

## Material Data Sheet

MS 1 00 68 81 - 04

## SCHOTT NEXTREMA® Transparent / Non Transparent Ceramics

Material: 712 - 6

**Optical Characteristics**

Appearance		
Appearance	Translucent	
Colour	Blue Grey	
Transmission <sup>1)</sup>		
$\lambda$ [nm]	T (t <sub>Sample</sub> = 4.0 mm)	
600	[%]	0
700		8
1000		64
1600		74
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> ]	2,51
Young Modulus E	[10 <sup>3</sup> MPa]	86
Poisson Ratio $\mu$	-	0,26
Knoop Hardness	HK 0.1 / 20	590
Bending Strength $\sigma_{bB}$	[MPa]	150

**Chemical Resistance**

Acid	S	2
Alkali	A	2
Hydrolytic	HGB	1

<sup>1)</sup> The values are typical averages. In case the material must fulfill 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)]	0,80	
Thermal Conductivity $\lambda$ (90°C)	[W/(m·K)]	1,5	
Max. Temp. Gradient (MTG)	[K]	430	
Thermal Shock (TSR)	[°C]	600	
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	450
Continuous Heating (5000h)		780	400

**Electrical Characteristics**

log $\rho$ (250°C)	[ $\Omega \cdot \text{cm}$ ]	7,2
log $\rho$ (350°C)		5,7
t <sub>k100</sub>	[°C]	207
$\epsilon$ (1MHz, 25°C)	-	7,0
tan $\delta$ (1MHz, 25°C)	-	0,003

**Acoustical Characteristics**

v <sub>long.</sub>	[m/s]	6500
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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.

Internal  
**SCHOTT**  
glass made of ideas

# Material Data Sheet

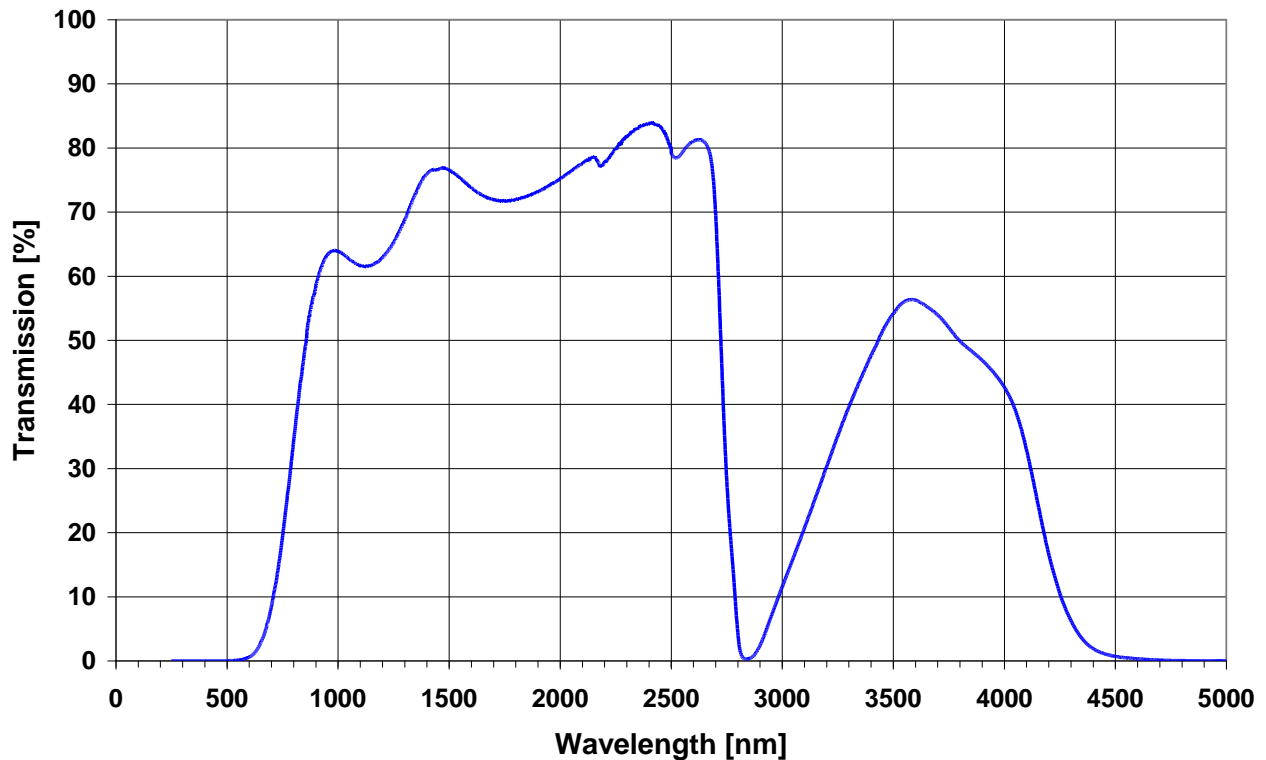
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## SCHOTT NEXTREMA® Transparent / Non Transparent Ceramics

Material:	712 - 6
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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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