

HLQ 200

Electrically melted single step quartz tube



Product Overview

HLQ200 is an electrically fused quartz made from natural quartz sand, which is purified by the Heraeus refinement process. HLQ200 is designed for high efficiency and high-volume lamp applications. The tube is fabricated using the Heraeus single-step process (V-ZUG).

Key Features

- low bubble content
- tight tolerances

Applications (e.g.)

- medium pressure lamp
- metal halide lamp
- analytical lamp
- short-arc lamp
- IR lamp
- sleeve for UV lamp

Geometrical Data

Outer Diameter (OD)		Wall Thickness (WT)	
Range [mm]	Tolerance [mm]	Range [mm]	Tolerance [mm]
10 - ≤ 23	± 0.3	0.9 - 2 > 2 - ≤ 4	± 0.15 ± 0.30
> 23 - ≤ 40	± 0.4	0.9 - 2 > 2 - ≤ 4 > 4 - ≤ 6	± 0.15 ± 0.30 ± 0.40
> 40 - ≤ 62	± 0.5	0.9 - 2 > 2 - ≤ 4 > 4 - ≤ 6	± 0.15 ± 0.30 ± 0.40

Additional sizes and tolerances are available on request

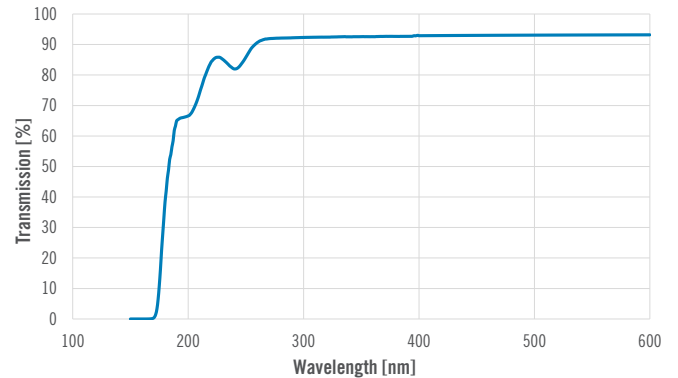
Feature	Area	Tolerance	Note
Ovality	OD > 10 - ≤ 20mm	≤ 0.25mm	
	OD > 20 - ≤ 46mm	≤ 0.50mm	
	OD > 46 - ≤ 60mm	≤ 0.60mm	
Siding	manufactured length	< ½ WT tolerance	(e.g. ± 0.20 WT = siding of 0.20)
Bow	all dimensions	< 1.0mm / 1m < 1.5mm / 1m	not annealed annealed
Length	-	+ 25mm / - 0mm	snap cut ¹

Chemical Properties

Typical OH Content [ppm]	~ 100 as drawn, reducible through vacuum annealing – <5 / <1										
Chemical Impurities [ppm]	Li	Na	K	Mg	Ca	Fe	Cu	Cr	Mn	Al	Ti
	0.6	0.1	0.2	0.03	0.6	0.1	<0.05	<0.05	<0.05	14	1.3

Optical Properties

Typical transmission values for 2mm wall thickness



Wavelength [nm]	200	215	230	254	360
Transmission [%]	67	80	86	88	93

Visual Features

Tolerance

Inclusions	none
Surface Impurities (adherent)	none
Open Bubbles	none <small>relates to inner surface</small>
Devitrification	≤ 1.0mm; max. 3 pcs / 1m <small>annealed</small>
Bubbles ²	< 6% <small>cumulative length of closed bubbles</small>

Physical Properties

Softening Temperature	~ 1710°C
Annealing Temperature	~ 1220°C
Strain Temperature	~ 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

¹ Other cutting methods on request

² Bubbles < 10 mm length and < 0.1 mm width are not counted

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The data given here is correct as of July 2021 and is subject to change.

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