

## Material Data Sheet

MS 1 00 69 81 - 03

## SCHOTT NEXTREMA® Transparent / Non Transparent Ceramics

Material: 712 - 8

**Optical Characteristics**

Appearance		
Appearance	Opaque	
Colour	Grey	
Transmission <sup>1)</sup>		
$\lambda$ [nm]	T (t <sub>sample</sub> = 4 mm)	
600	[%]	0
700		0
1000		2
1600		25
Refractive Index <sup>1)</sup>		
$n_g$	(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 <sup>1)</sup>		
$v_e$	(546.1 nm)	n/a
$v_d$	(587.6 nm)	n/a

**Mechanical Characteristics**

Density $\rho$	[g/cm <sup>3</sup> ]	2.52
Young Modulus E	[10 <sup>3</sup> MPa]	84
Poisson Ratio $\mu$	-	0.26
Acid	S	2
Alkali	A	2
Hydrolytic	HGB	1

**Thermal Characteristics**

Heat Capacity $c_p$ (20-100°C)	[J/(g·K)]	0.83	
Thermal Conductivity $\lambda$ (90°C)	[W/(m·K)]	1.5	
Max. Temp. Gradient (MTG)	[K]	500	
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)		0.84	
$\alpha$ (300, 700°C)		1.60	
Temp. Time Load Capacity (TTLC)		Hom.	Inhom.
Short Heating (1h)	[°C]	950	520
Continuous Heating (5000h)		850	470

**Electrical Characteristics**

$\log \rho$ (250°C)	[ $\Omega \cdot \text{cm}$ ]	7.1
$\log \rho$ (350°C)		5.6
$t_{k100}$	[°C]	202
$\epsilon$ (1MHz, 25°C)	-	7.3
$\tan \delta$ (1MHz, 25°C)	-	0.004

**Acoustical Characteristics**

$v_{\text{long}}$	[m/s]	6520
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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: 05/15 replacing: 12/11

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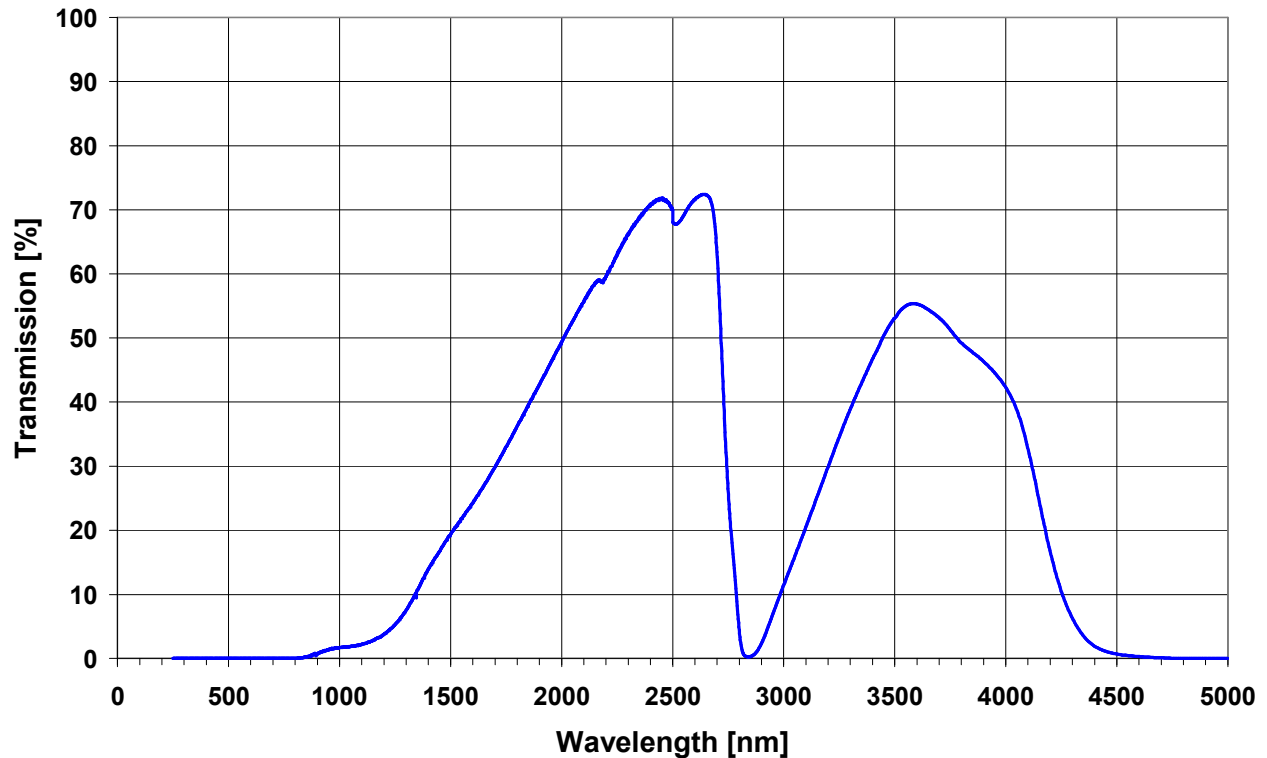
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### Transmission

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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