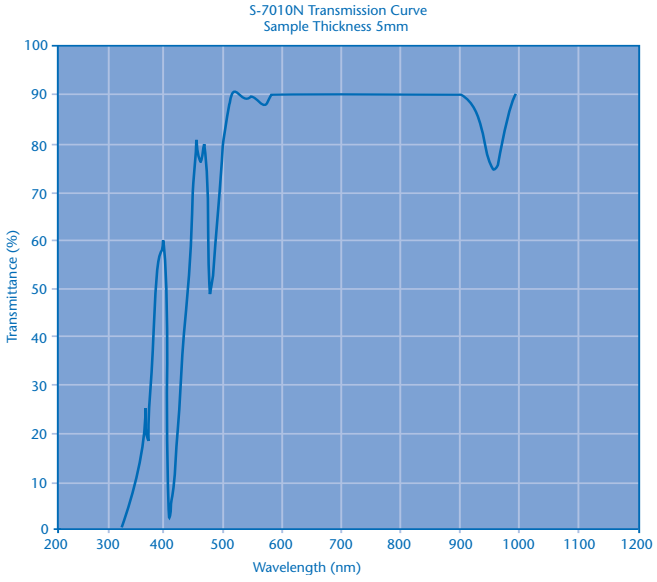
Passive Glasses
Laser Cavity Materials
S7010N, S7005 and S7000

S7000 is a clear, cerium-doped silicate glass used as a laser cavity material. It is also available to serve as a UV cut-off material.
S7005 is a laser cavity material with 5% doping of samarium oxide. This material is usually thicker than 6mm.
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 commercial filter glasses and can produce with a full range of doping levels for specific applications.

Property Sheet for S7010N

Optical Properties	
n_d	1.560
v_d	55.0
n_{1054nm}	1.558
n_{1540m}	1.549
UV Cut-off at 10% Transmission, Thickness of 5mm [nm]	364.1±2.1
Absorption Coefficient at 1060nm [cm^{-1}]	3.1±0.1
Optical Density at 1064nm [cm^{-1}]	1.4±0.1



Physical Properties	
Density, *p* [g/cm^3]	2.88
Thermal Conductivity (25°C), *K* [W/m•K]	0.78
Thermal Conductivity (90°C), *K* [W/m•K]	0.93
Young's Modulus, E [GPa]	78
Poisson's Ratio, *v*	0.246
Thermal Expansion, $\alpha_{20\text{-}300^\circ C}$ [10^{-7}/°C]	115
Transformation Temperature, T_g [°C]	452
Softening Point ($10^{7.6}$poise) [°C]	594

Chemical Properties	
Weight Loss in 50°C Water [mg/(cm^2•day)]	0.180
Acid Resistance SR pH=0.3 at 25°C	1.2
Alkali Resistance AR pH=12 at 50°C	1.0
Staining Resistance FR pH=4.6 100h at 25°C	1
Climatic Resistance CR Water Vapor at 40-50°C for 30 h	1-2
Samarium Content [wt% Sm_2O_3]	10

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