



## Synthetic Crystalline Quartz

We offer:

- raw materials
- blanks and shapes for a requested form
- polished and coated optical element

Countries of origin of the material are Belarus / Russia. Material is processed by VM-TIM

### Internal transmission $\tau$ (thickness 10mm) and refractive indices $n_o$ , $n_e$

	application range	180nm	220nm	340nm	590nm	1 $\mu$ m	2,5 $\mu$ m	3 $\mu$ m
$\tau$	180nm - 3 $\mu$ m	>80%	>97%	>99%	>99%	>99%	>98%	>88%
$n_o$		1.688	1.625	1.567	1.544	1.535	1.512	1.500
$n_e$		1.703	1.637	1.577	1.553	1.544	1.520	1.507

### General properties

Density	2.65 g/cm <sup>3</sup>
Coefficient of linear thermal expansion	$\perp \geq 7.1 \cdot 10^{-6} / ^\circ\text{C}$ $\parallel \geq 13.2 \cdot 10^{-6} / ^\circ\text{C}$
Melting temperature	1,467°C
Specific thermal capacity	710 J/(kg°C)
Twinnings Striaes Punctures on z-surface	not allowed
Etch channels	< 100 cm <sup>-1</sup>
Homogeneity	$\Delta n < 3 \cdot 10^{-6}$
Density of bubbles and inclusions	10-30 $\mu$ m $\leq 2 / \text{cm}^3$ 30-70 $\mu$ m $\leq 1 / \text{cm}^3$ >70 $\mu$ m not allowed
Total cross-section	< 0.03 mm <sup>2</sup> /100ml
Orientation: z-surface to y and x axes	zx +/-15arcmin zy +/-15arcmin
Dimensions	y up to 200mm x up to 100mm z up to 100mm other dimensions are possible by request

Extended list of properties is available by request

Prices are available by request: [info@vm-tim.de](mailto:info@vm-tim.de)