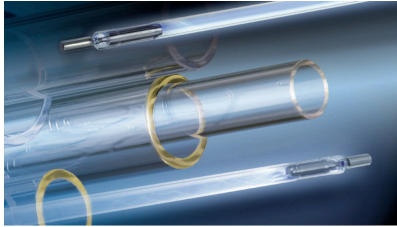


M-Series Cerium-doped Quartz Tube

Specification Datasheet · TopRays Quartz Materials

M-series quartz is a high-purity semi-synthetic material doped with cerium. It effectively blocks ultraviolet transmission below 382 nm and is typically used where high surface quality, good homogeneity and low bubble content are required. These applications include:



Applications

- Short-arc lamps
- High-energy laser flash lamps
- Continuous and pulsed laser lamps
- Solarization-resistant lamps
- Laser pump lamps

Product Features

M-series quartz is produced by an oxy-hydrogen flame fusion process. The raw material is made from high-purity synthetic quartz crystal.

It not only blocks part of the UV spectrum but also improves laser efficiency thanks to its fluorescence. The company's proprietary multi-stage steep production process draws the tubing without any contact with a die, effectively avoiding any surface contamination and achieving a near-flawless surface, no air gaps, extremely low bubble content and high homogeneity.

Because of the multi-step “free-drawing” production process, these tubes are available in many diameters and wall thicknesses, which also keeps the minimum order quantity low. The M series offers better UV blocking at around 250 nm.

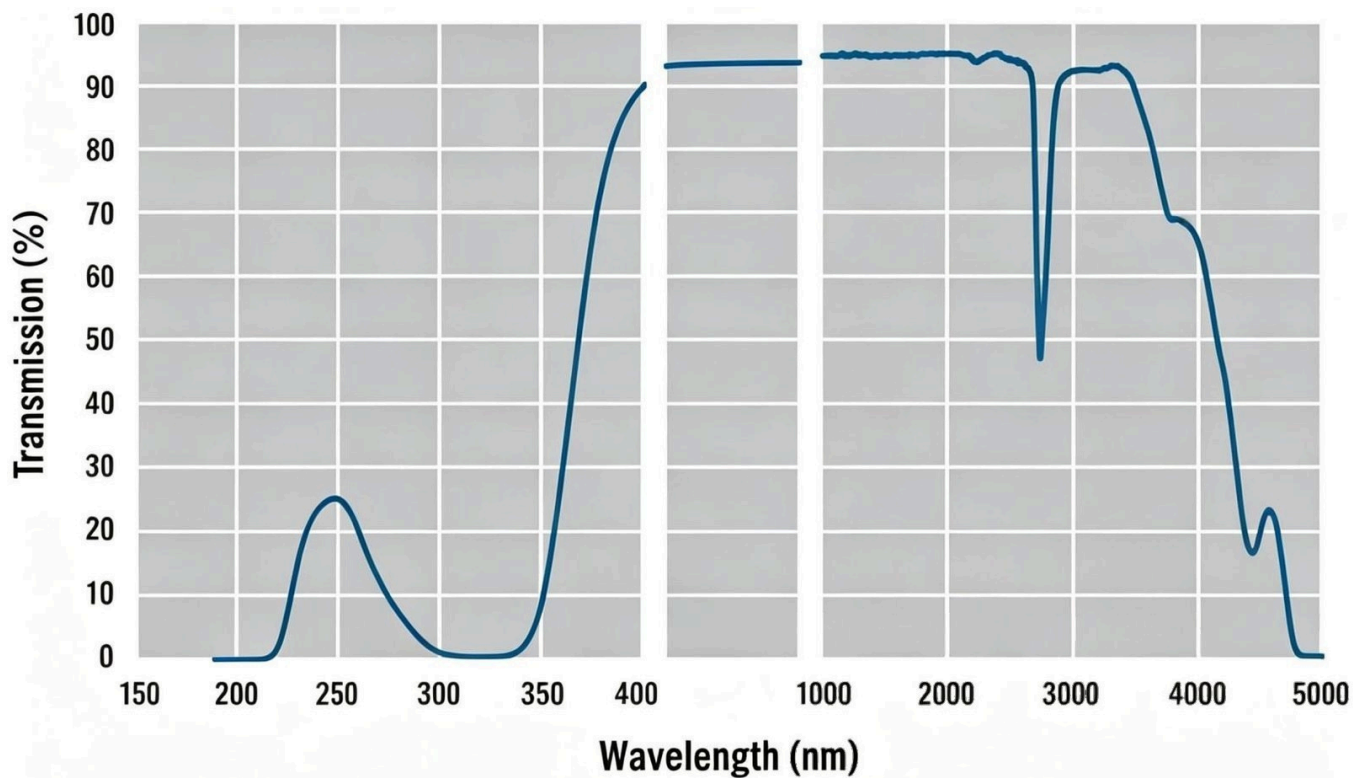
Dimensions

OD range [mm]	OD tolerance [mm]	Wall thickness range [mm]	Wall thickness tolerance [mm]
≥2.0 – ≤8.0	±0.3	≥0.4 – ≤0.5	±0.15
>0.5 – ≤1.2	±0.2		
>1.2 – ≤2.0	±0.3		
>8.0 – ≤17.0	±0.4	≥0.8 – ≤1.2	±0.2
>1.2 – ≤2.0	±0.3		
>2.0 – ≤2.8	±0.4		
>2.8 – ≤3.5	±0.5		
>17.0 – ≤25.0	±0.6	≥1.0 – ≤1.2	±0.2

OD range [mm]	OD tolerance [mm]	Wall thickness range [mm]	Wall thickness tolerance [mm]
>1.2 – ≤2.0	±0.3		
>2.0 – ≤2.8	±0.4		
>2.8 – ≤3.7	±0.5		
>3.7 – ≤4.5	±0.6		
>4.5 – ≤6.0	±0.7		
>25.0 – ≤30.0	±0.7	>1.2 – ≤2.0	±0.3
>2.0 – ≤2.8	±0.4		
>2.8 – ≤3.7	±0.5		
>3.7 – ≤4.5	±0.6		
>4.5 – ≤6.0	±0.7		
>30.0 – ≤35.0	±0.8	>1.2 – ≤2.0	±0.3
>2.0 – ≤2.8	±0.4		
>2.8 – ≤3.7	±0.5		
>3.7 – ≤4.5	±0.6		
>4.5 – ≤6.0	±0.7		
>35.0 – ≤40.0	±1.0	>1.2 – ≤2.0	±0.3
>2.0 – ≤2.8	±0.4		
>2.8 – ≤3.7	±0.5		
>3.7 – ≤4.5	±0.6		
>4.5 – ≤6.0	±0.7		

Note: other sizes and tolerances available on request.

Spectral Transmission



Chemical Properties

OH content	Element	Li	Na	K	Mg	Ca	Fe	Cu	Cr	Mn	Al
130–200 ppm (unchanged by annealing)	Content	1	1	0.1	0.1	0.1	0.2	0.1	0.1	0.05	10

Unit: ppm (µg/g)

Features & Applications

Item	Fit
UV blocking	• Ideal
Homogeneity	● Partial
Best surface finish	• Ideal

Typical Applications

Item	Fit
Long-arc lamps (e.g. laser pump lamps)	• Ideal
Pulsed and continuous flash lamps	• Ideal

Legend: • Ideal ● Partial