

Material Data Sheet

MS 1 00 63 81 - 01

SCHOTT Nextrema™ Transparent / Non Transparent Ceramics

Material: 724 - 8

Optical Characteristics

Appearance		
Appearance	Opaque	
Colour	White	
Transmission ¹⁾		
λ [nm]	T (t _{sample} = 4mm)	
400	[%]	0
600		5
700		10
1600		46
Refractive Index ¹⁾		
n_g	(435.8 nm)	n/a
n_F	(480.0 nm)	n/a
n_F	(486.1 nm)	n/a
n_e	(546.1 nm)	n/a
n_d	(587.6 nm)	n/a
n_C	(643.8 nm)	n/a
n_C	(656.3 nm)	n/a
Abbé Value ¹⁾		
v_e	(546.1 nm)	n/a
v_d	(587.6 nm)	n/a

Mechanical Characteristics

Density ρ	[g/cm ³]	2.54
Young Modulus E	[10 ³ MPa]	86
Poisson Ratio μ	-	0.26
Knoop Hardness	HK 0.1 / 20	600
Bending Strength σ_{bB}	[MPa]	150

Chemical Resistance

Acid	S	1
Alkali	A	1
Hydrolytic	HGB	1

¹⁾ The values are typical averages. In case the material must fulfil optical requirements, individual analysis of each batch is possible

All technical data presented on this sheet are to be understood as typical averages

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Thermal Characteristics

Heat Capacity c_p (20-100°C)	[J/(g·K)]	0.8	
Thermal Conductivity λ (90°C)	[W/(m·K)]	1.7	
Max. Temp. Gradient (MTG)	[K]	580	
Thermal Shock (TSR)	[°C]	700	
Linear Expansion Coefficient			
α (-50, 100°C)	[10 ⁻⁶ /K]	on request	
α (0, 50°C)		on request	
α (20, 300°C)		0.63	
α (300, 700°C)		1.34	
Temp. Time Load Capacity (TTLC)		Hom.	Inhom.
Short Heating (1h)	[°C]	950	600
Continuous Heating (5000h)		850	550

Electrical Characteristics

$\log \rho$ (250°C)	[Ω·cm]	7.0
$\log \rho$ (350°C)		5.6
t_{k100}	[°C]	197
ϵ (1MHz, 25°C)	-	6,6
$\tan \delta$ (1MHz, 25°C)	-	0,002

Acoustical Characteristics

v_{long}	[m/s]	on request
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Remarks

Material Data Sheet

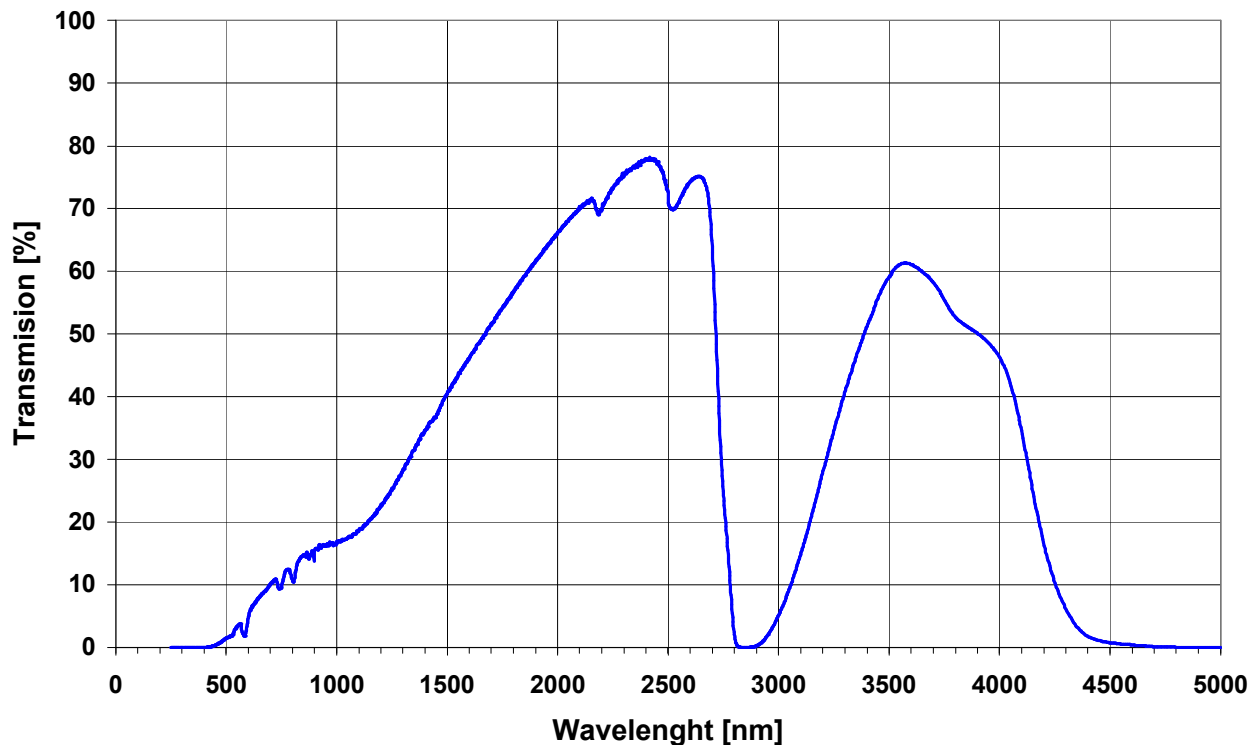
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Transmission

The transmission values are measured for a polished sample of a specific thickness. A typical transmission graph with sample thickness of approximately 4 mm is shown below.



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