

Schott Nextrema® 724-5 Glass Ceramic

Category : Ceramic , Glass , Glass Ceramic

Material Notes:

The NEXTREMA® family of glass-ceramics combines the glossy appearance of glass with exceptional thermal, chemical, optical and mechanical properties such as: Very low coefficient of linear thermal expansion Excellent temperature and thermal shock resistance High transmission in infrared range and unique visible light transmission profiles with different specific grades Excellent chemical resistance High mechanical strength technical data presented herein are typical averages. Manufacturer Data Sheet

Order this product through the following link:

http://www.lookpolymers.com/polymer_Schott-Nextrema-724-5-Glass-Ceramic.php

Physical Properties	Metric	English	Comments
Density	2.51 g/cc	0.0907 lb/in ³	
Porosity	0.000 %	0.000 %	ISO 9385

Mechanical Properties	Metric	English	Comments
Knoop Microhardness	625	625	HK _{0.1 / 20}; ISO 9385
Modulus of Elasticity	85.0 GPa	12300 ksi	ASTM C-1259
Flexural Strength	115 MPa	16700 psi	Bending s_b; DIN EN 1288, Part 5, R45
Poissons Ratio	0.260	0.260	ASTM C-1259

Thermal Properties	Metric	English	Comments
CTE, linear	0.560 Åµm/m-Å°C	0.311 Åµin/in-Å°F	
	@Temperature 20.0 - 300 Å°C	@Temperature 68.0 - 572 Å°F	
	1.26 Åµm/m-Å°C	0.700 Åµin/in-Å°F	
	@Temperature 300 - 700 Å°C	@Temperature 572 - 1290 Å°F	
Specific Heat Capacity	0.800 J/g-Å°C	0.191 BTU/lb-Å°F	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	
Thermal Conductivity	1.60 W/m-K	11.1 BTU-in/hr-ftÅ²-Å°F	DIN 51936, ASTM E 1461-01
	@Temperature 90.0 Å°C	@Temperature 194 Å°F	
Maximum Service Temperature, Air	550 Å°C	1020 Å°F	Inhomogeneous Heating
	@Time 1.80e+7 sec	@Time 5000 hour	

Thermal Properties	Metric ^{°C}	English ^{°F}	Comments
	@Time 1.80e+7 sec	@Time 5000 hour	Homogeneous Heating
	>= 650 °C	>= 1200 °F	Homogeneous Heating
	@Time 3600 sec	@Time 1.00 hour	
	650 °C	1200 °F	Inhomogeneous Heating
	@Time 3600 sec	@Time 1.00 hour	

Optical Properties	Metric	English	Comments
Transmission, Visible	0.000 %	0.000 %	
	@Thickness 4.00 mm, Wavelength 400 nm	@Thickness 0.157 in, Wavelength 400 nm	
	15.0 %	15.0 %	
	@Thickness 4.00 mm, Wavelength 600 nm	@Thickness 0.157 in, Wavelength 600 nm	
	23.0 %	23.0 %	
	@Thickness 4.00 mm, Wavelength 700 nm	@Thickness 0.157 in, Wavelength 700 nm	
IR Transmittance	48.0 %	48.0 %	
	@Thickness 4.00 mm, Wavelength 1000 nm	@Thickness 0.157 in, Wavelength 1000 nm	
	77.0 %	77.0 %	
	@Thickness 4.00 mm, Wavelength 1600 nm	@Thickness 0.157 in, Wavelength 1600 nm	
	80.0 %	80.0 %	
	@Thickness 4.00 mm, Wavelength 2500 nm	@Thickness 0.157 in, Wavelength 2500 nm	
UV Transmittance	0.000 %	0.000 %	
	@Thickness 4.00 mm	@Thickness 0.157 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	400000 ohm-cm	400000 ohm-cm	DIN 52326
	@Temperature 350 °C	@Temperature 662 °F	
	1.00e+7 ohm-cm	1.00e+7 ohm-cm	DIN 52326
	@Temperature 250 °C	@Temperature 482 °F	
	6.50	6.50	

Dielectric Constant Electrical Properties	@Frequency 1.00e+6 Metric Hz, Temperature 25.0 Â°C	@Frequency 1.00e+6 English Hz, Temperature 77.0 Â°F	Comments
Dielectric Loss Index	0.00300	0.00300	
	@Frequency 1.00e+6 Hz, Temperature 25.0 Â°C	@Frequency 1.00e+6 Hz, Temperature 77.0 Â°F	

Chemical Properties	Metric	English	Comments
Acid Class, SR	1.00	1.00	DIN 12116
Alkali Class, AR	1.00	1.00	ISO 695

Descriptive Properties	Value	Comments
Acoustical Characteristic, vlong.	6420 m/s	
Appearance	Translucent	
Color	White	
Hydrolytic Resistance HGB	1	DIN ISO 719
tk100(Â°C)	199	specific electric volume resistivity of 10⁸ OÂ·cm
Thermal Shock Resistance (TSR)	700Â°C	Resists cold water without cracking

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