

Material Property	Unit	BOROFLOAT 33 glass	Soda Lime glass
Density	g/cm ³	2.23	2.52
Coefficient of thermal expansion (CTE)	x10 ⁻⁶ / K ⁻¹	3.25	9.03
Transformation point	°C / °F	525 / 977	530 / 986
Strain point (10 ^{14.5} dPas)	°C / °F	518 / 964	500/932
Annealing point (10 ¹³ dPas)	°C / °F	560 / 1040	522/1025
Softening point (10 ^{7.6} dPas)	°C / °F	820 / 1508	722 / 1332
Working point (10 ⁴ dPas)	°C / °F	1270 / 2318	1030 / 1886
Young's Modulus (25°C)	GPa	63	73
Poissons ratio (25°C - 400°C)		0.2	0.22
Knoop hardness	HK 0.1/20	480	470
Refractive index	n _d	1.472	1.523
Dispersion	n _f - n _e	71.9 x 10 ⁻⁴	89 x 10 ⁻⁴
Strain Optical Index	mm ² / N	4.0 x 10 ⁻⁶	2.8 x 10 ⁻⁶
Thermal Conductivity (90°C)	W / m x K	1.12	1.04
Specific Heat Capacity (20 - 100°C)	J / g x K	0.83	0.88
Dielectric Constant @ 1 MHz/20°C		4.7	7.2
Loss Tangent @ 1 MHz/20°C		0.0037	0.009
Electric Volume Resistance (log ρ)	Ω x cm at 250°C	8.0	6.3
	Ω x cm at 350°C	6.5	5.3
Hydrolytic Resistance		1 (ISO 719-HGB)	3 (ISO 719-HGB)
Acid Resistance		1 (ISO 1776)	1 (ISO 1776)
Alkaline Resistance		2 (ISO 695A)	1-2 (ISO 695A)
Resistance to Thermal Shock	< 4 mm, °K / °R	175 / 315	65 / 117
	4 -6 mm, °K / °R	160 / 288	50 / 90
	6 - 15 mm, °K / °R	150 / 270	35 / 63
	> 15 mm, °K / °R	140 / 252	-
Resistance to Thermal Differences	< 1 hour, °K / °R	110 / 198	30 / 54
	1 -100 hr, °K / °R	90 / 162	-
	> 100 hours, °K / °R	80 / 144	24 / 45
Maximum Operation Temperature	1 -10 hours, °C / °F	500 / 932	460 / 860
	> 10 hous, °C / °F	450 / 842	110 / 230

Data is not intended as absolute nor warrantable.

Manufacturer's Data shown is blended from multiple sources and illustrates the marketplace.

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BOROFLOAT® 33 glass is a floated borosilicate glass used wherever

- excellent surface quality
- low thermal expansion
- high transmission and superior clarity
- ruggedness and strong resistance to abrasion and scratches
- low weight
- chemical durability

are primary concerns.

Some other benefits are:

- Thermal expansion comparable to silicon
- Low density - approx. 10% lighter than soda-lime glass
- Wide thickness spectrum (0.7 mm up to 25.4 mm)
- Large sheet size (up to 2300 mm x 1700 mm depending on thickness)