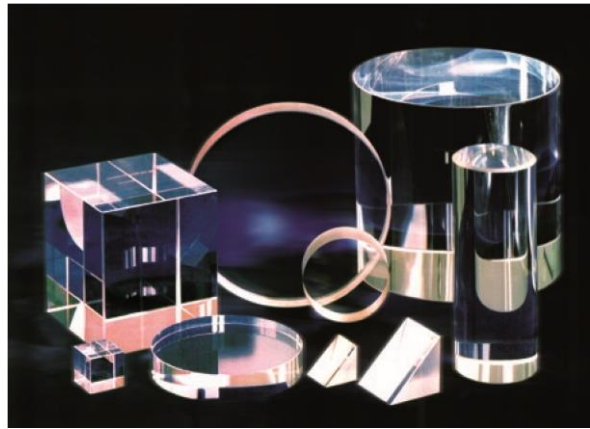


Spectrosil® 2000

Material Characteristics

Spectrosil® synthetic fused silica is manufactured using a unique, environmentally friendly fusion process resulting in a glass of exceptional purity and excellent visual quality. It is a very highly transmissive fused silica glass that excels in high energy, deep UV applications.

Spectrosil® 2000 is free of bubbles and inclusions and due to its ultra-high purity, has excellent optical transmission in the deep ultraviolet and visible, with a useful range from below 180 nm through to 2000 nm.



Spectrosil® Grade

2000

■ Striae ISO 10110-4	Class 5 in Functional Direction
■ Birefringence / Residual Strain¹⁾ (Typical values)	≤ 5 nm/cm
■ Bubbles Bubble class (DIN 58927)	0
Maximum number of inclusions ²⁾	0
■ Fluorescence³⁾ (254 nm excitations)	Free

1) Stress induced birefringence is valid for 80 % of the diameter of an ingot or for 90 % diameter of a machined component.

2) Bubbles and Inclusions with $\phi \leq 80 \mu\text{m}$ are not counted. Inclusions free down to $10 \mu\text{m}$ upon request.

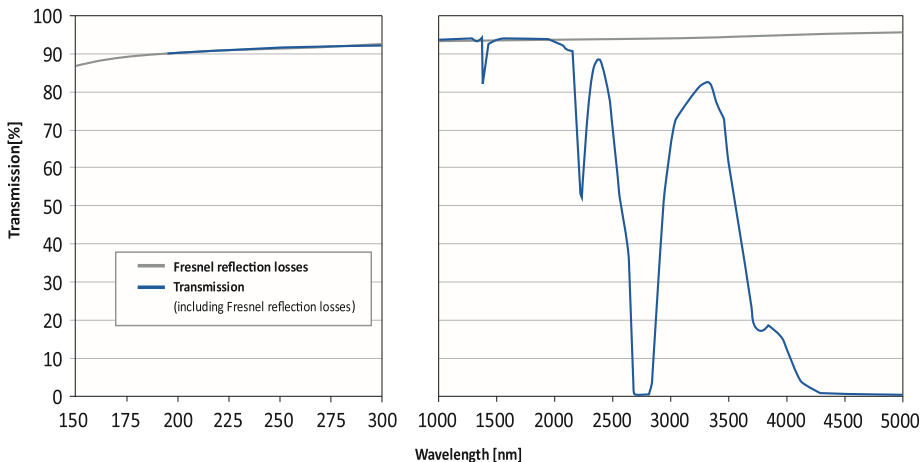
3) Excitation by Hg-Lamp @ $\lambda = 254 \text{ nm}$ and UQ 5-filter; Lamp-power: 8W; Detection: adapted eye

Transmission - Typical Internal Transmission (10 mm path length)

	$\lambda = 193.4 \text{ nm}$	$\lambda = 248 \text{ nm}$
Spectrosil® 2000	> 98.5 %	> 99.5 %

Typical Transmission Spectrum

Sample thickness: 10 mm



Typical Chemical Analysis

Typical trace elements	in ppb	Al	Ca	Cr	Cu	Fe	K	Li	Mg	Na	Ti	V	in ppm	OH
Spectrosil® 2000		< 10	< 15	< 1	< 3	< 5	< 10	< 1	< 5	< 10	< 5	< 5		< 1350
(below limits of detection)														

Technical Properties

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: (Average, K ⁻¹ 0 ... 600 °C)	0.54 x 10 ⁻⁶

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

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