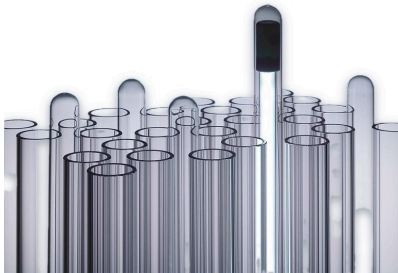


H-Series Natural Electrically-melted Quartz

Specification Datasheet · TopRays Quartz Materials

The H series is an electrically fused quartz tube made from natural quartz sand and refined with a mature purification process, tailored to high-efficiency, volume lamp production. Manufactured with the single-step V-ZUG process, it offers stable performance and an excellent cost-performance ratio — a preferred quartz tube for general lighting and instrument light sources.



Key Features

- Extremely low bubble content: bubble levels are tightly controlled inside the tubing, so light transmission is uniform and both lamp efficiency and service life are protected.
- Precise dimensional tolerances: the mature, stable process holds OD and wall thickness to tight tolerances with high consistency, suiting automated assembly.

Typical Applications

- Medium-pressure gas discharge lamps
- Metal halide lamps
- Light sources for analytical instruments
- Short-arc lamps
- IR lighting / heating lamps
- Protective sleeves for UV lamps

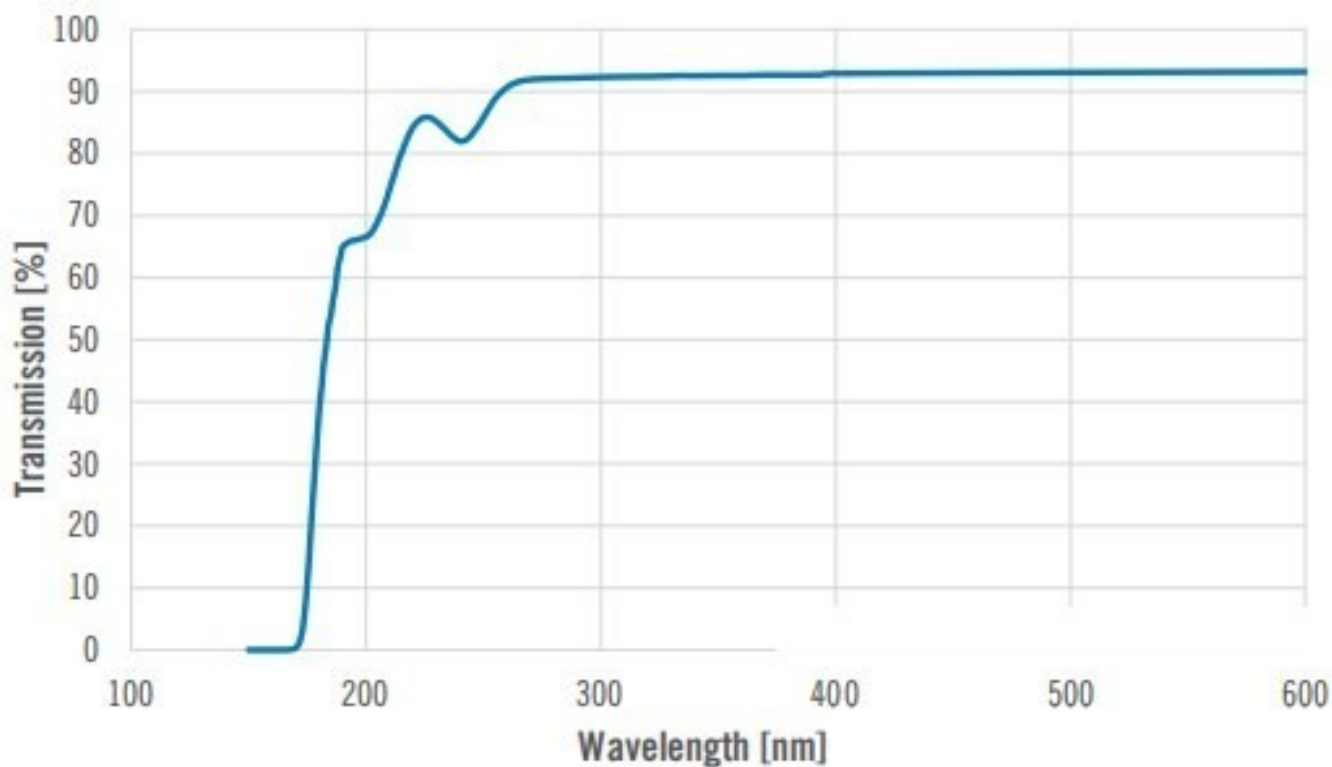
This product suits a wide range of industrial and lighting sources and is used in both standard and specialty lamps:

Positioning

Compared with high-purity synthetic quartz, the H-series electrically fused quartz tube focuses on cost-effectiveness and suitability for volume production rather than extreme purity. It targets general lighting sources, balancing quality and cost, and suits large-volume production of standardised lamps.

Optical Transmission

Wavelength [nm]	200	215	230	254	360
Transmission [%] (2 mm wall)	88	91	92	93	93



Typical transmission at 2 mm wall thickness

Geometry

OD range [mm]	OD tolerance [mm]	Wall thickness range [mm]	Wall thickness tolerance [mm]
10 ≤ OD ≤ 23	±0.3	0.9-2	±0.15
		>2-<4	±0.30
		>4-≤6	±0.40
>23 ≤ 40	±0.4	0.9-2	±0.15
		>2-<4	±0.30
		>4-≤6	±0.40
>40 ≤ 62	±0.5	0.9-2	±0.15
		>2-<4	±0.30

Feature	OD range	Tolerance	Notes
Ovality	OD > 10 – ≤ 20 mm	≤ 0.25 mm	
	OD > 20 – ≤ 46 mm	≤ 0.50 mm	
	OD > 46 – ≤ 60 mm	≤ 0.60 mm	

Feature	OD range	Tolerance	Notes
Wall eccentricity	Fabricated length	< ½ wall thickness tolerance	(e.g. wall thickness ± 0.20 = siding 0.20)
Bow	All sizes	< 1.0 mm / 1m	Not annealed
		< 1.5 mm / 1m	Annealed
Length	-	+ 25 mm / - 0 mm	Score cutting ¹

Note: other sizes and grades are available on request

Visual Characteristics

Item	Value
Inclusions	None
Surface contamination (attachments)	None
Open bubbles	None
Devitrification	≤ 1.0 mm; max. 3 per metre
Bubbles ²	< 6% (annealed inner surface; cumulative length of closed bubbles)

Physical Properties

Item	Value
Softening point	~ 1710 °C
Annealing point	~ 1220 °C
Strain point	~ 1125 °C
Viscosity at 1300 °C	~ 11.95 dPas
Maximum working temperature	Continuous operation ~ 1160 °C
	Short-term operation ~ 1300 °C
Density	2.2 g/cm ³

Notes

- ¹ Other cutting methods available on request
- ² Bubbles shorter than 10 mm and narrower than 0.1 mm are not counted