

SCHOTT RESISTAN®

The Multi-Talented Material Family for Extreme Conditions

Material:
724 - 8

MS1006381-00

Product information

RESISTAN® is a family of high performance ceramics featuring outstanding technical properties suitable for a wide range of applications.

Optical Characteristics

Appearance

Appearance	Opaque
Colour	White

Transmission

T (t_{sample} = 4 mm)

T (λ 400 nm)	[%]	0
T (λ 600 nm)		5
T (λ 700 nm)		10
T (λ 1600 nm)		46

Refractive Index

n _g (λ 435.8 nm)	n/a
n _{F'} (λ 480.0 nm)	n/a
n _F (λ 486.1 nm)	n/a
n _e (λ 546.1 nm)	n/a
n _d (λ 587.6 nm)	n/a
n _{C'} (λ 643.8 nm)	n/a
n _C (λ 656.3 nm)	n/a

Abbé Number

v _e (λ 546.1 nm)	n/a
v _d (λ 587.6 nm)	n/a

Mechanical Characteristics

Density ρ	[g/cm ³]	2.54
Young's Modulus E	[10 ³ MPa]	86
Poisson's 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

Thermal Characteristics

Specific Heat Capacity c _p (20–100 °C)	[J/(g·K)]	0.8
Thermal Conductivity λ (90 °C)	[W/(m·K)]	1.7
Maximum Temperature Gradient	[K]	580
Thermal Shock Resistance	[°C]	700

Linear Expansion Coefficient

α (-50 °C, 100 °C)	[10 ⁻⁶ /K]	on request
α (0 °C, 50 °C)		on request
α (20 °C, 300 °C)		0.63
α (300 °C, 700 °C)		1.34

Temperature/Time Load Capacity

		Hom.	Inhom.
Short Heating (1 h)	[°C]	950	600
Continuous Heating (5000 h)		850	550

Electrical Characteristics

log ρ (250 °C)	[Ω·cm]	7.0
log ρ (350 °C)		5.6
t _{k100}	[°C]	197
ε _r (1 MHz, 25 °C)		6.6
tan δ (1 MHz, 25 °C)		0.002

Acoustical Characteristics

v _{long.}	[m/s]	on request
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Remarks

All technical data are to be understood as typical averages.

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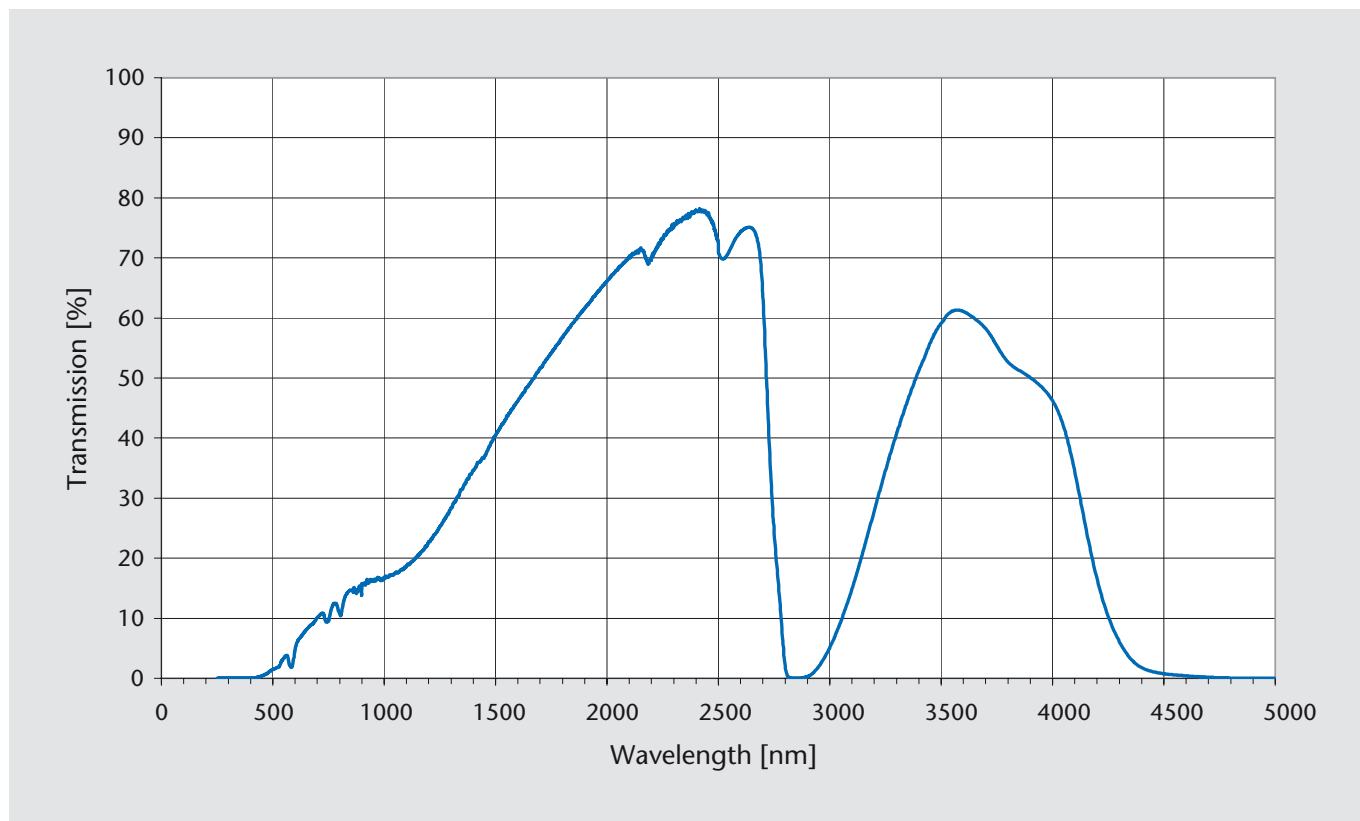
White Opaque Ceramic

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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.



For more information please contact:

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SCHOTT
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