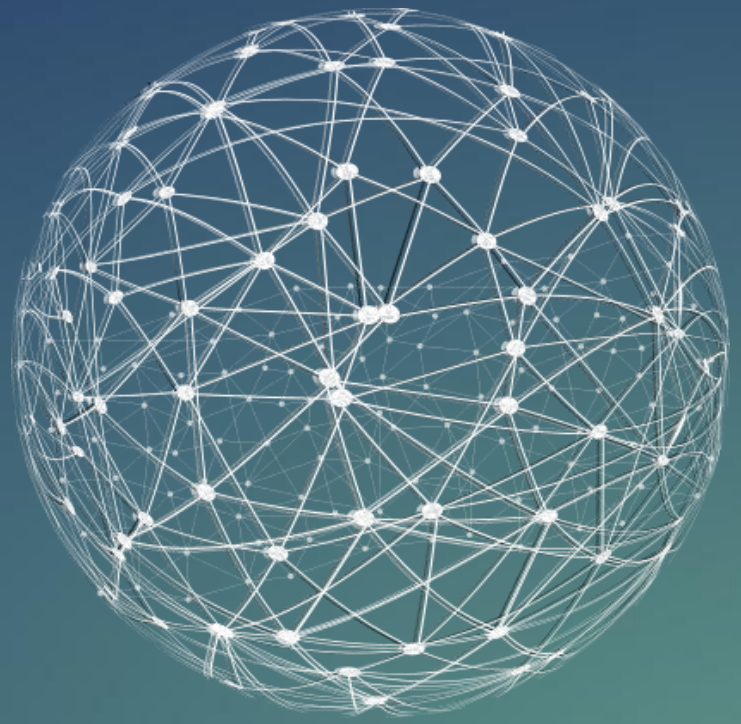
UltraPurMat Group Co., Ltd

ULPMAT

Website: www.ulpmat.com



Company Profile

Website: www.ulpmat.com

About Us

UltraPurMat Group Co., Ltd

UltraPurMat Group Co., Ltd (ULPMAT) specializes in high-purity film deposition materials and advanced inorganic powders. As an integrated R&D, manufacturing, and sales company, we focus on continuous innovation in the advanced materials field, supported by a professional technical team and a complete production-service system.

Our core business includes deposition coating materials (pure metal, alloy, ceramic sputtering targets, and evaporation materials) and inorganic compound powders (high-purity metals, rare earths, chalcogenides, halides, nitrides, borides, silicides, etc.). Serving industries such as semiconductors, aerospace, electronics, and new energy, ULPMAT collaborates with top universities and institutes, offering joint labs, expert partnerships, and customized solutions to meet evolving customer needs.

Target Introduction

Tpes	Targets	Processing
Metal & Alloys Targets	Si	Vacuum spraying/atmospheric atmosphere protection spraying
	Cr	Atmospheric atmosphere protection spraying
	Nb	Spraying
	ZnAl	Casting
	SiAl	Atmospheric atmosphere protection spraying
	ZnSn	Casting
	SiTiZr	Spraying
	AiAlZr	Spraying
Ceramic Targets	NbOx	Atmospheric plasma spraying
	TiOx	Atmospheric plasma spraying
	ZrOx	Atmospheric plasma spraying
	AZO	Atmosphere sintering
	ITO	Sintering
	TZO	Sintering

Rotating Spray Metal Nb Target

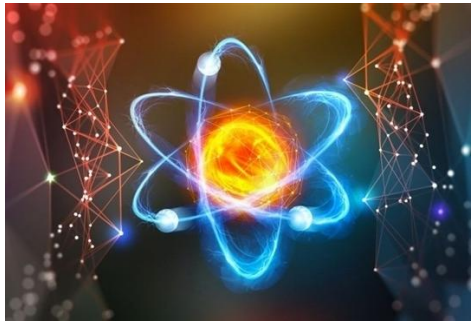
Product description

Using plasma as a heat source, the metal niobium powder is heated to a molten or semi-molten state and impacts the back tube at high speed to form a dense coating, thereby making a high-purity, high-density metal niobium target.

Item	Parameter	Testing Method
Purity (%)	≥99.99	ICP
Density (g/cm^3)	≥ 8.57	Archimedes Density Meter
Recommended power (KW/M)	≤30	

Applications

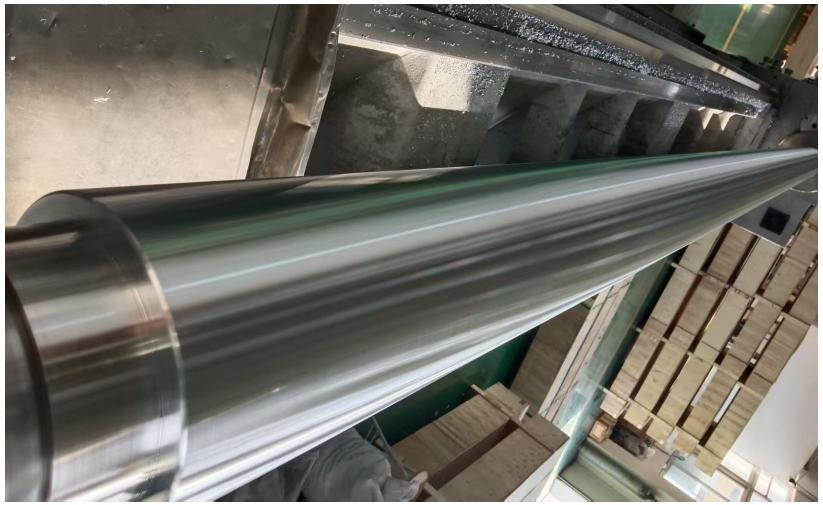
- Semiconductor devices
- Optical coatings
- Supercapacitors
- Barrier layers
- Electrochromic films



Rotating ZnAl Target

Product description

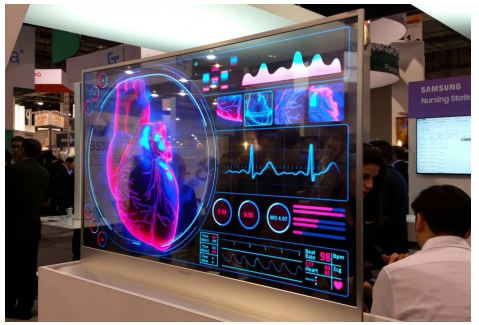
ZnAl target is produced by a casting process, which allows the production of high density, low oxygen content, High density ZnAl target.



Item	Parameter	Testing Method
Chemical composition (wt%)	Zn:Al=90:10/ Zn:Al=98:2	ICP
Purity (%)	≥99.9	ICP
Density (g/cm^3)	≥ 7.0	Archimedes Density Meter
Grain size	≤50um	Metallographic microscope

Applications

- Transparent conductive films
- Flat panel displays
- Touch panels
- Photovoltaic devices
- Low-E glasses



Rotating SiAl Target

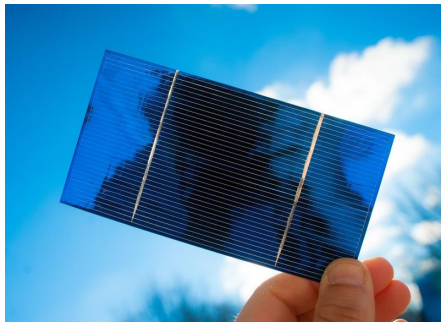
Product description

With plasma as the heat source, high purity and high density SiAl targets are produced from respective powders, which are heated to molten or semi-molten state and deposited on the surface of backing tube at high speeds to form dense coatings.

Item	Parameter	Testing Method
Chemical composition (wt%)	Si:Al=90:10/ Si:Al=92:8	ICP
Purity (%)	≥99.95	ICP
Density (g/cm^3)	≥ 2.21	Archimedes Density Meter
Resistivity (mΩ.cm)	≤100	Four-probe resistivity meter
Roughness (μm)	≤1.6	Roughness Tester

Applications

- Low-E glasses
- Touch panel
- Display
- Thin Film PV



Rotating SiAlZr Target

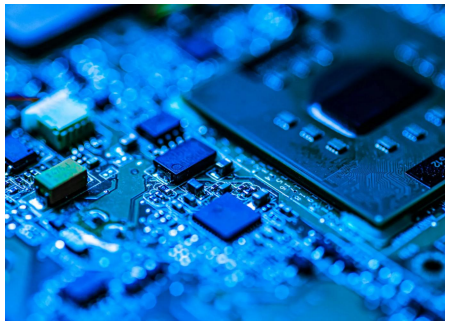
Product description

The SiAlZr alloy powder is heated to a molten or semi-molten state using plasma as a heat source and impacts the SS tube surface at high speed to form a dense coating, thereby producing a high- purity, high density SiAlZr target.

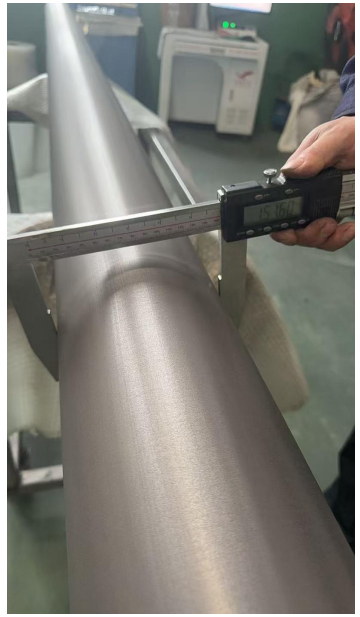
Item	Parameter	Testing Method
Chemical composition (wt%)	Si:Al:Zr= 58.5:36.5:5	ICP
Purity (%)	≥99.8	ICP
Density (g/cm^3)	≥ 2.8	Archimedes Density Meter
Resistivity (mΩ.cm)	≤ 20	Four-probe resistivity meter

Applications

- Semiconductor devices
- TFT-LCD / OLED
- Touch panel
- Barrier and adhesion layers
- Solar cells



Rotating SiTiZr Target



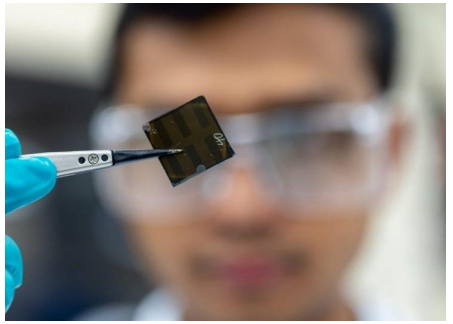
Product description

Using plasma as the heat source, a mixture of Si, Ti, and Zr powders is heated to a molten or semi-molten state through a controlled heating process, forming a dense coating and thereby producing a high-purity, low-oxygen, and highly dense SiTiZr target.

Item	Parameter	Testing Method
Chemical composition (wt%)	Si:Ti:Zr=5:50:45	ICP
Purity (%)	≥99.9	ICP
Density (g/cm^3)	≥ 5.5	Archimedes Density Meter
Resistivity (mΩ.cm)	≤ 850	Four-probe resistivity meter

Applications

- Semiconductor devices
- TFT-LCD
- Touch panel
- Solar cells
- Hard and protective coatings



Rotating TiOx Target

Product description

Using plasma as the heat source, TiO_2 powder is heated to a molten or semi-molten state and then rapidly accelerated to impact the surface of the backing tube, forming a dense coating. This process enables the fabrication of high-purity, high-density TiOx targets.

Item	Parameter	Testing Method
Purity (%)	≥99.9	ICP
Density (g/cm³)	≥ 4.0	Archimedes Density Meter
Resistivity (Ω.cm)	≤ 0.5	Four-probe resistivity meter

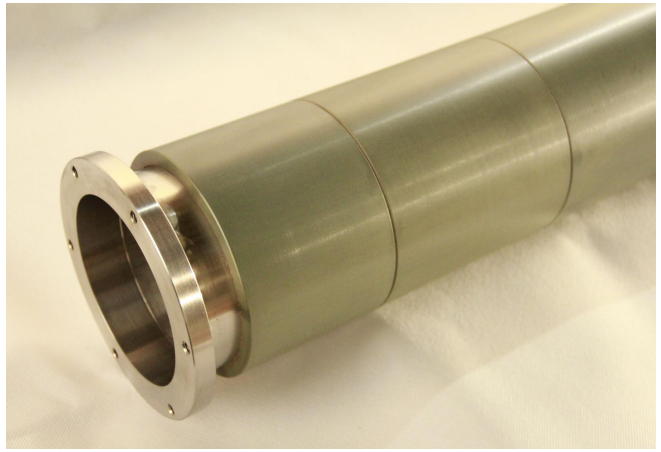
Applications

- Low-E glasses
- Photovoltaic Cells
- Touch Panels & Displays
- Optical Coatings

Rotating AZO Target

Product description

AZO target is a functional zinc aluminum oxide ceramic material, which is used for preparation of AZO transparent conductive thin film by magne_x0002_tron sputtering. With plasma as the heat source, high purity and high density AZO target is produced from respective powders, which are heated to molten or semi-molten state and deposited on the surface of backing tube at high speeds to form dense coatings.



Item	Parameter	Testing Method
Chemical composition (wt%)	Al_2O_3:ZnO=98:2	ICP
Purity (%)	≥99.95	ICP
Density (g/cm^3)	≥ 5.1	Archimedes Density Meter
Sputtering power (kW/m)	≤ 13	-

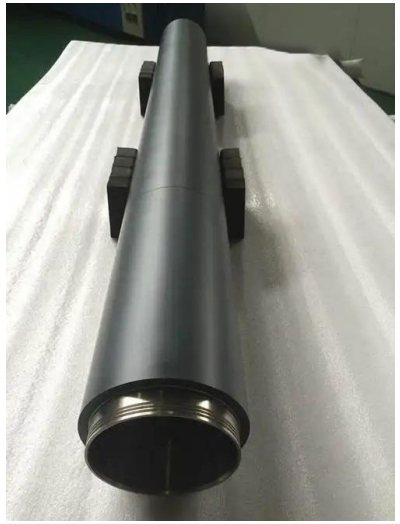
Applications

- Thin film solar cell
- Low-E glasses
- Automotive coated glass

Rotating ITO Target

Product description

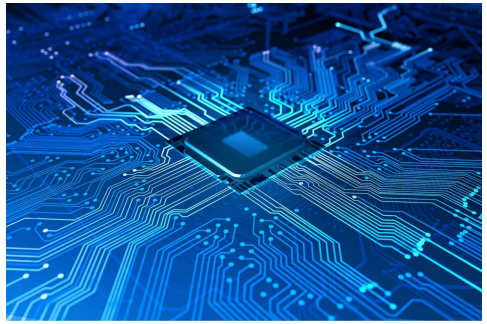
ITO target is a functional indium tin oxide ceramic material, which is used for preparation of ITO transparent conductive thin film by magnetron sputtering. It is produced from the most advanced sintering process under normal pressure, and tube/planar segments are bonded into ITO target.



Item	Parameter	Testing Method
Chemical composition (wt%)	In_2O_3:SnO_2=90:10/95:5	ICP
Purity (%)	≥99.99	ICP
Density (g/cm^3)	≥ 7.13	Archimedes Density Meter
Resistivity (Ω.cm)	≤1.2*10-4	Four-probe resistivity meter

Applications

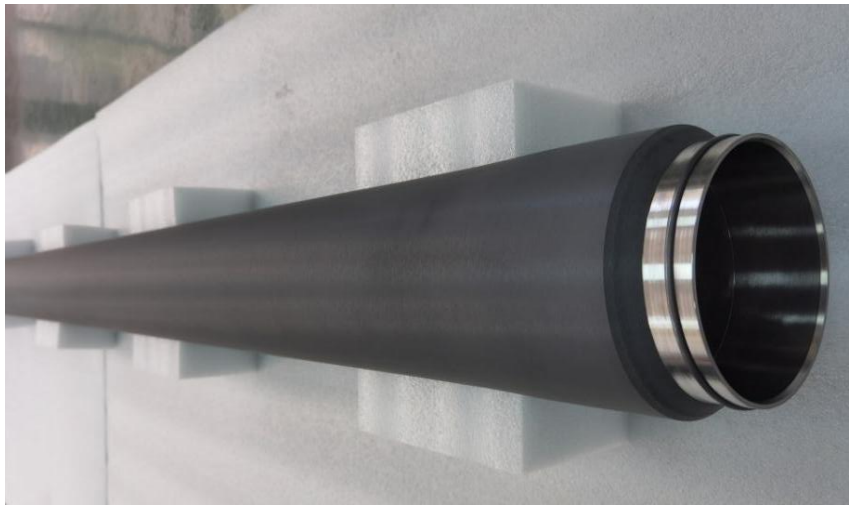
- Conductive glass
- TFT-LCD
- OLED
- Touch panel
- Solar cell



Rotating TZO Target

Product description

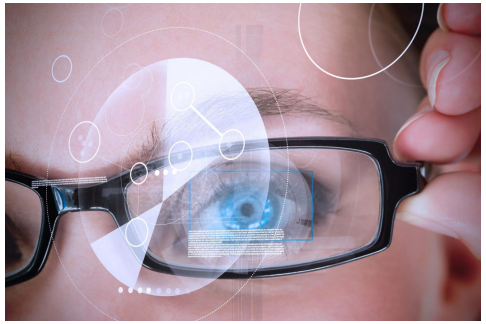
With plasma as the heat source, high purity and high density TZO target is produced from respective powders, which are heated to molten or semi-molten state and deposited on the surface of backing tube at high speeds to form dense coatings.

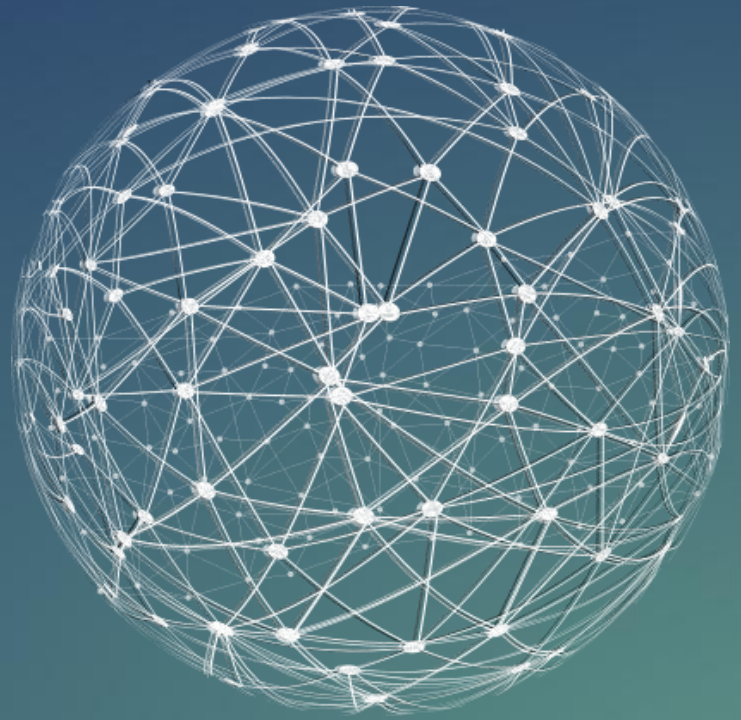


Item	Parameter	Testing Method
Chemical composition (wt%)	$ZnO:SnO_2$=52:48	ICP
Purity (%)	≥99.9	ICP
Density (g/cm^3)	≥ 5.5	Archimedes Density Meter
Resistivity (mΩ.cm)	≤ 200	Four-probe resistivity meter
Film uniformity	3%	-
Sputtering power (kW/m)	≥12.5	-

Applications

- AR film ofoptical glasses
- Low-E glasses
- Tool and decorative coatings





Target Application

Target Application

Rotary targets are mainly used in high-tech fields such as low-emission energy-saving glass, smart/flat panel displays, solar photovoltaics, tool and mold coating, optics and surface treatment, and semiconductor engineering.

Optical communication

- NbTi
- InSn
- Cr
- Ni
- Au

Solar photovoltaic

- Si
- SiAl
- NiCr
- Ti
- Cr
- Mo
- TiOx

Magnetic data storage

- C
- Cr
- TiAl
- CrMo
- Ni-base Alloy

Flat-panel display

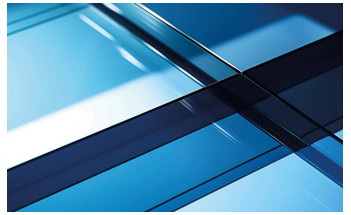
- Si
- Cr
- SiO2
- ITO
- Al-base Alloy
- Mo-base Alloy

Decorative and functional coating

- Nb
- Ti
- Cr
- Al
- Zr
- Ni
- Cu

Glass coating industry

- Si
- Nb
- SiAl
- NiCr
- Ti
- Cr
- Ag
- InSn
- TiOx



Quality Control

Quality Control

FUNCMATER is equipped with advanced analytical instruments such as laser particle size analyzers and ICP (Inductively Coupled Plasma) spectrometers. The company has established joint R&D centers with major universities and research institutes, and possesses a comprehensive material testing platform. The entire production process—including raw material inspection, ball milling, sand milling, granulation, calcination, sintering, bonding, and thermal spraying—is closely monitored and controlled to ensure consistent product quality.

Advanced Testing Capabilities:

- Laser Particle Size Analyzer
- ICP Spectrometers
- XRD, XRF, SEM/EDS (optional)
- Full-spectrum material testing platform
- In-house + Joint R&D centers with top universities

Quality Assurance System

- Strict in-process inspection & final product testing
- Batch tracking & data archiving
- Customized quality standards per customer requirements

Objective

Ensure high purity, low impurity content, uniform particle size, and consistent material performance across batches.

N/O Analyzer

Laser Particle Size Analyzer

ICP

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Corporate Vision

ULPMAT aspire to become the leading Supplier of Advanced Chemical Materials for the Semiconductors, photovoltaics, solar energy industries

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