

Title: Optical materials / crystals (ultraviolet)
Material / Specification: Quartz for 260 - 2500nm transmission
Range / Description: OPM - quartz

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Optical fused quartz is manufactured of naturally occurring high-purity quartz crystal by various companies under different trade names, **Vitreosil® UV/VIS** is one such product which along with others we supply has a useful transmission range from <266nm in the near UV through the visible to >2000nm in the infrared.

Optical Properties

Vitreosil® Grade	UV/VIS
Bubbles	
Bubble class (DIN 58927)	0..1
Sum of CSA (mm ² / 100 cm ³)	< 0.1
Maximum bubble diameter (mm)	0.5
Maximum number of inclusions (0.1 - 0.2 mm per 100 cm ³) (Bubbles and inclusions <0.1 mm are not counted)	2
Striae (MIL- G -174A) in functional direction (i.e. direction of view) (The direction of view should be specified at time of enquiry / order)	B
Residual strain (nm/cm)	< 5
Fluorescence (254 nm excitation)	Blue / Violet
Radiation resistance	Slight darkening after prolonged exposure Darkens after 10 ⁷ RAD
X-Ray & Gamma Ray	

Typical Chemical Analysis

Vitreosil® UV/VIS	
Typical trace elements in ppm†	
Al	15
Ca	0.5
Cr	< 0.01
Cu	< 0.01
Fe	0.1
K	0.2
Li	0.2
Mn	0.01
Na	0.1
Nd	0.01
Ti	1.3
Y	< 0.1
Zr	1.3
OH	170

† Chemical analysis can vary slightly between individual batches of material

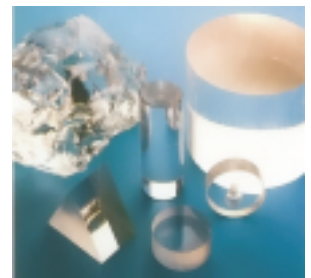
Thermal Data

Strain Point ‡	1085°C
Annealing Point ‡	1195°C
Softening Point ‡	1730°C

Thermal Expansion

Coefficient (Average)	0.54 x 10 ⁻⁶
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‡ Note that these values may vary depending on the thermal history of the glass



Transmission

Typical external transmission of Vitreosil® UV/VIS fused quartz (including Fresnel reflection losses for 10 mm pathlength)

