



TOQUARTZ  
Tech Specifications

**TOQUARTZ®**

# Quartz Wafer Boat Product Catalog

Integrated Engineering & Agile Production  
**for Demanded Specifications**



# TOQUARTZ® QUARTZ WAFER BOAT

TOQUARTZ® is a specialized manufacturer of high-purity quartz products based in China, serving global B2B clients in laboratory instrumentation, biomedical research, and environmental monitoring. With in-house engineering support and flexible production capabilities, we offer both standard and custom TOQUARTZ® Quartz Wafer Boat with fast delivery and consistent quality.



## Product Overview



**TOQUARTZ® High purity quartz wafer boats (max. up to 99.995% SiO<sub>2</sub>) designed for semiconductor diffusion, solar cell manufacturing, and thermal processing applications. Our silicon wafer carrier quartz boats feature excellent thermal stability, superior corrosion resistance, and precise dimensional tolerances.**

# TOQUARTZ® QUARTZ WAFER BOAT



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## Key Features

- Material Excellence: 99.995% SiO<sub>2</sub> content ensures minimal contamination in critical processes
- Superior Strength: Flexural strength up to 350 MPa withstands handling stresses
- Chemical Stability: Resistant to acids, alkalis, molten salts, and fluorinated gases
- High Temperature Stability: Maintains structural integrity at 1200°C for continuous operation
- Low Thermal Expansion: Coefficient of  $5.5 \times 10^{-7}/^{\circ}\text{C}$  minimizes warping during thermal cycling
- Thermal Conductivity: 120-160 W/m·K for efficient heat transfer during processing
- Dimensional Accuracy: Tolerance of  $\pm 0.1\text{mm}$  ensures consistent wafer positioning
- Surface Finish Options: Polished, ground, or as-fired surfaces available
- Slot Precision: Accurately machined slots with consistent spacing and depth



# TOQUARTZ® QUARTZ WAFER BOAT



## Applications

- Semiconductor diffusion and oxidation processes
- Solar/photovoltaic cell manufacturing
- LED chip production
- Research and development laboratories
- High-temperature material processing



# TECHNICAL SPECIFICATIONS

## I Physical Properties

Property	Value	Unit
Density	2.2	g/cm <sup>3</sup>
Flexural Strength	48	MPa
Elastic Modulus	72	GPa
Poisson's Ratio	0.14-0.17	-
Compressive Strength	1100	MPa
Bending Strength	67	MPa
Moh's Hardness	5.5-6.5	-



# TECHNICAL SPECIFICATIONS

## II Thermal Properties

Property	Value	Unit
Maximum Working Temperature (long-term)	1100	°C
Maximum Working Temperature (short-term)	1350	°C
Thermal Conductivity	1.4	W/m·K
Thermal Expansion Coefficient	$5.5 \times 10^{-7}$	/°C



# TECHNICAL SPECIFICATIONS

## III Optical & Electrical Properties

Property	Value	Unit
Refractive Index	1.4585	-
Specific Resistance	$7 \times 10^7$	$\Omega \cdot \text{cm}$



## CUSTOMIZATION OPTIONS

- Custom length, width, and height specifications
- Specialized wall thickness for thermal requirements
- Custom slot count from 5 to 200+ positions
- Variable slot spacing for different wafer thicknesses
- Specialized slot geometries for edge protection
- Surface treatments (polished, ground, as-fired)

## USAGE GUIDELINES

- Handle with clean gloves to prevent contamination
- Avoid impact or dropping to prevent chipping
- Do not exceed maximum operating temperature (1100°C long-term)
- Avoid rapid thermal cycling; use ramp rates of 5-8°C/minute
- Keep away from alkaline compounds at high temperatures
- Clean using appropriate methods based on process requirements





# ABOUT TOQUARTZ®

TOQUARTZ® is a specialized manufacturer of high-quality quartz glass products for industrial, laboratory, and optical applications. Our factory-direct approach eliminates intermediaries, providing cost-effective solutions with responsive technical support. We welcome small batch orders and offer 24-hour shipping for standard items.

## Contact Information

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*For technical specifications, custom requirements, or pricing information, please contact our sales team.*