



TOQUARTZ
Tech Specifications

TOQUARTZ® Quartz Tube Plug Product Catalog

Integrated Engineering & Agile Production
for Demanded Specifications



TOQUARTZ® QUARTZ TUBE PLUG

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 Tube Plug with fast delivery and consistent quality.



Product Overview

TOQUARTZ® Quartz Tube Plugs are precision-engineered from high-purity fused quartz ($\geq 99.99\% \text{SiO}_2$). Available in both transparent and opaque variants with optional hanging loops, these end caps provide reliable sealing solutions for high-temperature furnaces, laboratory equipment, and vacuum systems. Withstanding temperatures up to 1100°C for continuous operation, our quartz stoppers deliver exceptional thermal stability and chemical resistance.

TOQUARTZ® QUARTZ TUBE PLUG



Key Features

- **Ultra-High Purity:** SiO_2 Content: $\geq 99.99\%$, ensuring minimal contamination in sensitive applications
- **Extreme Temperature Resistance:** Continuous operating temperature: 1100°C , Short-term peak tolerance: 1450°C (up to 2 hours)
- **Superior Chemical Resistance:** Resistant to acids, bases, corrosive gases, and fluoride environments
- **Precision Engineering:** Dimensional tolerance: $\pm 0.2\text{mm}$ standard, Closed-end thickness: $\geq 3\text{mm}$ for thermal stability
- **Customization Options:** Available in various diameters, wall thicknesses, and designs including hanging loop for vertical applications

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Applications

- Laboratory Equipment: Seals for high-temperature furnaces and reaction chambers
- Vacuum Systems: End caps for maintaining vacuum integrity in research equipment
- Vertical Furnaces: Hanging systems for suspended quartz components
- Materials Processing: Controlled atmosphere chambers for materials synthesis
- Research Facilities: Custom configurations for specialized experimental setups





TECHNICAL SPECIFICATIONS

Chemical Properties

- **SiO₂ Purity:** $\geq 99.99\%$ (ASTM E222-23)
- **Trace Impurities (Fe, Al, K):** < 10 ppm (ICP-MS Analysis)

Physical Properties

- **Density:** 2.2 g/cm^3 (ASTM C693-93)
- **Thermal Expansion Coefficient:** $5.5 \times 10^{-7}/^{\circ}\text{C}$ (20–300°C) (ASTM E228-22)
- **Thermal Conductivity:** $1.4 \text{ W/(m}\cdot\text{K)}$ (ASTM E1461-22)
- **Max Working Temperature:** 1100°C (continuous)

Mechanical Tolerances

- **Dimensional Precision:** $\pm 0.2\text{mm}$ (standard) (ISO 2768-1)
- **Surface Roughness (Ra):** $\leq 0.4 \text{ }\mu\text{m}$ (ISO 4287:1997)



CUSTOMIZATION OPTIONS

TOQUARTZ® offers comprehensive customization services for quartz tube plugs to meet your exact specifications. Our engineering team works directly with you to design and manufacture the perfect solution for your application.

- Dimensional Customization: Diameter: 5mm to 150mm, Wall thickness: 1mm to 8mm
- Material Options: Clear fused quartz (standard), Opaque/milky quartz for IR applications
- Surface Treatments: Polished, Fire-polished, or Matte finish



HANDLING & MAINTENANCE

- Wear powder-free gloves when handling to prevent contamination
- Store in original packaging or on clean, soft surfaces
- Clean with ultrapure water or semiconductor-grade solvents
- For optimal performance, follow recommended thermal cycling protocols



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

Email: info@toquartz.com

Website: www.toquartz.com

TOQUARTZ® - Precision Quartz Solutions for Industry and Research

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