



TOQUARTZ  
Tech Specifications

# TOQUARTZ® U-Shaped Quartz Tube Product Catalog

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



# TOQUARTZ® U-SHAPED 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® U-Shaped Quartz Tube with fast delivery and consistent quality.



## Product Overview

TOQUARTZ® U-shaped quartz tubes are engineered from 99.99% pure fused silica for extreme thermal, chemical, and optical performance. These precision-bent tubes deliver exceptional performance in UV lamp systems, laboratory equipment, and high-temperature industrial applications.

# TOQUARTZ® U-SHAPED QUARTZ TUBE



## Key Features

### THERMAL RESISTANCE

- Short-term use: 1300°C
- Long-term stability: 1100°C
- Softening point: 1780°C, annealing point: 1250°C

### OPTICAL PERFORMANCE

- UV to IR transparency: 92–93% transmission (1.0mm thickness)
- Refractive index: 1.4585 (at 587.6 nm, Nd line)
- Low OH content: Minimizes UV absorption

### MECHANICAL STRENGTH

- Compressive strength: 1100 MPa
- Young's modulus: 72,000 MPa
- Mohs hardness: 5.5–6.5

### CHEMICAL PURITY & RESISTANCE

- Purity:  $\text{SiO}_2 \geq 99.97\%$
- Impurities: <10 PPM total metals
- Chemical resistance: Resistant to most acids, bases, and solvents



# TOQUARTZ® U-SHAPED QUARTZ TUBE



## Applications

- UV DISINFECTION SYSTEMS

Our U-shaped quartz tubes deliver optimal UV transmission for water treatment, air purification, and medical sterilization equipment.

- LABORATORY EQUIPMENT

Ideal for analytical instruments, gas handling systems, and chemical reactors requiring extreme chemical inertness and temperature stability.

- INFRARED HEATING

Engineered for industrial heating elements, semiconductor processing, and thermal treatment systems operating at extreme temperatures.



# TECHNICAL SPECIFICATIONS

## MATERIAL PROPERTIES

Property	Value
Chemical Composition	SiO <sub>2</sub> ≥ 99.97%
Density	2.2 g/cm <sup>3</sup>
Thermal Conductivity	1.4 W/m·°C
Coefficient of Thermal Expansion	0.55 × 10 <sup>-6</sup> /°C (20–300°C)
Thermal Shock Resistance	ΔT > 1000°C
UV Transmittance (254nm)	92%
Visible Transmittance (550nm)	93%
Maximum Operating Temperature	1100°C (continuous)
Dielectric Constant	3.75



# CUSTOMIZATION OPTIONS

**TOQUARTZ® offers extensive customization capabilities for your specific application requirements:**

- Custom Geometries: Variable bend angles, asymmetrical leg lengths, multi-bend configurations
- End Treatments: Fire-polished, precision ground, flared, or beaded ends
- Special Materials: Low-OH content, doped quartz, ultra-high purity options
- Surface Treatments: Interior/exterior coatings, etching, or texturing



## CUSTOMIZATION MANUFACTURING

### **TOQUARTZ offers comprehensive custom manufacturing services:**

- Technical drawing assistance
- Material selection consultation
- Prototype development
- Quality inspection and testing

Our engineering team works directly with customers to develop solutions for specific requirements, from prototyping through volume production.





# 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.*