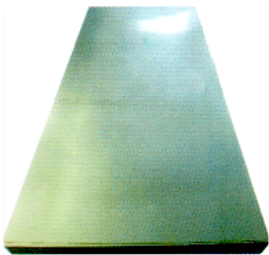


Ingots

Tantalum and Tantalum Alloy Ingot: Dia<=190mm, Weight<=700Kgs

Niobium and Niobium Alloy: Dia.<=240mm, Weight<=580Kgs

Length<=1500mm



Foil, Sheet and Plate

Size	Thickness (mm)	Width (mm)	Length (mm)
Foil	0.03-0.07	5-300	≥50
Sheet	0.07-0.5	30-700	30-2000
Plate	0.5-1.5	50-1000	50-3000
Board	<=1.5	50-1500	50-3000

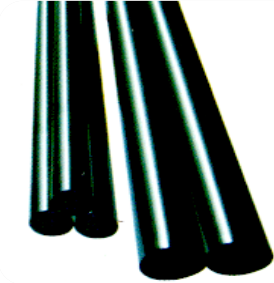


Strip and Coil

Thickness ≥0.03mm *Width 5-300mm x L

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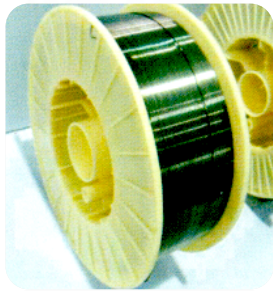
Rod and Bar

Diameter: \varnothing 3-120mm



Wire

Diameter: $\varnothing \geq 0.25$ mm
in coil or in straight



Tube

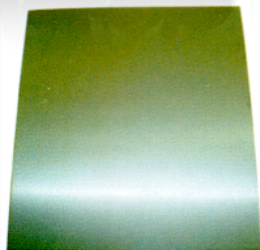
Diameter: \varnothing 2.0-100mm
Thickness:0.2-10mm
Length:5-12000mm



Abnormal Shape Products

Screw, Nut, Bolt: $\geq M3$
Crucible, Flanged tube, Circle
Other products according to the drawing

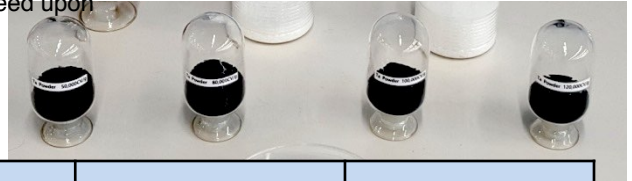
Spinneret Tantalum sheet



High-capacitance-tantalum powder series

Special requirements to be agreed upon
By the supplier and buyer

10,000 μ FV/g 파우더는
2년 상반기 출하 예정



Electrical P

Grade	Capacitance(+10%-5%) (μ FV/g)	Dc leakage (nA/ μ FV)	Dissipation Factor{%	Breakdown Voltage {V}
HRMR16-500	50000	≤ 0.6	≤ 25	≥ 120
HRMR16-400	40000	≤ 0.4	≤ 20	≥ 120
HRMR16-300	30000	≤ 0.3	≤ 20	≥ 120
HRMR16-260	26000	≤ 0.35	≤ 20	≥ 120
HRMR16-220	22000	≤ 0.35	≤ 20	≥ 120
HRMR25-150	15000	≤ 0.4	≤ 15	≥ 150
HRMR25-120	12000	≤ 0.4	≤ 15	≥ 150

Chemical Compositions (Maximum values,ppm)

Grade	O	C	N	H	Fe	Ni	Cr	Si	Ti	Nb	Na	K	W	Mo
HRMR16-500	3100	50	600	100	30	15	15	20	5	10	10	30	15	5
HRMR16-400	2800	50	300	100	30	15	15	20	5	10	10	25	15	5
HRMR16-300	2500	50	300	100	30	15	15	20	5	10	10	20	15	5
HRMR16-260	2300	50	300	100	30	15	15	20	5	10	10	20	15	5
HRMR16-220	2200	50	180	100	30	15	15	20	5	10	10	15	15	5
HRMR25-150	2200	50	120	80	30	15	15	20	5	10	10	15	15	5
HRMR25-120	2200	50	120	80	30	15	15	20	5	10	10	15	15	5

Physical Properties

Grade	Bulk Density(g/cm ³)	Average Fisher Size(μ m)	Particle Size Distribution (-325mesh%)
HRMR16-500	1.5-2.8	3.0-4.5	≤ 35
HRMR16-400	1.5-2.5	3.0-4.5	≤ 35
HRMR16-300	1.5-2.5	3.0-4.5	≤ 35
HRMR16-260	1.5-2.5	3.0-4.5	≤ 35
HRMR16-220	1.5-2.5	3.5-5.0	≤ 35
HRMR25-150	2.5-4.5	4.0-7.0	≤ 35
HRMR25-120	2.5-4.5	4.0-7.0	≤ 35

Medium-voltage tantalum powder series

Special requirements to be agreed upon
By the supplier and buyer



Grade	Capacitance (+10%-5%) (μ FV/g)	Dc leakage (nA/ μ FV)	Dissipation Factor{%	Breakdown Voltage {V}
HRMR35-100	10000	≤ 0.4	≤ 12	≥ 190
HRMR35- 80	8000	≤ 0.4	≤ 12	≥ 190
HRMR40- 60	6000	≤ 0.4	≤ 10	≥ 240
HRMR40- 45	4500	≤ 0.4	≤ 10	≥ 240
HRMR40- 42	4200	≤ 0.4	≤ 8	≥ 240

Chemical Compositions (Maximum values,ppm)

Grade	O	C	N	H	Fe	Ni	Cr	Si	Ti	Nb	Na	K	W	Mo
HRMR35-100	2200	50	100	30	15	15	20	5	50	10	10	20	20	10
HRMR35- 80	2100	50	100	30	15	15	20	5	50	10	10	20	20	10
HRMR40- 60	1800	50	80	25	15	15	20	5	50	10	10	20	20	10
HRMR40- 45	1800	50	80	25	15	15	20	5	50	10	10	20	20	10
HRMR40- 42	1700	50	70	25	15	15	20	5	50	10	10	20	20	10

Physical Properties

Grade	Bulk Density(g/cm ³)	Average Fisher Size(μ m)	Particle Size Distribution (-325mesh%)
HRMR35-100	1.5-3.0	2.5-4.5	≤ 30
HRMR35- 80	1.5-3.5	4.0-9.0	≤ 30
HRMR40- 60	2.0-4.0	4.0-9.0	≤ 30
HRMR40- 45	2.0-4.5	4.5-9.5	≤ 30
HRMR40- 42	2.0-5.5	5.0-10.0	≤ 30

High-voltage-tantalum powder series

Special requirements to be agreed upon
By the supplier and buyer



Electrical Properties

Grade	Capacitance(+10%-5%) (μ FV/g)	Dc leakage (nA/ μ FV)	Dissipation Factor{%	Breakdown Voltage {V}
HRMR50-50	5000	≤ 0.6	≤ 6	≥ 255
HRMR50-40	4000	≤ 0.6	≤ 6	≥ 260
HRMR50-35	3500	≤ 0.6	≤ 6	≥ 270
HRMR63-40	4000	≤ 0.7	≤ 6	≥ 300
HRMR63-35	3500	≤ 0.7	≤ 6	≥ 300
HRMR63-30	3000	≤ 0.7	≤ 5	≥ 300
HRMR63-28	2800	≤ 0.7	≤ 5	≥ 300
HRMR63-25	2500	≤ 0.7	≤ 4	≥ 300
HRMR63-23	2300	≤ 0.7	≤ 4	≥ 300
HRMR63-20	2000	≤ 0.7	≤ 3	≥ 300
HRMR63-15	1500	≤ 0.7	≤ 3	≥ 300
HRMR63-10	1000	≤ 0.7	≤ 3	≥ 300

Chemical Compositions (Maximum values,ppm)

Grade	O	C	N	H	Fe	Ni	Cr	Si	Ti	Nb	Na	K	W	Mo
HRMR50-50	1700	60	50	40	15	30	30	10	30	10	15	5	5	5
HRMR50-40	1600	60	50	30	10	30	30	10	30	10	15	5	5	5
HRMR50-35	1600	60	50	30	15	30	30	10	30	10	15	5	5	5
HRMR63-40	1500	60	50	35	15	30	30	10	30	10	15	5	5	5
HRMR63-35	1500	60	50	30	15	30	30	10	30	10	15	5	5	5
HRMR63-30	1500	40	50	20	10	20	20	10	30	10	15	5	5	5
HRMR63-28	1400	40	40	20	10	20	20	10	30	10	15	5	5	5
HRMR63-25	1400	40	35	20	10	20	20	10	30	10	15	5	5	5
HRMR63-23	1300	40	35	15	10	20	20	5	30	10	15	5	5	5
HRMR63-20	1200	40	30	15	10	20	20	5	30	10	15	5	5	5
HRMR63-15	1000	40	25	15	10	20	20	5	30	10	15	5	5	5
HRMR63-10	1000	40	25	15	10	20	20	5	30	10	15	5	5	5

Physical Properties

Grade	Bulk Density(g/cm ³)	Average Fisher Size(μ m)
HRMR50-50	2.0~2.8	5.0~8.0
HRMR50-40	3.5~4.5	7.5~11.0
HRMR50-35	3.5~4.5	7.5~11.0
HRMR63-40	3.5~4.5	6.0~10.0
HRMR63-35	3.5~4.5	6.5~12.0
HRMR63-30	3.5~5.0	6.5~11.0
HRMR63-28	4.0~5.0	7.0~11.0
HRMR63-25	4.0~6.0	7.0~12.0
HRMR63-23	4.0~6.0	7.0~12.0
HRMR63-20	4.0~6.5	8.0~13.0
HRMR63-15	4.0~6.5	9.0~14.0
HRMR63-10	4.0~6.5	10.0~15.0

Compound

Tantalum Carbide
TaC



Appearance: Yellow Brown powder.
Application: For hard alloys additive.
Packing: Packet in iron drums of 25~100 KGS net each with inner sealed bags of 5KGS or 25KGS net each.

Tantalum & Niobium Carbide
(Ta,Nb)C



Appearance: Yellow- Brown.
Application: For hard alloys additive.
Packing: Packed in iron drums of 25KGS~100KGS net each inner sealed bags of 5 or 25KGS net each.

TaC 99.6%

Impurity Contained (wt% max)		
Grade	TaC-1	TaC-2
TAC	≥99.6	≥99.0
Carbon-Total	≥6.2	≥6.2
Carbon-Free	0.1	0.15
N	0.05	0.05
Al	0.005	0.005
Ca	0.005	0.005
Fe	0.05	0.1
K	0.003	0.005
Na	0.003	0.005
Nb	0.3	1
Si	0.008	0.01
Ti	0.008	0.015
O	0.1~0.25	0.1~0.25
FSSS Size	0.8~3μ m	≤3μ m

Impurity Contained (wt%max)					
Grade	TNC91	TNC82	TNC73	TNC64	TNC55
TaC:NbC	9 : 1	8 : 2	7 : 3	6 : 4	5 : 5
Ta (min)	84	74.4	65.4	56	46.7
Nb (max)	9	17.7	26.6	35.4	44.2
Carbon-total (min)	6.6	7.16	7.6	8.12	8.6
Carbon-free (max)	0.15				
N	0.5				
Al	0.005				
Ca	0.005				
Fe	0.1				
K	0.005				
Na	0.005				
Si	0.01				
Ti	0.01				
O	0.25				
FSSS Size	0.8~3μ m				

Lithium Niobite Multiple Crystal & Lithium Tantalite Multiple Cristal

LiTaO3

Ta₂O₅	93.0~94.0
Li ₂ O	6.0~7.0
Impurity Contained (ppm max)	
K	2
Na	5
Fe	3
Zr	1
Nb	5
Al	3
F	15
Ca	3
W	5
Mo	1
Sb	4
Loss on Ignition	0.1%
Curie Temp	603±2°C

LiTaO3 and LiNbO3 are widely used in surface acoustic wave filters, interdigital transducers, optical modulators, electro-optical switches, pyroelectric IR detectors, etc.

LiNbO3

Ta₂O₅	93.0~94.0
Li ₂ O	6.0~7.0
Impurity Contained (ppm max)	
K	2
Na	5
Fe	3
Zr	1
Nb	5
Al	3
F	15
Ca	3
W	5
Mo	1
Sb	4
Loss on Ignition	0.1%
Curie Temp	603±2°C



Appearance: In crystalline with white color.
 Application: For single crystals producing.
 Packing: Packed in iron drums of ≤50KGS net each with inner sealed double plastic bags of 25KGS net each.

 **Material list*****Tantalum Products**

Purity: 99%,99.9%,99.95%,99.99%,99.995%

***Niobium Products**

purity: 99%,99.9%,99.95%

***Tantalum and Tungsten Alloy Products**

Ta-2.5%W Alloy,Ta-7.5%W Alloy,Ta-10%W Alloy

***Tantalum and Niobium Alloy Products**

TaNb3%,Ta Nb20%,Ta Nb30%,Ta Nb40%,Ta Nb50%

Niobium and 1%Zirconium Alloy Products*Manufacturing Standard**

1. ASTM Standard (newest version)
2. GB/T Chinese Standard

Others

Any other technical parameters and detailed requirement of products,
Please email us or call us.

Special requirements to agreed on by the supplier and buyer of negotiations.

UN Conflict Free EICC Tag Mineral

- **Ta2O5 Ore Ta2O5 鉍物**
Ta2O5 : minimum 30%
Nb2O5: minimum 15%
U3O8% + ThO2%: 0. 5% maximum
- **Nb2O5 Ore Nb2O5 鉍物**
Nb2O5 +Ta2O5 : minimum 60%
- **Tungsten Ore Tungsten鉍物**
WO3: minimum 55%
- **Tin Ore Tin 鉍物**
Sn: minimum 55%

원산지: East Africa

납 기: 40일

포 장: 드럼통

기 타: EICC 증빙서류 Full set 제공

原産地: East Africa

納 期: 40日

包 裝: ドラム缶

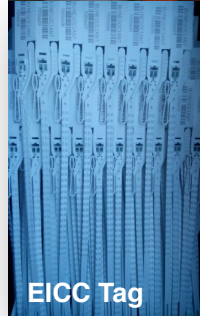
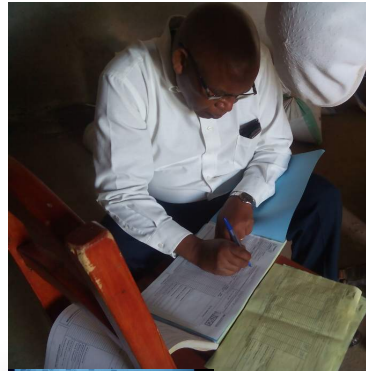
その他: EICC의 證據書類を Full set提供

Country of Origin: East Africa

Delivery Dates: Within Business 40 days

Packaging: Drums

Full documentation issued by EICC to be provided



EICC Tag

UN EICC 검사



UN EICC 검사 후 Seal



부룬디 제1광산 입구

Entrance of Burundi Mine Site #1

