

Laser Cavity Filter Glass

S7010N, S7005 and S7000

Product Information

S7000 is a clear, cerium doped glass usable as laser cavity material. It is also available to serve as a cut-off material.

S7005 is a laser cavity material with 5% doping of samarium oxide (Sm_2O_3). This material is usually thicker than 6 mm.

S7010N is a laser cavity material with 10% doping of samarium oxide. This glass is recommended for most applications.

SCHOTT offers a complete line of these commercial silicate filter glasses and can produce a full range of doping levels for specific applications.

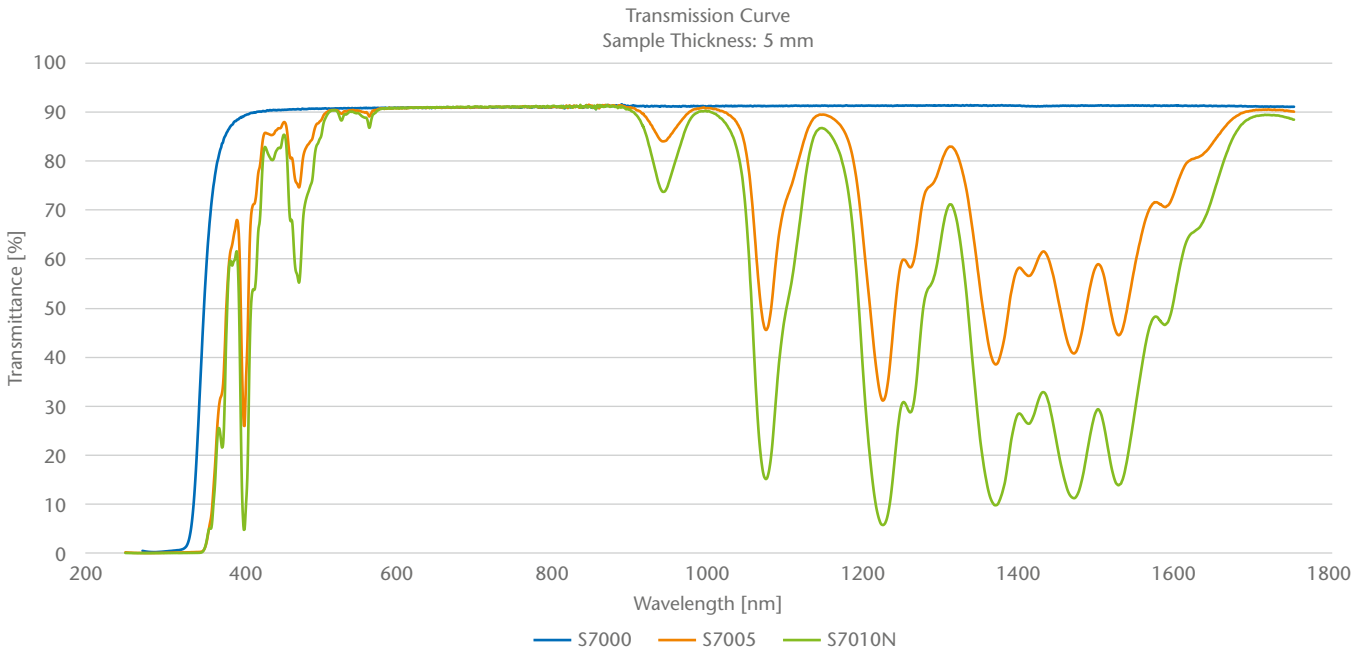
Forms of Supply

The glass is available as cut blanks.

Optical Properties			
	S7000	S7005	S7010N
n_d	1.5632	1.5623	1.5597
v_d	55.3	55.1	55.3
$n_{1054 \text{ nm}}$ (calculated)	1.553	1.552	1.549
$n_{1540 \text{ nm}}$ (calculated)	1.550	1.549	1.547

Physical Properties			
	S7000	S7005	S7010N
Density ρ [g/cm^3]	2.88	2.88	2.88
Thermal Conductivity $\lambda_{25^\circ\text{C}}$ [$\text{W}/(\text{m}\cdot\text{K})$]	0.84	0.84	0.84
Thermal Conductivity $\lambda_{90^\circ\text{C}}$ [$\text{W}/(\text{m}\cdot\text{K})$]	0.92	0.92	0.92
Young's Modulus E [$10^3 \text{ N}/\text{mm}^2$]	78	79	78
Poisson's Ratio μ	0.25	0.25	0.25
Thermal Expansion $\alpha_{(+20/+300^\circ\text{C})}$ [$10^{-6}/\text{K}$]	11.3	11.4	11.4
Transformation Temperature T_g [$^\circ\text{C}$]	454	456	453

Chemical Properties			
	S7000	S7005	S7010N
Water Loss in 50°C Water [$\text{mg}/(\text{cm}^2\cdot\text{d})$]	0.011	0.012	0.013
SR	1.0	1.0	1.0
AR	1.0	1.0	1.0
FR	0	0	0
CR	1	1	1



Advanced Optics
SCHOTT North America, Inc.
400 York Avenue
Duryea, PA 18642
USA
Phone +1 570/457-7485
Fax +1 570/457-7330
info.optics@us.schott.com

www.us.schott.com/advanced_optics

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