

## Material Data Sheet

MS 1 00 70 81 - 04

## SCHOTT NEXTREMA® Transparent / Non Transparent Ceramics

Material: 724 - 5

**Optical Characteristics**

Appearance		
Appearance	Translucent	
Colour	White	
Transmission <sup>1)</sup>		
$\lambda$ [nm]	T (t <sub>sample</sub> = 4.0 mm)	
400	[%]	1
600		20
700		30
1600		80
Refractive Index <sup>1)</sup>		
n <sub>g</sub>	(435.8 nm)	n/a
n <sub>F'</sub>	(480.0 nm)	n/a
n <sub>F</sub>	(486.1 nm)	n/a
n <sub>e</sub>	(546.1 nm)	n/a
n <sub>d</sub>	(587.6 nm)	n/a
n <sub>C'</sub>	(643.8 nm)	n/a
n <sub>C</sub>	(656.3 nm)	n/a
Abbé Value <sup>1)</sup>		
v <sub>e</sub>	(546.1 nm)	n/a
v <sub>d</sub>	(587.6 nm)	n/a

**Mechanical Characteristics**

Density $\rho$	[g/cm <sup>3</sup> ]	2.5
Young Modulus E	[10 <sup>3</sup> MPa]	85
Poisson Ratio $\mu$	-	0.26
Knoop Hardness	HK 0.1 / 20	600
Bending Strength $\sigma_{bB}$	[MPa]	115

**Chemical Resistance**

Acid	S	1
Alkali	A	1
Hydrolytic	HGB	1

**Thermal Characteristics**

Heat Capacity $c_p$ (20-100°C)	[J/(g·K)]	0.80	
Thermal Conductivity $\lambda$ (90°C)	[W/(m·K)]	1.6	
Max. Temp. Gradient (MTG)	[K]	630	
Thermal Shock (TSR)	[°C]	700	
Linear Expansion Coefficient			
$\alpha$ (-50, 100°C)	[10 <sup>-6</sup> /K]	on request	
$\alpha$ (0, 50°C)		on request	
$\alpha$ (20, 300°C)		0.52	
$\alpha$ (300, 700°C)		1.18	
Temp. Time Load Capacity (TTLC)		Hom.	Inhom.
Short Heating (1h)	[°C]	> 650	650
Continuous Heating (5000h)		> 550	550

**Electrical Characteristics**

log $\rho$ (250°C)	[ $\Omega \cdot \text{cm}$ ]	7.0
log $\rho$ (350°C)		5.6
t <sub>k100</sub>	[°C]	199
$\epsilon$ (1MHz, 25°C)	-	6.5
tan $\delta$ (1MHz, 25°C)	-	0.003

**Acoustical Characteristics**

v <sub>long.</sub>	[m/s]	N/A
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**Remarks**

All technical advice in this technical data sheet does not release the customer from its responsibility to check the suitability for the intended use and the qualification for the intended application of the NEXTREMA® glass ceramic panel.

<sup>1)</sup> 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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Status: 12/17 replacing: 05/15

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glass made of ideas

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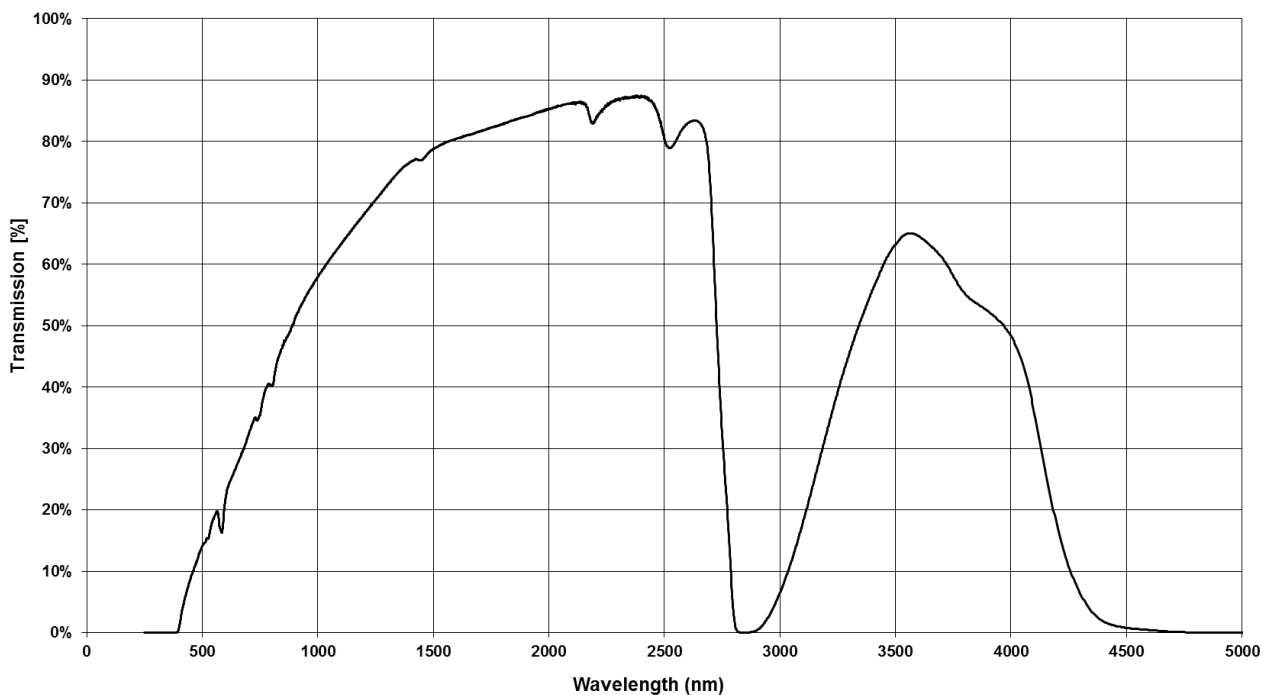
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### Transmission

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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