



TOQUARTZ  
Tech Specifications

# TOQUARTZ® Ground Joint Quartz Tube Product Catalog

Integrated Engineering & Agile Production  
for Demanded Specifications



# TOQUARTZ® GROUND JOINT QUARTZ TUBE

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® Ground Joint Quartz Tube with fast delivery and consistent quality.



## Product Overview

TOQUARTZ® Ground Joint Quartz Tubes are precision-engineered from high-purity fused quartz ( $\geq 99.99\% \text{SiO}_2$ ), designed for seamless laboratory and industrial system integration. These specialized components feature standardized ground glass joints that ensure reliable, leak-proof connections in complex experimental setups and industrial processes requiring exceptional thermal stability, chemical resistance, and optical clarity.

# TOQUARTZ® GROUND JOINT QUARTZ TUBE



## Key Features

### Superior Thermal Properties

- Working temperature up to 1,200°C with softening point at 1,700°C
- Low thermal expansion coefficient ( $5.5 \times 10^{-7} / ^\circ\text{C}$ ) ensures dimensional stability
- Excellent thermal shock resistance, withstanding rapid temperature changes of  $>1,000^\circ\text{C}$

### High Chemical Resistance

- Resistant to most acids, bases, and organic solvents (except HF)
- Ultra-high purity ( $\geq 99.99\% \text{ SiO}_2$ ) prevents contamination in sensitive processes
- Trace metal impurities below 1-2 ppm, ideal for analytical applications



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## Key Features

### Precision Ground Joints

- Standard taper ground glass joints (14/20, 19/22, 24/40, 29/42 sizes available)
- Precise grinding to  $\pm 0.1\text{mm}$  tolerance for leak-free connections
- Compatible with standard laboratory glass joints and fittings

### Optical & Electrical Properties

- Exceptional light transmission ( $>93\%$ ) from UV to IR range (220-2500nm)
- Superior electrical insulation properties (volume resistivity  $>10^{18} \Omega\cdot\text{cm}$ )
- Low dielectric constant (3.8 at 1MHz) for applications requiring RF transparency

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## Applications

- Laboratory Equipment: High-temperature reactions, corrosive chemical handling
- Vacuum Systems: High-purity gas delivery, vacuum-sealed assemblies
- Chemical Reactors: Catalytic processes, controlled atmosphere reactions
- Analytical Instruments: Gas analysis, spectroscopy, optical measurements
- Custom Assemblies: Multi-joint configurations for specialized setups





# TECHNICAL SPECIFICATIONS

## Physical Properties

- Material Composition:  $\geq 99.99\%$   $\text{SiO}_2$
- Density:  $2.2 \text{ g/cm}^3$
- Hardness: 5.5-6.5 Mohs / 580 Knoop

## Thermal Properties

- Maximum Working Temperature:  $1,200^\circ\text{C}$  (continuous)
- Softening Point:  $1,700^\circ\text{C}$
- Coefficient of Thermal Expansion:  $5.5 \times 10^{-7} / ^\circ\text{C}$  (20-300°C)

## Optical Properties

- UV-VIS-NIR Transmission:  $\geq 93\%$  (220-2500nm)
- Refractive Index: 1.458 (589.3nm)



## CUSTOMIZATION OPTIONS

### **TOQUARTZ® offers comprehensive customization services for Ground Joint Quartz Tubes:**

- Non-standard diameters (3mm to 120mm)
- Custom wall thicknesses (0.5mm to 5mm)
- Extended lengths up to 2 meters
- Multi-joint assemblies and custom angle configurations
- Integrated features (frits, restrictors, side arms)
- Ultra-high purity options (99.995% SiO<sub>2</sub>)
- Specialized surface treatments and annealing





# 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.*