Schott AF 45 Thin Borosilicate Glass

Category : Ceramic , Glass , Optical , Oxide , Silicon Oxide

Material Notes:

AF 45 is an alkali-free modified borosilicate glass with a high content of BaO and Al2O3. AF 45 with, its specific properties and large range of different thicknesses with tight tolerances, is exceptionally well suited for a number of applications including: liquid crystal displays, electroluminescent displays, CCD covers, hybrid circuits and solar cells. Due to a special down draw production process, AF 45 glass sheets are marked by fire-polished surfaces; this glass type can be used without ground and polished surfaces. AF 45 offers excellent thermal resistance for high temperature applications up to approximately 600Â°C.Information provided by SCHOTT North America.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Schott-AF-45-Thin-Borosilicate-Glass.php

Physical Properties	Metric	English	Comments
Density	2.72 g/cc	0.0983 lb/inÂ³	
Thickness	50.0 - 1100 microns	1.97 - 43.3 mil	

Mechanical Properties	Metric	English	Comments
Hardness, Knoop	555	555	HK₁₀₀
Modulus of Elasticity	66.0 GPa	9570 ksi	
Poissons Ratio	0.235	0.235	
Shear Modulus	26.7 GPa	3870 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	4.50 Âµm/m-Â°C @Temperature 20.0 - 300 Â°C	2.50 Âµin/in-Â°F @Temperature 68.0 - 572 Â°F	
Thermal Conductivity	0.930 W/m-K	6.45 BTU-in/hr-ftÂ²-Â°F	
	1.04 W/m-K @Temperature 87.0 Â°C	7.22 BTU-in/hr-ftÂ²-Â°F @Temperature 189 Â°F	
	1.10 W/m-K @Temperature 127 Â°C	7.63 BTU-in/hr-ftÂ²-Â°F @Temperature 261 Â°F	
	1.13 W/m-K @Temperature 166 Â°C	7.84 BTU-in/hr-ftÂ²-Â°F @Temperature 331 Â°F	

Thermal Properties	Metric	English	Comments
Softening Point	883 Â°C	1620 Â°F	10^{7.6} dPa-s
Annealing Point	663 Â°C	1230 Â°F	10¹³ dPa-s

Optical Properties	Metric	English	Comments
Refractive Index	1.5255 @Wavelength 588 nm	1.5255 @Wavelength 588 nm	n_d
	1.5275 @Wavelength 546 nm	1.5275 @Wavelength 546 nm	n_e
Transmission, Visible	91.2 % @Thickness 1.10 mm	91.2 % @Thickness 0.0433 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.60e+9 ohm-cm @Temperature 500 Â°C	1.60e+9 ohm-cm @Temperature 932 Â°F	
	3.20e+11 ohm-cm @Temperature 350 Â°C	3.20e+11 ohm-cm @Temperature 662 Â°F	
	6.00e+13 ohm-cm @Temperature 250 Â°C	6.00e+13 ohm-cm @Temperature 482 Â°F	
Dielectric Constant	6.2 @Frequency 1e+6 Hz	6.2 @Frequency 1e+6 Hz	
Dissipation Factor	0.00090 @Frequency 1e+6 Hz	0.00090 @Frequency 1e+6 Hz	

Descriptive Properties	Value	Comments
Abbe Value	62.2	v_e
Dispersion	0.0084	n_F - n_C
Strain Point	627Â°C	10^{14.5} dPa-s
Stress Optical Coefficient	3.2	(1.02x10⁻¹² m²/N

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