

Company Profile

Company Profile : RVL Scientific & Engineering Pvt Ltd was established in 2010 and is a professional supplier of laboratory instruments and materials. We provide targets for PVD process application in the fields of Touch panel, TFT-LCD, DWDM optical communication, Optical lens, Solar cell PV, decoration film and semiconductor industries.

Concept : **Service, Professional, Innovation.**

Quality : Quality is all we care about, RVL is one of the best quality suppliers in India and preferred vendor for IITs, CSIR, BARC, DAE and various private sector industries. Fast and superior service, in cooperate with customized production capability is our key business strength. Our team with professional peoples can meet all kinds of special requirements for timely and high quality products upon customers' request.

Products – Specification

Products	Purity	Shape	Products	Purity	Shape
Ag	99.9-99.99%	Slug, Target	CrSi	on request	Slug, Target
Au	99.99%	Slug, Target	CrTi	on request	Slug, Target
Al	99.5-99.999%	Granules, Slug, Target, Power	Cr2O3	99.90%	Granules
AlCr	on request	Granules, Target	Cu	99.9-99.99%	Slug, Target
Al2O3	99.5-99.999%	Granules, Slug, Tablets, Target	CdTe	99.9-99.999%	Granules, Target
AlSi	on request	Slug, Target	GZO	99.99%	Granules, Target
AlTi	50:50,60:40,67:33,70:30 at%	Target	Hf	99.5-99.9%	Slug, Tablets, Target
AlN	99%	Target, Powder	HfO2	99.9-99.99% 99.9-99.99%	Granules, Slug, Tablets, Target
AZO	ZnO:Al2O3,98:2wt%	Granules, Target	HfO2/Al2O3	on request	Granules, Tablets
C	99.99%	Target, Powder	HfO2/Y2O3	on request	Slug, Granules, Tablets, Target
CIGS	99.995-99.999%	Granules, Slug, Target	HfO2/ZrO2	on request	Slug, Granules, Tablets
CeO2	99.5-99.9%	Granules, Slug, Tablets, Target	ITO	90:10wt%,99.99%	Tablets, Target, Ingot
Cr	99.90%	Granules, Target	In	99.99-99.999%	Granules, Powder, Wire
CrAl	on request	Granules, Slug, Target	IZO	99.99%	Granules, Target
CrMo	on request	Slug, Target	IGZO	99.99%	Granules, Target
CrNi	50:50,60:40,70:30,80:20 at%	Slug, Target	MgO	99.99%	Granules, Tablets, Target

Products – Specification

Products	Purity	Shape	Products	Purity	Shape
Mo	99.9-99.99%	Slug,Target	TiAl	on request	Target
MoS2	on request	Target	TiO	99.99%	Granules,Tablets,Target
Ni	99.5-99.99%	Slug,Target	Ti3O5	99.99%	Granules,Tablets
NiCr	80:20,70:30, 60:40,50:50wt%	Slug,Target	TiO2	99.99%	Granules,Slug,Tablets,Target
NiV	93:7wt%,min 99.8%	Slug,Target	TiSi	on request	Target
Nb	min 99.9%	Granules,Slug,Target	V	99.9-99.99%	Target,Ingot
Nb2O5	99.9-99.99%	Granules,Slug,Target	Y2O3	99.99%	Granules,Tablets
NbO2	99.99%	Granules,Tablets,Target	Zn	99.99%	Target
Pt	99.99%	Foil	ZnAl	99.99%	Target
Si	99.99-99.999%	Granules,Slug,Target	ZnO	99.99%	Granules,Slug,Tablets,Target
SiO2	99.9-99.99%	Granules,Target	ZnO/Al2O3	98:2wt%,min 99.99%	Granules,Slug,Target
Si3N4	99-99.9%	Granules,Tablets,Target,Powder	ZnS	99.99%	Granules,Target
Ta	99.9-99.99%	Granules,Slug,Target	ZrO2/TiO2	99.9-99.99%	Granules,Slug,Tablets
Ta2O5	99.9-99.99%	Granules,Target	Zr	99.99%	Slug,Target
Ti	99.9-99.995%	Granules,Tablets,Target	ZrO2	99.9-99.99%	Granules,Tablets

Sputtering Target & Evaporation Material

Target Item	Application	Industry
<ul style="list-style-type: none"> TiW/ Cr / Si / Ti/ AlSi /NiCr /Al-Ti/ TiN 	Sputtering Target	Decorative Coating Surface coating
<ul style="list-style-type: none"> Au / Ag/Mo / ITO /AZO / ZnO /Nb2O5 Si / ZnSe / ZnS / In / ITO /AZO /ZnO /SiO2 	Sputtering Target Evaporation Material	Conductivity Film Solar Film
<ul style="list-style-type: none"> Al/Cu / Stainless steel / Cr 	Sputtering Target	EMI
<ul style="list-style-type: none"> SiO2 / ZrO2 / Ta2O5 / Ti3O5 /TiO2 MgF2 /Cr/Al /Al2O3 / H4 /Nb2O5/MgO 	Evaporation	Optical Coating AR/IR coating

Products – Evaporation Materials



Cr₂O₃



ZrO₂



Nb₂O₅



ZnO



MgO



TiO₂



Ti₃O₅



SiO₂



SiO₂ Pellet



CaF₂

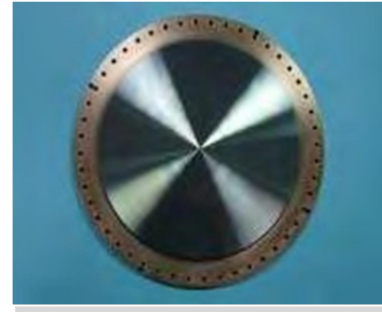
Products – Sputtering targets



Ta



ITO



Ti



Ta₂O₅



Ti₃O₅



Ni

Products – Sputtering targets



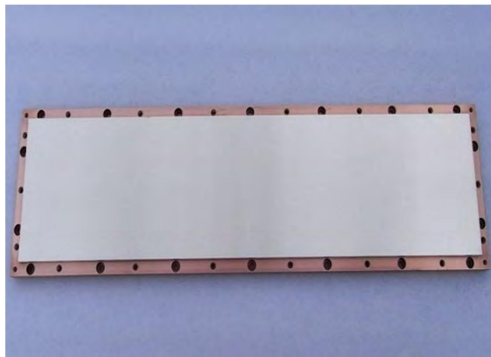
TiO₂



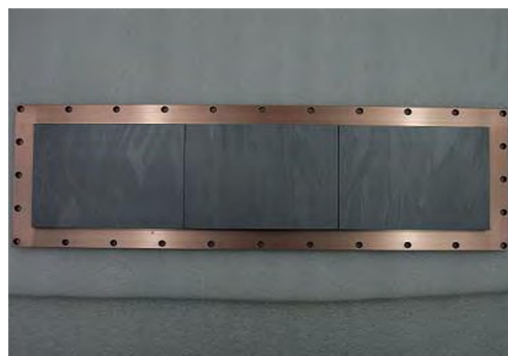
ZnO



Si



Ag



Si

Products – Sputtering targets

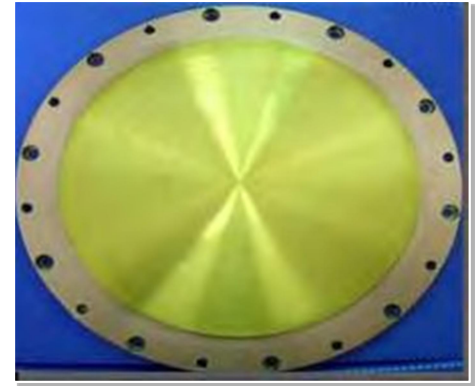
(BSM+Bonding)



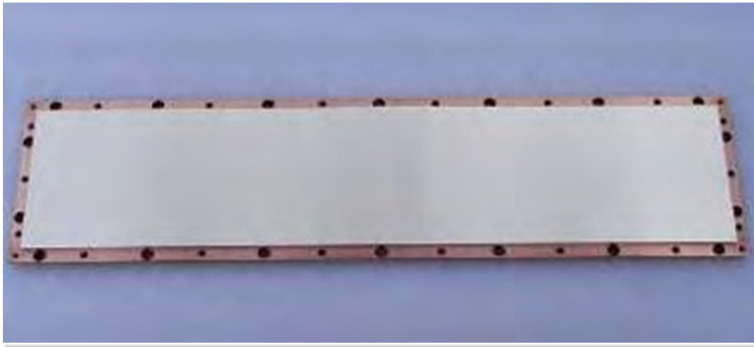
TiO₂



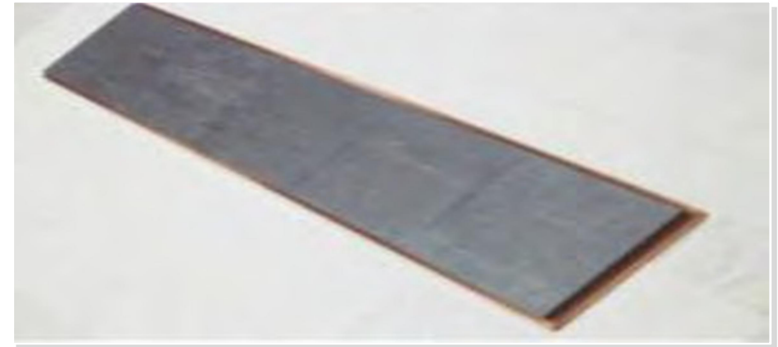
Si



Au

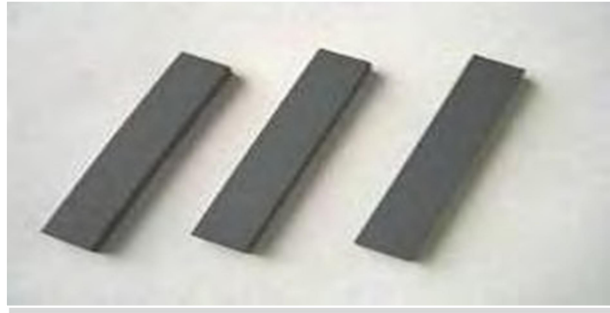


Ag



Si

Customization – Sintering Services



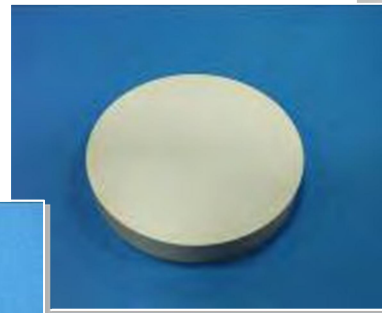
Nb₂O₅



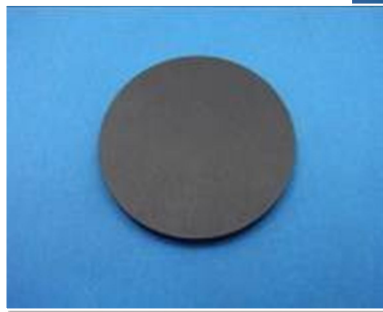
ZnO



AZO



In₂O₃



ITO

Sintering size: (2"~10") x (3~12mmT)

Products – Low Refraction

SiO₂ Pellet



SiO₂ Spherule



Dimension : $\varphi 2 \times 2 \text{mm}$, $\varphi 3 \times 4 \text{mm}$ Purity : 99.99%
Previous Range : 0.16-8 μm Melting Point : 1800~2200°C
Refraction : 1.45~1.47(0.55 μm) Density : 2.53g/cm³
Application : Luminescent Film, Filters, Insulating Film,
Glasses Film, UV Film

Dimension : $\varphi 2.5 \text{mm}$ Purity : 99.99%
Previous Range : 0.16-8 μm Melting Point : 1800~2200°C
Refraction : 1.45~1.47(0.55 μm) Density : 2.53g/cm³
Application : Luminescent Film, Filters, Insulating Film
Glasses Film, UV Film

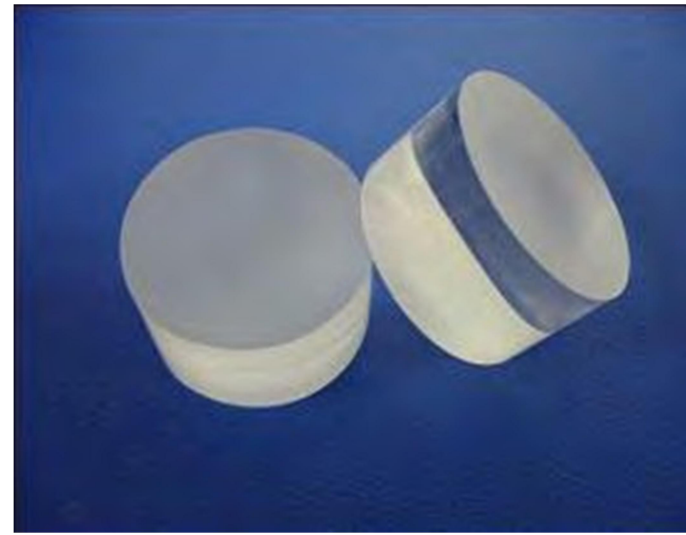
Products – Low Refraction

SiO₂ Granule



Dimension : 1-3mm, 2-4mm, 3-5mm Purity : 99.99%
Previous Range : 0.16-8 μ m Melting Point : 1800~2200°C
Refraction : 1.45~1.47(0.55 μ m) Density : 2.53g/cm³
Application : Luminescent Film, Filters, Insulating Film,
Glasses Film, UV Film

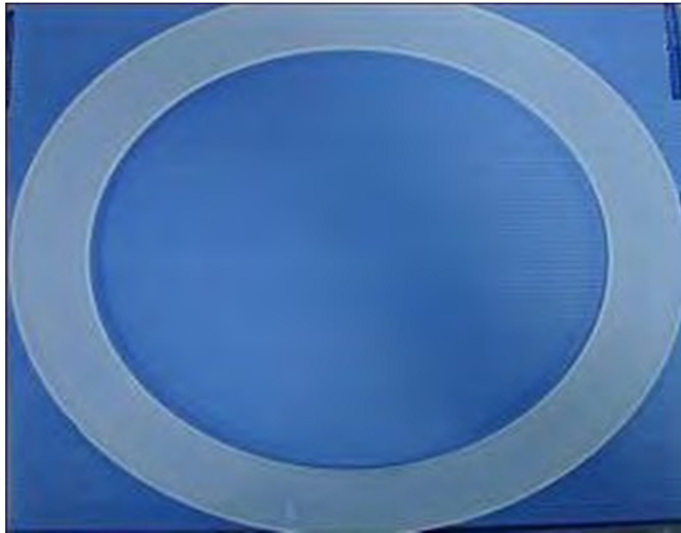
SiO₂ Tablet



Dimension : φ 30*17mm, φ 25*11mm Purity : 99.995%
Previous Range : 0.16-8 μ m Melting Point : 1800~2200°C
Refraction : 1.45~1.47(0.55 μ m) Density : 2.53g/cm³
Application : Luminescent Film, Filters, Insulating Film,
Glasses Film, UV Film

Products – Low Refraction

Quartz Ring



Dimension : $\varphi 300/230 \times 15\text{mmT}/7.5\text{T}$ Purity : 99.995%
Previous Range : 0.16-8 μm Melting Point : 1800~2200°C
Refraction : 1.45~1.47(0.55 μm) Density : 2.53g/cm³
Application : Luminescent Film, Filters, Insulating Film,
Glasses Film, UV Film

SiO Granule



Dimension : 1-3mm, 3-5mm Purity : 99.99%
Previous Range : 0.55-8 μm Melting Point : 1200~1600°C
Refraction : 1.9(0.55 μm) Density : 2.13g/cm³
Application : Luminescent Film, Decorative Film
Protective Film, Multilayer, Anti-reflection Film

Products – Low Refraction

MgO Granule



Dimension : 1-5mm
Previous Range : 0.23-9 μ m
Refraction : 1.7(0.5 μ m)

Purity : 99.99%
Melting Point : 1700~2000°C
Density : 3.6g/cm³

CaF₂ Granule



Dimension : 1-3mm
Previous Range : 0.15-12 μ m
Refraction : 1.3-1.4
Note : Overheating will break down

Purity : 99.99%
Melting Point : 1280°C
Density : 3.18g/cm³

Products – High Refraction

Ti₃O₅ Fused Granule



Dimension : 1-3mm, 3-5mm
Previous Range : 0.400-12 μ m
Refraction : 2.3~2.5(0.55 μ m)

Purity : 99.99%
Melting Point : 1777 $^{\circ}$ C
Density : 4.24g/cm³

TiO₂ Degas Granule



Dimension : 1-3mm, 3-5mm
Previous Range : 0.35-12 μ m
Refraction : 2.2~2.5(0.55 μ m)
Application : AR Coating, Multilayer, Adhesion layer

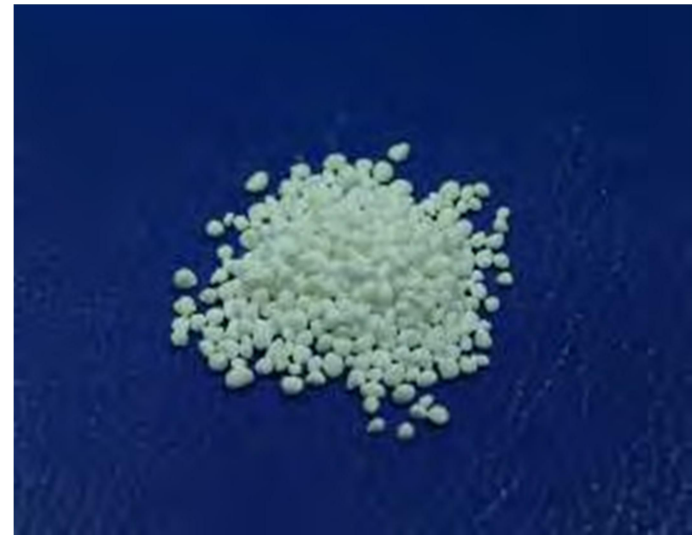
Purity : 99.99%
Melting Point : 1900~2200 $^{\circ}$ C
Density : 4.23g/cm³

Products – High Refraction

Nb₂O₅ Degas Granule



Nb₂O₅ Granule



Dimension : 1-3mm, 3-5mm

Purity : 99.99%

Previous Range : 0.32-8 μ m

Melting Point : 1600~2500°C

Refraction : 2.1~2.3(0.5 μ m)

Density : 4.60g/cm³

Application : Multilayer

Dimension : 1-3mm, 3-5mm

Purity : 99.99%

Previous Range : 0.32-8 μ m

Melting Point : 1600~2500°C

Refraction : 2.1~2.3(0.5 μ m)

Density : 4.60g/cm³

Application : Multilayer

Products – High Refraction

Ta₂O₅ Degas Granule



Ta₂O₅ Granule



Dimension : 1-3mm, 3-5mm	Purity : 99.99%
Previous Range : 0.35-10 μ m	Melting Point : 1900~2200 $^{\circ}$ C
Refraction : 2~2.3(0.5 μ m)	Density : 8.2g/cm ³
Application : Anti-Reflection, Interference Filter	

Dimension : 1-3mm, 3-5mm	Purity : 99.9%
Previous Range : 0.35-10 μ m	Melting Point : 1900~2200 $^{\circ}$ C
Refraction : 2~2.3(0.5 μ m)	Density : 8.2g/cm ³
Application : Anti-Reflection, Interference Filter	

Products – High Refraction

Cr₂O₃ Granule



Dimension : 1-3mm
Previous Range : 1.2-10 μ m
Refraction : 2.24-i0.07(0.7 μ m)

Purity : 99.99%
Melting Point : 1900~2000 $^{\circ}$ C
Density : 5.2g/cm³

ZnO Degas Granule



Dimension : 3-5mm
Previous Range : 0.35-20 μ m
Refraction : 2(0.55 μ m)

Purity : 99.99%
Melting Point : 1100 $^{\circ}$ C
Density : 5.6g/cm³



Products – High Refraction

SiC Granule



CeO2 Granule



【Advantages】 Radiation-resistant, high stability

Application: Mechanical seal rings, seal-free pump components, epitaxy base board (susceptor), textile parts, a jig for grinding, nozzles, spurts for granulation tablet, ball milling, chemical vapor deposition (CVD) related equipment, mold materials, computer cooling fan shaft and sleeve.

Dimension : 0.5-2mm

Previous Range : 0.4-16 μ m

Refraction : 2.0~2.4(0.55 μ m)

Application : Multilayer, Anti-Reflection Film

Purity : 99.99%

Melting Point : ~2000°C

Density : 7.65g/cm³

Products – Protection、Conductivity

MgF₂ Fused Granule



Dimension : 1-3mm, 3-5mm Purity : 99.99%
Previous Range : 0.14-10 μ m Melting Point : 1300~1600 $^{\circ}$ C
Refraction : 1.38(0.55 μ m) Density : 3.148g/cm³
Application : AR Coating, Decorative Film, Glasses Film
Anti-Reflection

Al₂O₃ Fused Granule



Dimension : 1-3mm, 3-5mm Purity : 99.99%
Previous Range : 0.2-8 μ m Melting Point : 2000~2200 $^{\circ}$ C
Refraction : 1.63(0.55 μ m) Density : 4.0g/cm³
Application : AR Coating , Glasses Film, Protective Film

Products – Protection、Conductivity

H4 Granule



Dimension : 1-3mm, 3-5mm
Purity : 99.99%
Previous Range : 0.36-7 μ m
Melting Point : 1800°C
Refraction : 1.95-2.1(0.55 μ m)
Density : 5.9g/cm³
Application : Anti-Reflection, Filters, Glasses Film

ITO Granule/Tablet



Dimension : 1-3mm, 7*7*3mm, ψ 10*6mm
Purity : 99.99%
Previous Range : 0.4-1 μ m
Melting Point : ~1400°C
Refraction : 2.06-i0.016(0.55 μ m)
Ratio : 90/10, 95/5
Application : Transparent Conductive Film

Products – Protection、Conductivity

ZrO₂ Tablet



Dimension : $\varphi 18 \times 12\text{mm}$, $\varphi 22 \times 14\text{mm}$ Purity : 99.9%
Previous Range : 0.3-8 μm Melting Point : 2500°C
Refraction : 2.05(0.5 μm) Density : 5.68g/cm³
Application : Hardening Film, AR Coating, Glasses Film,
Multilayer

Hydrphobic tablet



Dimension : $\varphi 11 \times 5\text{mmT}$, $\varphi 8 \times 5\text{mmT}$
Thermal Resistance Heating : ~300°C
Application : Surface Anti-Water, Anti-Oil, Anti-Fingerprint

Products – Plate, slug

Y2O3 Plate



Dimension : $\varphi 2''/3''/4''/6''/8''$
Previous Range : 0.25-2 μ m
Refraction : 1.79(0.55 μ m)
Application : Anti-Reflection, Multilayer, Insulating Film

Purity : 99.99%
Melting Point : 2300~2500 $^{\circ}$ C
Density : 5.03g/cm³

Ti Slug



Dimension : $\varphi 3*6$ mm , $\varphi 6*6$ mm
Previous Range : 0.2-2.5 μ m
Refraction : 3.03~i3.65(0.65 μ m)
Application : Thin Films, Adhesion layer, Conductive layer

Purity : 99.995%
Melting Point : 1688 $^{\circ}$ C
Density : 4.507g/cm³

Products – Plate, Slug

HfO₂ Plate



Dimension : $\varphi 2''/3''/4''/6''/8''$ Purity : 99.99%
Previous Range : 0.23-12 μm Melting Point : 2300~2500°C
Refraction : 1.9-2.15 Density : 9.68g/cm³
Application : AR Coating, High anti-reflection, with SiO₂
for UV of Multilayer

Ni Slug



Dimension : $\varphi 3*6\text{mm}$, $\varphi 6*6\text{mm}$ Purity : 99.995%
Previous Range : 0.2-2.5 μm Melting Point : 1455°C
Refraction : 2-i3.8(0.65 μm) Density : 8.908g/cm³
Application : Thin Films

Products – Plate, Slug

ZnS Plate



Dimension : $\varphi 2''/3''/4''/6''/8''$ Purity : 99.99%
Previous Range : 0.38-25 μm Melting Point : 1000~1100°C
Refraction : 2.35(0.55 μm) Density : 4.09g/cm³
Application : Beam Splitter, Luminescent Film, Decorative
Film, Filters, High Anti-Reflection

Ag Slug



Dimension : $\varphi 3*6\text{mm}$, $\varphi 6*6\text{mm}$ Purity : 99.99%
Previous Range : 0.2-2.5 μm Melting Point : 1000~1200°C
Refraction : 0.07-i4.2(0.65 μm) Density : 10.49g/cm³
Application : Thin Films, Reflection Mirror

Products – Sheet

Cr



Melting Point : 1300~1400°C

Density : 7.14g/cm³

Refraction : 3.67-i4.365(0.65μm)

Application : Crucible, Adhesion layer, Spectroscope,
Attenuator

“ i “ is the incident angle of light

Products – consumable parts



Crucible :

Cu \ Al \ Mo \ W
Al₂O₃ \ Graphite.
..etc



Wafer size :

2" \ 3" \ 4" \
6" ...etc.

Tungsten wire \ Tin
wire \ Indium wire
\ Ag
wire. . .etc ◦



Pt film



In powder (4-5N)

Ag powder (3-4N)

Boat :

w \ Ta \ Mo. . .etc ◦

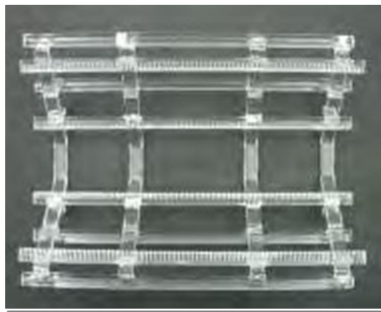
Products – Consumable, Sputter system



Crystal Oscillator



B270



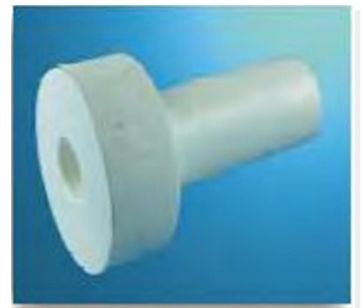
Quartz Boats



Sputter system :

Providing all kinds of sputtering systems , maintenance consumables....etc ◦

Products – Ceramic Parts



Products – Coating Method

Products	Coating Method	Products	Coating Method
Al ₂ O ₃	Electric Gun, DC or RF Sputtering, Ion Beam Sputtering(Al ₂ O ₃),DC or RF Sputtering, Ion Beam Sputtering(Al, Al ₂ O ₃ target)	Nb ₂ O ₅	Electric Gun, DC or RF Sputtering, Ion Beam Sputtering(Nb ₂ O ₅),Electric Gun, DC or RF Sputtering, Ion Beam Sputtering(Nb target)
Ag	Electricity Thermal Resistance Boat(Mo, Ta), Electric Gun, DC or RF Sputtering	Ni	Electricity Thermal Resistance Boat, Electric Gun, DC or RF Sputtering
CaF ₂	Electricity Thermal Resistance Boat(Ta, W Mo),Electric Gun	SiO	Electricity Thermal Resistance Boat(W, Ta, Mo) Electric Gun
CeO ₂	Electricity Thermal Resistance Boat, Electric Gun, DC or RF Sputtering (Ce target)	SiO ₂	Electric Gun, DC or RF Sputtering, Ion Beam Sputtering(SiO ₂),Electric Gun, DC or RF Sputtering, Ion Beam Sputtering(Si,SiO ₂ target)
Cr ₂ O ₃	Electricity Thermal Resistance Boat(W, Mo), Electric Gun	Ta ₂ O ₅	Electric Gun, DC or RF Sputtering, Ion Beam Sputtering(Ta ₂ O ₅),Electric Gun, DC or RF Sputtering, Ion Beam Sputtering(Ta target)
Cr	Electricity Thermal Resistance Boat(W), DC or RF Sputtering, Electric Gun	Ti	Electric Gun, DC or RF Sputtering, Ion Beam Sputtering
HfO ₂	Electric Gun(HfO ₂),DC or RF Sputtering, Ion Beam Sputtering(Hf target)	Y ₂ O ₃	Electric Gun
ITO	Electricity Thermal Resistance Boat,Electric Gun, DC or RF Sputtering	ZnO	Electricity Thermal Resistance Boat(W, Mo), Electric Gun
MgF ₂	Electricity Thermal Resistance Boat(W, Ta, Mo),Electric Gun	ZnS	Electricity Thermal Resistance Boat(Ta, Mo), Electric Gun
MgO	Electric Gun	ZrO ₂	Electric Gun, DC or RF Sputtering, Ion Beam Sputtering(ZrO ₂),Electric Gun, DC or RF Sputtering, Ion Beam Sputtering(Zr target)
TiO ₂	Electric Gun, DC or RF Sputtering, Ion Beam Sputtering(TiOx),Electric Gun, DC or RF Sputtering, Ion Beam Sputtering(Ti),Electricity Thermal Resistance Boat(Ta, W, TiO)		

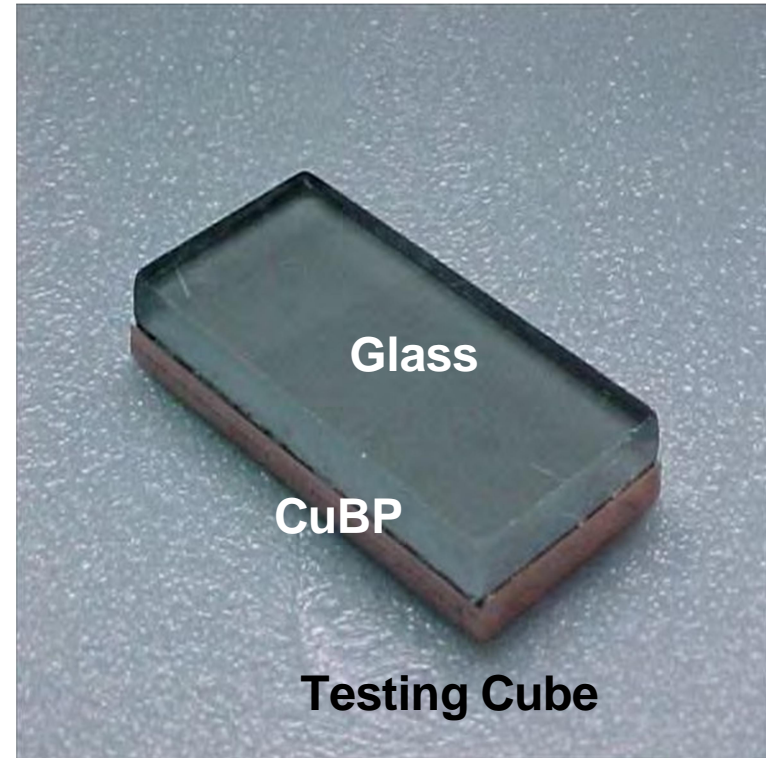
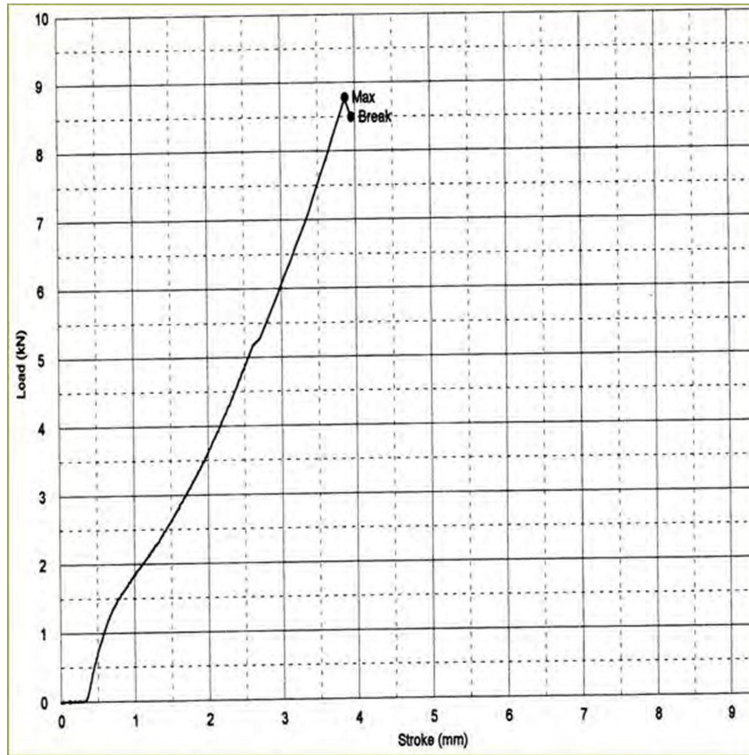
Products – Coating Method

Coating Method	Materials
Electric Gun	Al_2O_3 、 Ag、 CaF_2 、 CeO_2 、 Cr_2O_3 、 Cr、 HfO_2 、 ITO、 MgF_2 、 MgO 、 TiO_2 、 Nb_2O_5 、 Ni、 SiO、 SiO_2 、 Ta_2O_5 、 Ti、 Y_2O_3 、 ZnO、 ZnS、 ZrO_2
DC or RF Sputtering	Al_2O_3 、 Ag、 CeO_2 、 Cr、 HfO_2 、 ITO、 TiO_2 、 Nb_2O_5 、 Ni、 SiO_2 、 Ta_2O_5 、 Ti、 ZrO_2
Ion Beam Sputtering	Al_2O_3 、 HfO_2 、 TiO_2 、 Nb_2O_5 、 SiO_2 、 Ta_2O_5 、 Ti、 ZrO_2

Thermal coating

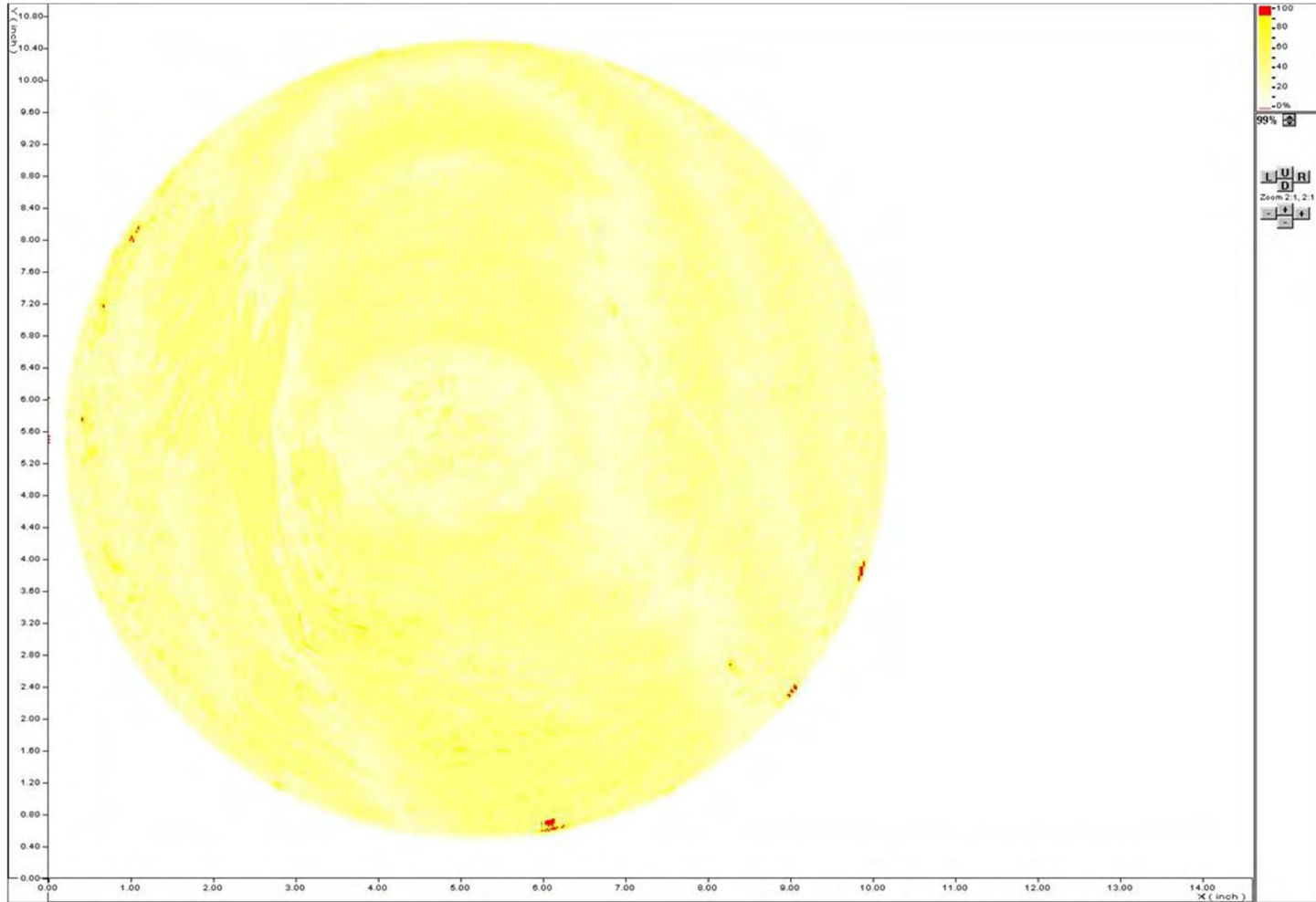
Ag、 CaF₂、 CeO₂、 Cr₂O₃、 Cr、 ITO、 MgF₂、 TiO₂、 Ni
、 SiO、 ZnO、 ZnS

Bonding Technology



Multi-layer Bonding Strength can reach 20Kg/cm²

C-scan for bonding layer



Summary

- **We specialize in custom manufacturing, working with our customers to meet their exact specifications**
- **Multi-layer (BSM) bonding with indium – bonding strength 20 kg/cm²**
- **C-scan for bonding defect analysis upon request.**

Contact us

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