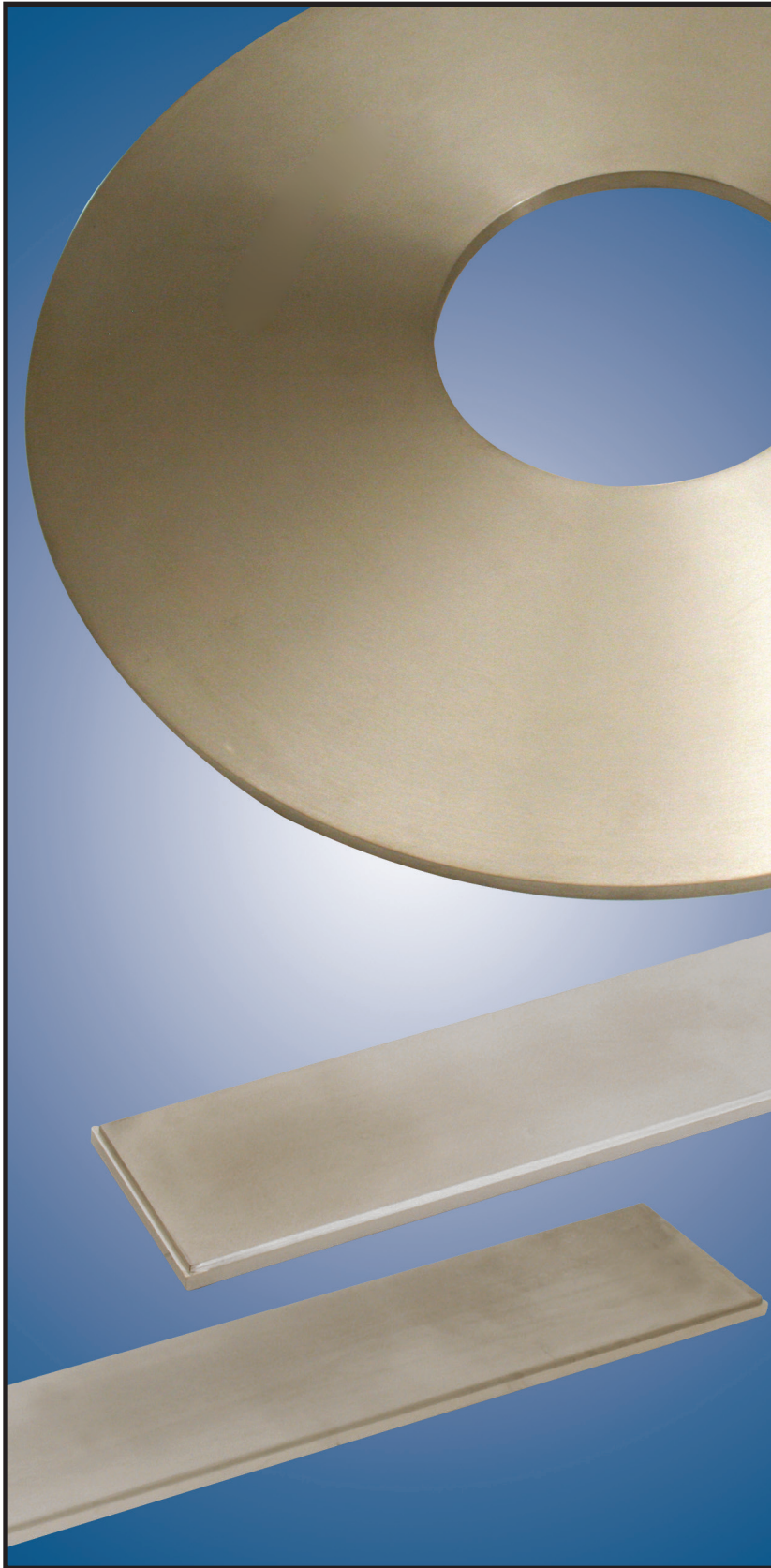


Tantalum Ta

Sputtering Targets



Kurt J. Lesker[®]
Company

MATERIALS[™]
DIVISION

Applications

- Optical films
- Semiconductor
 - Diffusion barrier layer

Features

- High purity
- Grain refined, engineered microstructure

Manufacturing Process

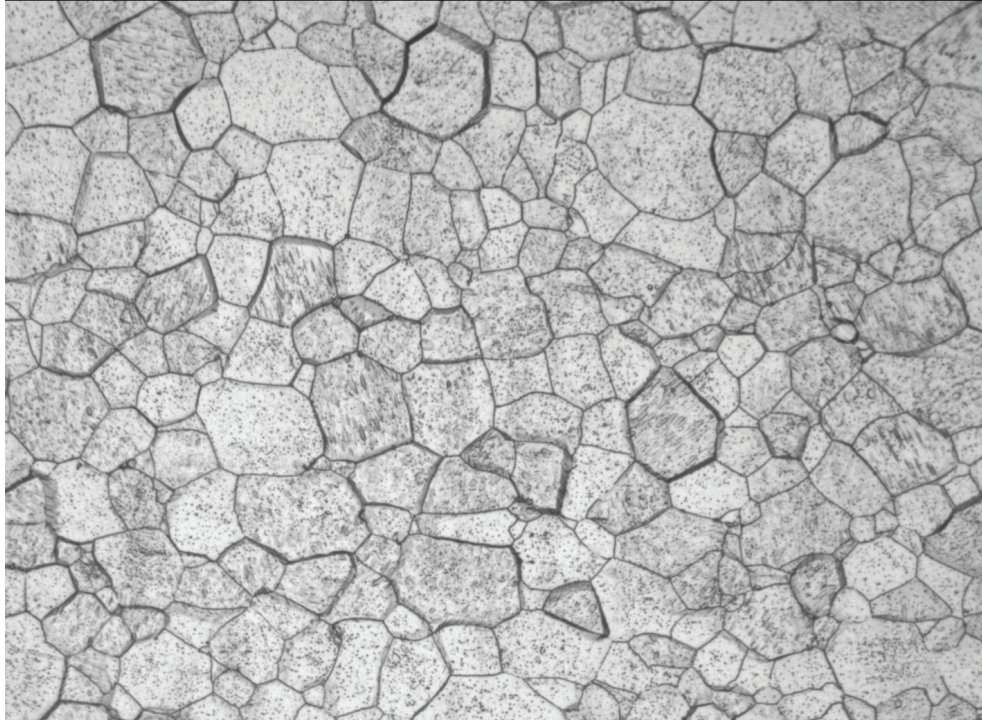
- Refining
 - Multiple step electron beam melting
- Grain refinement
 - Thermomechanical treatment
- Cleaning and final packaging
 - Cleaned for use in vacuum
 - Protection from environmental contaminants
 - Protection during shipment

Options

- 99.95% minimum purity
- Planar circular targets up to 16" (400 mm) diameter
- Planar tiles up to 60" (1500 mm) X 15.75" (400mm) for larger target configurations
- Smaller sizes also available for R&D applications
- Sputtering target bonding service

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Ta, average grain size <150µm (50X magnification)



Specifications

Typical Analysis - 99.95% (3N5) Purity

Metallic Impurities, ppm by weight

Al	Cr	Cu	Fe	Mn	Mo	Nb	Ni	Si	Na	Ti	W	Zr
<5	<10	<10	<20	<10	<100	<400	<10	<20	<0.5	<5	<300	<10

Non-Metallic Impurities, ppm by weight

C	H	O	N
<50	<10	<100	<50

Theoretical Density	16.6 g/cm ³
Relative Density	99% minimum
Average Grain Size	150 µm maximum
Electrical Resistivity	12.5 Ω·cm
Thermal Conductivity	57W/m·K
Thermal Expansion (CTE)	6.3 x 10 ⁻⁶ /°K
Melting Point	3017°C
Appearance	Blue-gray, metallic

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