

## DATA SHEET

## IR QUARTZ – QI 32

### General Product Description

IR Quartz – QI 32 is a high purity quartz glass materials made by fusion of natural quartz crystals in an electrically heated furnace. QI 32 provides good UV, visible and IR transmission. Due to the low water content, it shows superior transmission at IR range up to 3500nm. Used as an equivalent to HOQ310.

The high purity (over 99.95%) of QI 32 Fused Quartz materials ensures minimum contamination in process applications. The low coefficient of thermal expansion allows the materials to be rapidly heated and cooled with virtually no risk of breakage.

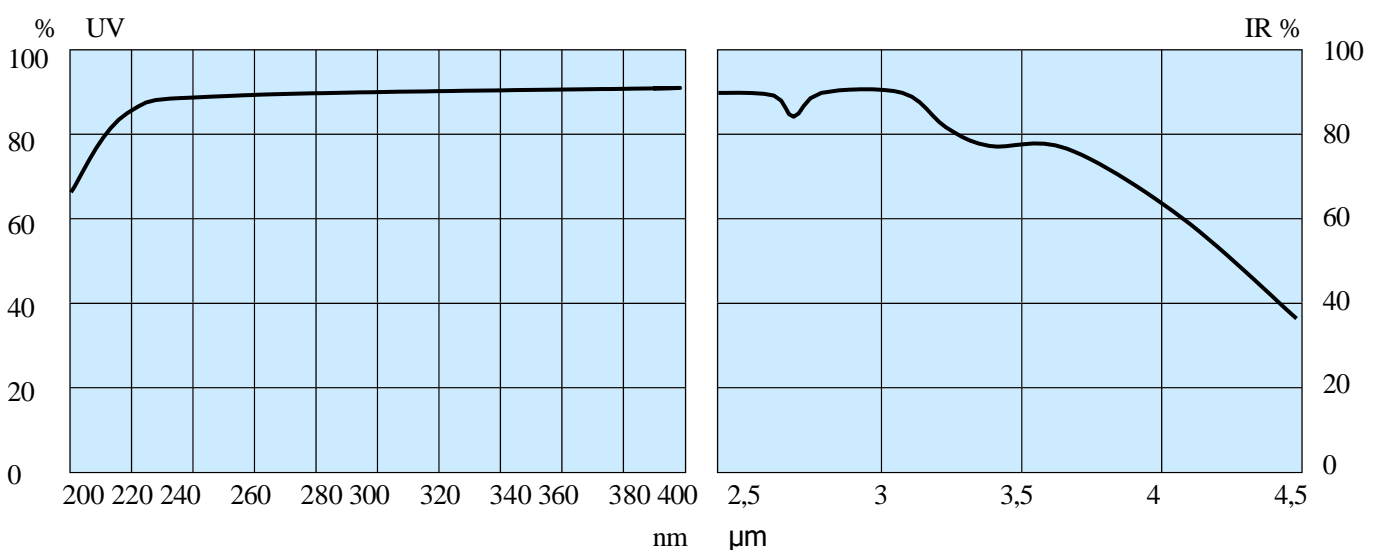
QI 32 shows low bubble and inclusion content and is visually bubble-free.

QI 32 provides excellent physical, thermal, optical characteristics.

### Optical Properties:

Wave length $\lambda$ [nm]	200	254	360	400
Transmission T[%]	> 65	> 87	> 90	> 90

### Transmission Curve (based on 1mm thick plates)



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### Typical Trace Elements

Al	22ppm
B	0.39ppm
Ca	1.3ppm
Cr	0.02ppm
Cu	0.17ppm
Fe	1.2ppm
K	1.1ppm
Li	1.8ppm
Mg	0.4ppm
Na	3.4ppm
Ni	0.04ppm
Ti	1.4ppm

### Mechanical Properties

Density	$2.2 \times 10^3 \text{ kg/m}^3$
Young's modulus	$7.2 \times 10^5 \text{ Pa}$
Poisson's ratio	0.16
Knoop hardness	580 kg/mm <sup>2</sup>
Index of refraction	1.4585

### Thermal Properties

Thermal Expansion Coefficient (20-320°C)	$5.4 \times 10^{-7} \text{ cm/cm}^\circ\text{C}$
Softening Point	1650°C
Annealing Point	1150°C
Strain Point	1020°C