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TECHSPEC®

20mm Diameter x 3.3mm Thickness, Uncoated, BOROFLOAT® Window

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TECHSPEC BOROFLOAT Borosilicate Windows

Stock **#45-461** **20+ In Stock**

-

1

+

€28<sup>.00</sup>

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| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-5        | €28,00 each                   |
| Qty 6-25       | €22,00 each                   |
| Qty 26-99      | €21,00 each                   |
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ⓘ Prices shown are exclusive of VAT/local taxes

Product Downloads

General

Type:

Protective Window

Physical & Mechanical Properties

18.00

Clear Aperture CA (mm):

|                      |                          |
|----------------------|--------------------------|
| 20.00 ±0.5           | Diameter (mm):           |
| 3.30 ±0.2            | Thickness (mm):          |
| Protective as needed | Bevel:                   |
| ≥90                  | Clear Aperture (%):      |
| Ground               | Edges:                   |
| 0.20                 | Poisson's Ratio:         |
| 64                   | Young's Modulus (GPa):   |
| 480.00               | Knoop Hardness (kg/mm²): |

## Optical Properties

|                            |                                        |
|----------------------------|----------------------------------------|
| Uncoated                   | Coating:                               |
| <a href="#">BOROFLOAT®</a> | Substrate: □                           |
| 1.472                      | Index of Refraction (n <sub>d</sub> ): |
| 80-50                      | Surface Quality:                       |
| 90                         | Transmission (%):                      |
| 65.41                      | Abbe Number (v <sub>d</sub> ):         |
| 350 - 2000                 | Wavelength Range (nm):                 |
| 4 - 6λ                     | Surface Flatness (P-V):                |

## Material Properties

|      |                                  |
|------|----------------------------------|
| 2.23 | Density (g/cm³):                 |
| 525  | Transformation Temperature (°C): |

|                      |                                                              |
|----------------------|--------------------------------------------------------------|
| 3.25 (+20 to +300°C) | Coefficient of Thermal Expansion CTE (10 <sup>-6</sup> /°C): |
|----------------------|--------------------------------------------------------------|

## Environmental & Durability Factors

|                                                                        |                                           |
|------------------------------------------------------------------------|-------------------------------------------|
| 1 hour @ 500; >100 hours @ 450                                         | Operating Temperature (°C):               |
| Short Term, 1 hr: 110K<br>1 - 100 hrs: 90K<br>Long Term, >100 hrs: 80K | Resistance to Temperature Difference (K): |
| Up to 4mm Thick: 175K<br>4 - 6mm Thick: 160K<br>6 - 15mm Thick: 150K   | Thermal Shock (K):                        |

## Regulatory Compliance

|                           |                             |
|---------------------------|-----------------------------|
| <a href="#">Compliant</a> | RoHS 2015:                  |
| <a href="#">Compliant</a> | Reach 219:                  |
| <a href="#">View</a>      | Certificate of Conformance: |

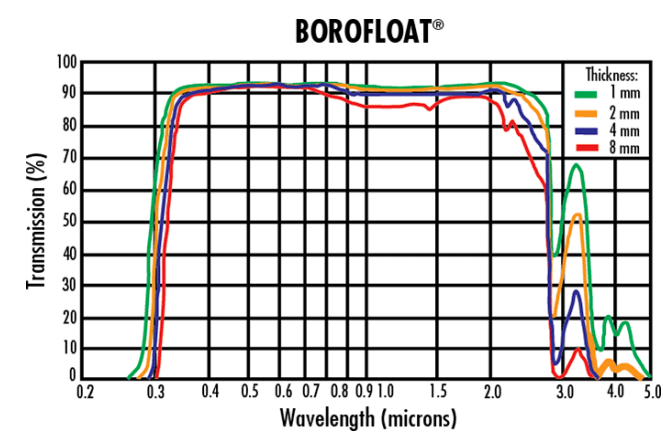
## Product Details

- Low Coefficient of Thermal Expansion
- Visible to Near Infrared Transmission
- High Resistance to Thermal Shock

TECHSPEC® BOROFLOAT® Borosilicate Windows are ideal for high temperature and harsh environment applications. The windows have a low coefficient of thermal expansion of 3.25 (+20 to +300°C). TECHSPEC® BOROFLOAT® Borosilicate Windows feature visible to near infrared transmission. Unlike common borosilicate that is drawn flat, BOROFLOAT® is produced by a float technique that yields superior surface flatness —typically 4 - 6λ per inch. BOROFLOAT® is about three times more resistant to thermal shock than standard soda lime glass.

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## Technical Information



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**Compatible Mounts**