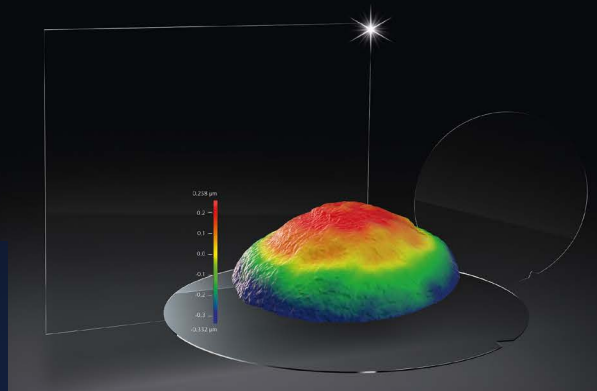


# High-performance Glass Carriers for semiconductor applications



For decades, SCHOTT has built an unparalleled reputation for high-quality **Glass Carrier Wafers and Panels**, offering a versatile range for high-tech industries such as semiconductors, optoelectronics, automotive, science, and biotechnology. Our experts provide valuable support in developing tailored solutions to meet customers' specific needs.

Our Glass Carriers play a crucial role in advanced semiconductor applications, where they serve as temporary bonding and debonding substrates for silicon wafers and die's. The high optical transmission of SCHOTT glass—from UV to IR—enables efficient laser-assisted debonding and supports multiple advanced packaging solutions.

As semiconductor architectures become more complex, the demand for stable, ultra-flat carrier materials continues to grow. Glass wafers and panels are increasingly used in applications such as:

- 3D IC (Three-Dimensional Integrated Circuits)
- IGBT (Insulated Gate Bipolar Transistors)
- Fan-Out Wafer-Level Packaging (FOWLP) & Panel-Level Packaging (FOPLP)



High raw glass quality



Broad product portfolio



Multiple product forms



Bonding & debonding



Ready for back-end processes

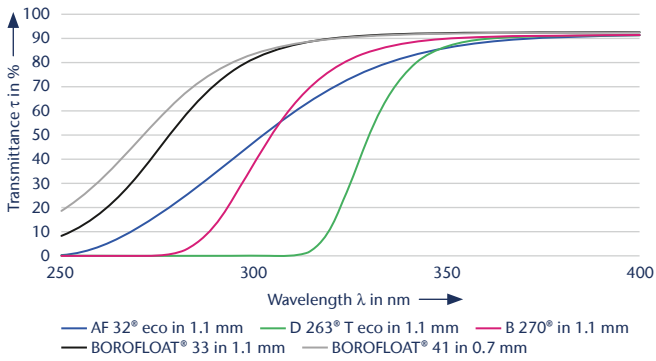
## Why choose SCHOTT Glass Carriers?

- **Designed for semiconductor processes**  
Ideal for temporary bonding, silicon thinning, and Fan-Out packaging
- **Unmatched precision**  
Ultra-low Total Thickness Variation (TTV) and minimal warpage ensure maximum process stability
- **Outstanding optical properties**  
Superior transmission from UV to IR, enabling advanced laser and optical processing
- **Exceptional chemical resistance**  
High resistance to acids, alkalis, and hydrolytic degradation for enhanced durability
- **Broad CTE range**  
Wide selection of materials to ensure optimal thermal expansion matching with different device substrates
- **Process-ready design**  
Laser-marked, cleanroom-packaged wafers and panels for seamless integration into high-tech manufacturing
- **Strict industry standards & cleanroom handling**
  - Flat/Notch: SEMI-standard compliant
  - Laser Marking: SEMI-standard compliant
  - Cleaning: Ultra-/Megasonic cleaning in ISO 5 cleanroom
  - Packaging: Inspection & packaging under ISO 5 conditions in FOSB, RTU wafer boxes
- **Versatile processing options**  
State of the art processing capabilities available to meet diverse semiconductor requirements for carrier wafers and panels.
- **Technical expertise**  
Our specialists offer tailored support to help customers find the best carrier material for their application

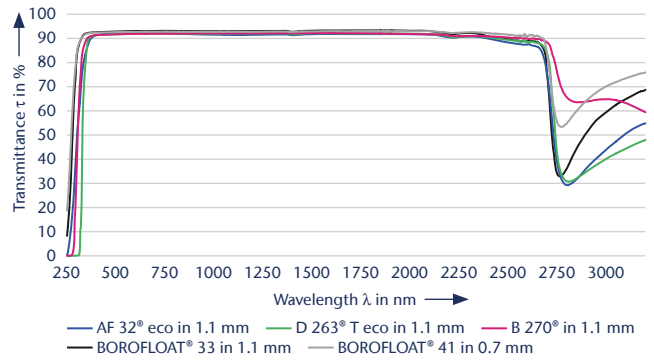
# Glass Carrier

Our Glass Carrier Wafer and Panels convince through high-quality processing

Spectral transmittance  $\lambda = 250 \text{ nm to } 400 \text{ nm}$



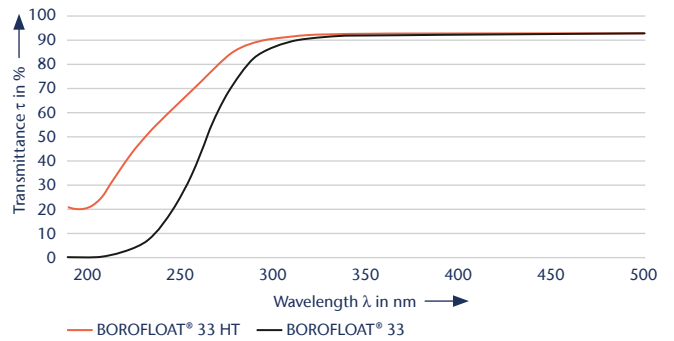
Spectral transmittance  $\lambda = 250 \text{ nm to } 3,200 \text{ nm}$



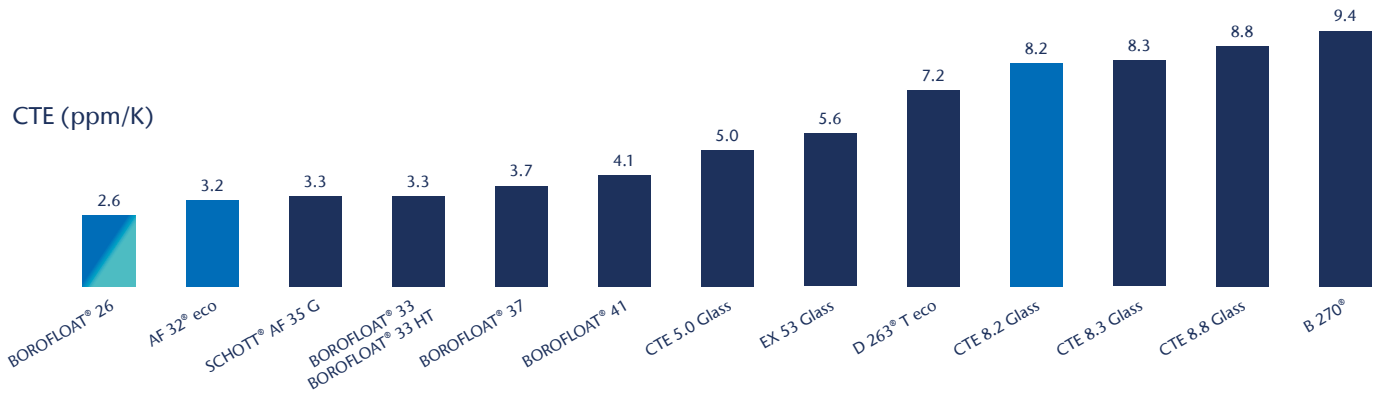
Item	Wafer	Panel
Formats*	6", 8", 12" [150 – 300 mm]	max. 650 x 650 mm
Thickness	0.4 – 3.0 mm	0.25 – 1.75 mm
Total Thickness Variation (TTV)	≤ 2.0 μm (Standard) ≤ 0.5 μm (Advanced)	≤ 20 μm (Standard) ≤ 15 μm (Advanced)
Precise Thickness Tolerances	± 5.0 μm (Standard) ± 2.5 μm (Advanced)	± 20 μm (Standard) ± 10 μm (Advanced)
Warp	12": ≤ 50 μm 8": ≤ 30 μm	≤ 200 μm (Standard) ≤ 100 μm (Advanced)
Cosmetic Quality	40/20 (Standard)	40/20 (Standard)
Scratch/Digs	20/10 (Advanced)	20/10 (Advanced)

\* Other dimensions on request

Spectral transmittance  $\lambda = 200 \text{ nm to } 500 \text{ nm}$



CTE (ppm/K)



- Development, samples available as wafer & panel
- Available as wafer & panel
- Available as wafer only



ENGLISH/US 02/2025 kn/nino Printed in Germany

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