



**MATERION**



**ADVANCED MATERIALS**

Titanium Oxide  
( $\text{TiO}_x$ )

Rotatable Sputtering Targets  
for Glass Applications

# Titanium Oxide (TiO<sub>x</sub>) Rotatable Sputtering Targets for Glass Applications

Materion Advanced Materials, now expanded with the addition of the Heraeus target materials business, is the world's leading supplier of rotatable sputtering targets for large area glass coatings. Our high purity TiO<sub>x</sub> sputtering targets are specifically developed to produce low defect and high performance thin films.

TECHNICAL DATA	
Application	Glass, dielectric base layer, blocker layer
Production Method	Thermal spray
Material	TiO <sub>x</sub> (x adjustable 1.6 to 1.9)
Composition	Pure
Purity	2N6
Max Length	Up to 4 m
Thickness	Up to 9 mm, dogbone 7/9 mm; alternative thickness available on request
Dogbone	Possible
Melting Point	Approx 1800° C
Thermal Conductivity	3 W/m·K
Density	≥ 4 g/cm <sup>3</sup>
Electrical Resistivity	0.19 Ohm·cm
Thermal Expansion Coefficient	7.9·10 <sup>-6</sup> K <sup>-1</sup>
Sputter Rate	40nm·m/min DC mode; 55nm·m/min MF (AC) mode
Recommended Sputter Power	15 kW/m DC mode; 30 kW/m MF (AC) mode
Arcing Rate	Negligible
Microstructure	< 150 μm

\*Others on request



## BENEFITS

- Special target geometry provides greater material utilization
- Longer target life time reduces downtime for changeouts & chamber maintenance
- Pure TiO<sub>x</sub> with optimized microstructure for best homogeneity and sputtering performance on full target volume
- Customized x-value possible
- Custom designed special geometries available



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### ADVANCED MATERIALS

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**MATERION CORPORATION**  
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**MATERION ADVANCED MATERIALS**, is a global supplier of premier specialty materials for large area coatings particularly glass for architectural, automotive and residential applications. Our products include high purity precious and non-precious thin film deposition materials that deliver uniform coatings, increase yield and reduce costs. Our engineered solutions include new material development as well as standard planar, cast rotatable, and plasma sprayed rotatable sputtering targets with unique geometries available in precious metal and customized alloys.