Krystal Technology

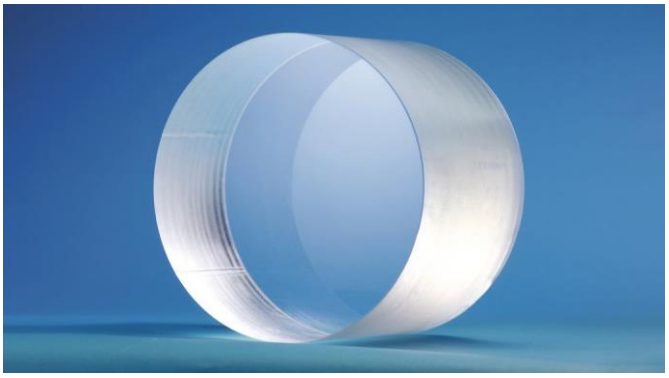
Spectrosil® 1000

Characteristics

- Highest chemical purity
- Free of bubbles and inclusions
- Superior transmission in UV and visible
- Attractive performance/ cost ratio

Applications

- Semiconductor industry



Spectrosil® 1000 synthetic fused silica is manufactured using an environmentally friendly process resulting in a glass of exceptional purity and excellent visual quality.

Spectrosil® 1000 has been designed for the highest demanding semiconductor applications. Spectrosil® 1000 is chlorine-free, free of bubbles and inclusions, and provides an ultra-high purity which makes it one of the cleanest materials available.

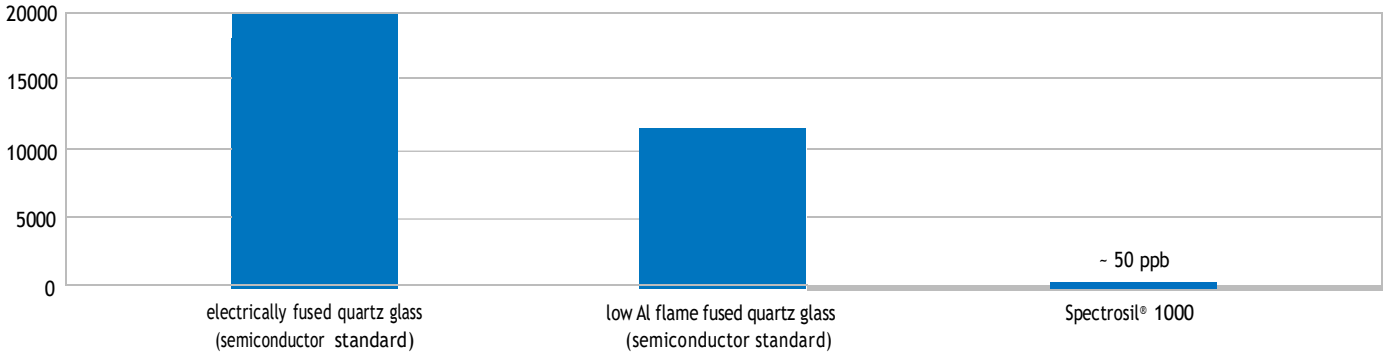
Quartz components made from Spectrosil® 1000 eliminate the risk of contamination in plasma etch applications and sensitive deposition processes such as ALD.

In addition, the superior transmission characteristics make it the ideal material for use in modern UV assisted processes.

- Spectrosil® 1000 is readily available in diameters of up to 380 mm.
- For larger sizes, please check with your local contact.

Comparison of typical level of metal impurities measured in high quality quartz glass types

Sum of Al, Ca, Cu, Fe, Na, K, Li, Mg, Ti in ppb.



Chemical Properties (Typical Values)

Trace Element Concentration (ppm)

	Al	Ca	Cr	Cu	Fe	K	Li	Mg	Na	Ti	V	OH
Spectrosil® 1000	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 1350

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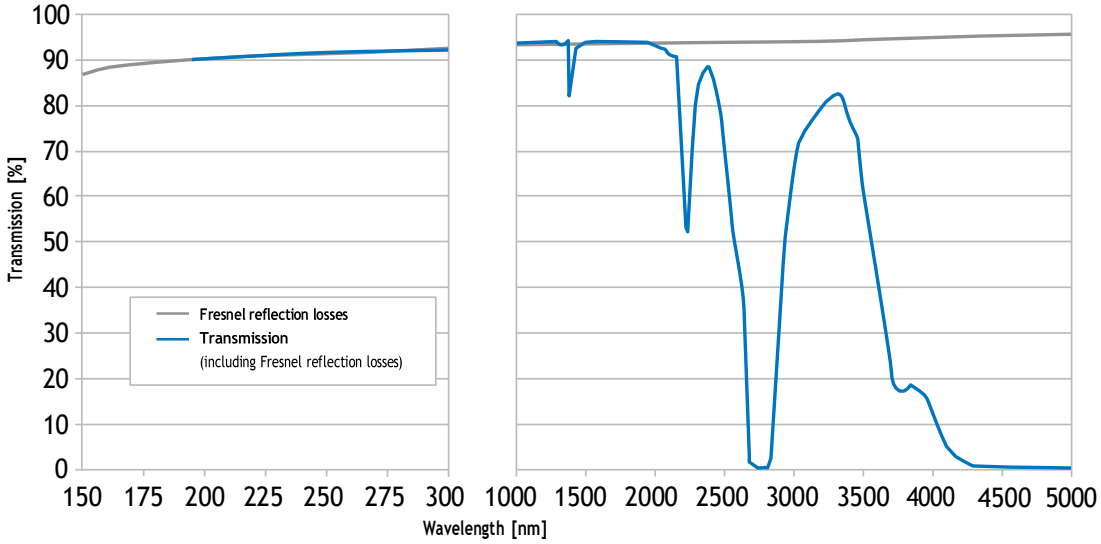
Typical Transmission Spectrum

Sample thickness: 10 mm



Visual Properties

Bubbles	
Bubble class (DIN 58927)	0
Maximum number of inclusions*	0

* Bubbles and Inclusions with ⌀ ≤ 80 µm are not counted.

Other Properties

Abbe number	67.8
Density	2.2 g/cm^3
Hardness (Mohs scale)	5.5...6.5

Thermal Properties

Strain temperature*	1025 °C
Annealing temperature*	1120 °C
Softening temperature*	1600 °C
Coefficient of thermal expansion	0.54 × 10^{-6} (Average, K^{-1} 0...600 °C)

* Note that these values may vary, depending on the thermal history of the glass.

UK

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