

Physical properties	ZERODUR®	ZERODUR® K20
Density ρ [g/cm ³]	2.53	2.53
Poisson's ratio	0.24	0.25
Knoop Hardness HK 0.1/20 (ISO9385)	620	620
Refractive index n_d	1.5424	—
Abbe number v_d	56.1	—
Thermal conductivity λ at 20°C [W/(m · K)]	1.46	1.63
Thermal diffusivity index a at 20°C [10 ⁻⁶ m ² /s]	0.72	—
Heat capacity c_p at 20°C [J/(g · K)]	0.80	0.90
Young's modulus E at 20°C [GPa]-mean value	90.3	84.7
Internal transmittance Ti at 580 nm / 5 mm thickness	0.95	—
Internal transmittance Ti at 580 nm / 10 mm thickness	0.9	—
Stress optical coefficient K at $\lambda = 589.3$ nm [10 ⁻⁶ MPa ⁻¹]	3	—
Electrical resistivity ρ at 20°C [Ω · cm]	2.6 · 10 ¹³	—
Tk100 [°C], Temperature for $\rho = 10^8$ [Ω · cm]	178	—

Note: This value is for reference only and may vary slightly depending on the batch conditions.

Chemical properties	ZERODUR®	ZERODUR® K20
Stain resistance	Class 0	—
Climate resistance	Class 1	—
Acid resistance class (ISO 8424)	1.0	—
Alkali resistance class (ISO 10629)	1.0	—
Hydrolytic resistance class (ISO 719)	HGB 1	—
Helium permeability at 20°C [Atoms/(cm · s · bar)]	1.6 · 10 ⁶⁶	—
Helium permeability at 100°C [Atoms/(cm · s · bar)]	5.0 · 10 ⁷	—
Helium permeability at 200°C [Atoms/(cm · s · bar)]	7.2 · 10 ⁸	—

Thermal expansion

CTE Grades	CTE (0°C; 50°C)*
ZERODUR® Expansion Class 2	$0 \pm 0.100 \cdot 10^{-6}/K$
ZERODUR® Expansion Class 1	$0 \pm 0.050 \cdot 10^{-6}/K$
ZERODUR® Expansion Class 0	$0 \pm 0.020 \cdot 10^{-6}/K$
ZERODUR® Expansion Class 0 SPECIAL	$0 \pm 0.010 \cdot 10^{-6}/K$
ZERODUR® Expansion Class 0 EXTREME	$0 \pm 0.007 \cdot 10^{-6}/K$

ZERODUR® TAILORED

TAILORED $\pm 0.020 \cdot 10^{-6}/K$

($\pm 0.010 \cdot 10^{-6}/K$ upon request) Optimized for application temperature
Zerodur® is a glass material manufactured by Schott Company.

The above data is from Schott Company for reference only.

ZERODUR® K20, a high-temperature version of ZERODUR®, has been optimized to withstand higher application temperatures.

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We produce high-quality and complex products, providing significantly enhanced performance for customers engineering.

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