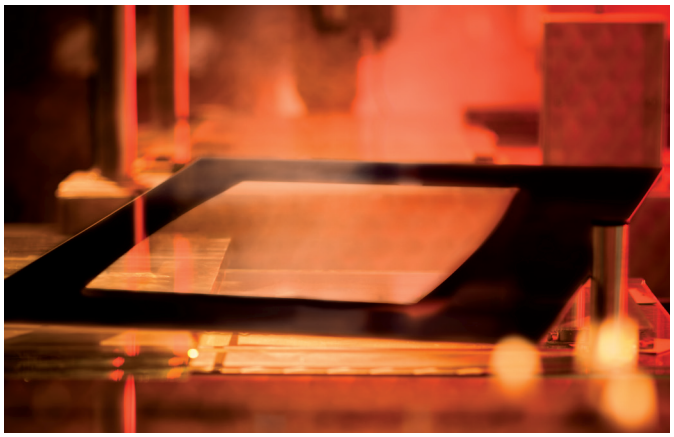
BOROFLOAT® 33 – Thermal Properties

The sum of its properties is what makes it unique.

BOROFLOAT® 33 from Germany is the world's first floated borosilicate flat glass. It combines superior quality and excellent flatness with outstanding thermal, optical, chemical and mechanical features. The chemical composition and physical properties of BOROFLOAT® 33 are in accordance with DIN ISO 3585 and EN 1748 T1. Rediscover BOROFLOAT® 33 and experience the infinite potential of our most versatile material platform. BOROFLOAT® – Inspiration through Quality.



Thermally resistant oven door made with BOROFLOAT® 33.

Key benefits:

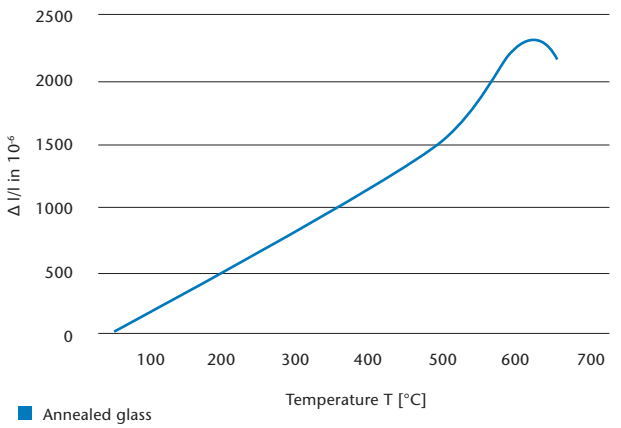
Outstanding thermal resistance

- Very good temperature stability
- Excellent resistance to thermal shock
- Can be thermally toughened
- Can be thermally shaped (3D)

Thermal properties	
Coefficient of Linear Thermal Expansion (C.T.E.) $\alpha_{(20 - 300\ °C)}$	$3.25 \times 10^{-6}\ K^{-1}$ *
Specific heat capacity $c_{p\ (20 - 100\ °C)}$	0.83 kJ/(kg·K)
Thermal conductivity $\lambda_{(90\ °C)}$	1.2 W/(m·K)

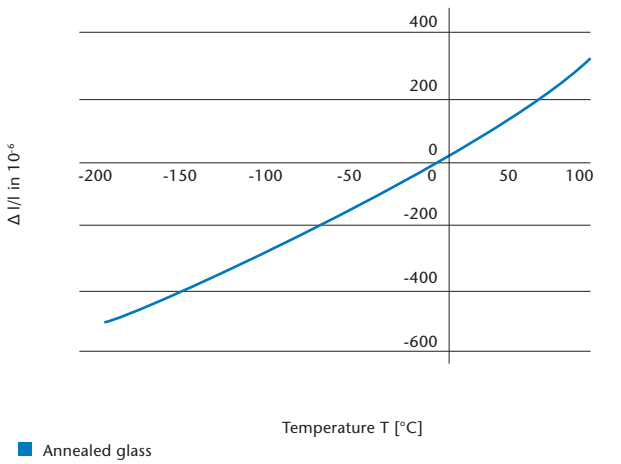
* According to ISO 7991.

Thermal expansion



Maximum operating temperatures	
Maximum Operating Temperature	
For short-term usage (< 10 h)	500 °C
For long-term usage (≥ 10 h)	450 °C

Expansion behavior in lowest temperature range



Viscosity of BOROFLOAT® 33	
Working Point (10^4 dPas)	1270 °C
LITTLETON temperature/Softening point ($10^{7.6}$ dPas)	820 °C
Annealing Point (10^{13} dPas)	560 °C
Strain Point ($10^{14.5}$ dPas)	518 °C
Transformation temperature (T_g)	525 °C

Further data and information available on request.

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