

## BOROSILICATEGLASS BOROFLOAT® 33

### Features/Merkmale

BOROFLOAT® 33 is a floated borosilicate flat glass. Due to its flatness / straightness tolerance and unique quality, the glass offers outstanding thermal, optical, chemical and mechanical properties. The glass is manufactured in the microfloat process using the latest technology and is mechanically stronger than other special glasses - and lighter. A particularly low coefficient of thermal expansion is what makes BOROFLOAT® 33 remarkably resistant to high temperature levels. Our borosilicate glass is proven to stand up to high and fluctuating temperatures typical of applications such as high-performance lamps, cinema projectors and inspection panels for chemical reactors. Even with applications where rapid cooling down from higher temperatures is the requirement, BOROFLOAT® 33 easily passes the test. For example, the temperature difference between a hot panel center and a cold panel edge.

One key strength of BOROFLOAT® 33 is that it allows light to pass through freely without distortion. Due to the purity of its ingredients and unique material structure, our specialty float glass offers excellent light transmission in the visible wavelength range. Its high transparency in the near IR and UV range also means that BOROFLOAT® 33 is the perfect specialty glass for high precision components and solutions used in the fields of optics, photonics and opto-electronics. Acids, alkalis and organic substances have virtually no negative impact on BOROFLOAT® 33. Its high resistance to water is another important performance benefit for many industrial applications. Highly sensitive measuring instruments used, for example, in medical and analytical technologies to provide accurate, and at times critical, readings can be negatively influenced if not adequately protected. The outstanding hydrolytic stability of BOROFLOAT® has cemented its position as the specialty glass of choice for laboratories everywhere, including in the chemical industry. BOROFLOAT® 33 comply with DIN ISO 3585 and EN 1748 T1. Quality product with „Made in Germany“.

### Environments / Applications

A material with unlimited potential. Whether it be as an oven door window or a biochip used in modern medical technology, or as a component utilized in theater spotlights, film projectors or diving robots, few glass types can claim to be as versatile as BOROFLOAT® 33. Even space exploration has adopted the material as a key component in research telescopes, enabling scientists to view fascinating, new dimensions.

### product benefits

Outstanding thermal resistance. Very good temperature stability, Excellent resistance to thermal shock, Can be thermally toughened and shaped (3D).

Exceptionally high transparency

- High transparency in visible and near IR & UV range of wavelengths
- Outstanding visual quality and optical clarity
- Low inherent fluorescence and solarisation tendency

Low weight, Strong resistance to abrasion and scratches, High elasticity. High chemical durability High hydrolytic resistance, excellent resistance to acids, high resistance to alkalis.

low alkali diffusion,

### variants

standard dimensions

1,150 x 850 mm - available thicknesses 0,7 - 25,4 mm

1,700 x 1,300 mm - available thicknesses 16,0 - 21,0 mm

2,300 x 1,700 mm - available thicknesses 0,7 - 15,0 mm

Individual dimensions, round machining, edge and miter cuts, holes, recesses are available in any quantity.

## specifications

Density  $\rho$  (25 ° C) 2.23 g / cm<sup>3</sup>

Young's modulus E (according to DIN 13316) 64 kN / mm<sup>2</sup>

Poisson number  $\mu$  (according to DIN 13316) 0.2

Hardness HK 0.1 / 20 (according to ISO 9385) 480

Bending tensile strength  $\sigma$  (according to DIN 52292 T 1) 25 MPa

Impact / shock resistance

## Installation, cleaning and care

BOROFLOAT® 33 sheets can be cleaned using any commercially available glass cleaner.

Note: Under no circumstances should abrasive sponges, scouring powders or any other corrosive or abrasive cleaners be used, as these can cause damage to the borosilicate glass surface.

# BOROFLOAT® 33

A material with unlimited potential

## Borosilicate Glass with high quality level

Pape Strahlenschutz GmbH is working in the worldwide sales, product-management and fabrication for smaller orders. We do have all standard thicknesses of this glass allrounder in stock.

BOROFLOAT® 33 is a high-quality borosilicate glass with outstanding properties for a wide range of applications. This unique special float glass, that can compete with the best technical-grade flat glass in the world, is manufactured by SCHOTT using the Microfloat process and the latest technology. This technology results in a homogeneous material that has an excellent mirror-like surface, a high degree of flatness, and outstanding optical quality. This opens a wide range of application in the optic, opto-electronic, photonic and analytic. The medical field and analysis is a further field of application, because acids and bases dismantling only a small amount of ion out of the glass, therefore the measurement results are not affected.

## Availability

thickness (mm)	tolerance	thickness (mm)	tolerance
0,70	±0,07	8,00	±0,3
1,10	±0,10	9,00	±0,3
1,75	±0,10	11,00	±0,3
2,00	±0,20	13,00	±0,5
2,25	±0,20	15,00	±0,5
2,75	±0,20	16,00	±0,5
3,30	±0,20	18,00	±0,5
3,80	±0,20	19,00	±0,5
5,00	±0,20	20,00	±0,7
5,50	±0,20	21,00	±0,7
6,50	±0,20	25,40	±1,0
7,50	±0,30		

Pape Strahlenschutz GmbH 



The sum of its properties is what makes it unique!

- » outstanding thermal resistance
- » exceptionally high transparency
- » high chemical durability
- » excellent mechanical strength

## Application Areas

- » Chemical industry applications, i.e. as inspection glass for autoclaves and instrumentation
- » Cover Glasses for high power spotlights and lamps
- » Hometech applications (oven panels, insert panels for microwave, cover plates for room heaters)
- » Medical, Biotech, Microelectronics and analysis applications
- » Safety applications (bullet-resistant panels etc.)

### Contact:

Pape Strahlenschutz GmbH  
Molkental 7 - 37586 Dassel-Amelsen - Germany  
Tel.: +49 (0) 55 62 - 91 40 00  
Fax: +49 (0) 55 62 - 91 40 01  
Mail: [info@pape-strahlenschutz.de](mailto:info@pape-strahlenschutz.de)  
Web: [www.pape-strahlenschutz.de](http://www.pape-strahlenschutz.de)