**Optiblue® Technical Product Data**

**PRODUCT DESCRIPTION**

Optiblue® glass by Vitro Architectural Glass is a soda-lime float glass product and part of Vitro Glass’s earth-inspired collection of blue tints that can be paired with its exceptional range of advanced low-e and reflective coatings to offer more performance and aesthetic options.

**APPROXIMATE WEIGHTS**

<table>
<thead>
<tr>
<th>thickness</th>
<th>weight</th>
<th>Per m²</th>
<th>Per ft²</th>
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</thead>
<tbody>
<tr>
<td>6.0 mm</td>
<td>14.2 kg</td>
<td>¼</td>
<td>2.9 lbs</td>
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**MECHANICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Knoop Hardness Number (indentation hardness)</td>
<td>470 kgf/mm²</td>
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<tr>
<td>Poisson’s Ratio</td>
<td>0.22</td>
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<tr>
<td>Modulus of Elasticity (Young’s)</td>
<td>73.1 GPa</td>
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<tr>
<td>Tensile Strength (Determined as Modulus of Rupture, ultimate)</td>
<td>41.4 MPa</td>
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<tr>
<td>Density at 21°C (70°F)</td>
<td>2.50 g/cm³</td>
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<td>Density at 150°F (65°C)</td>
<td>156 lb/ft³</td>
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**THERMAL PROPERTIES**

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<tr>
<td>Hemispherical Emissivity at -18 to 66 °C (0 to 150°F)</td>
<td>0.84 / 0.14</td>
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<tr>
<td>Expansion Coefficient (linear) 20 to 300°C (68 to 572°F)</td>
<td>8.6*10⁻⁶ / °C</td>
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<tr>
<td>Specific heat at 0 to 100°C (32 to 212°F)</td>
<td>858 J/kg-K</td>
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<tr>
<td>Thermal Conductivity (k) at 50°C (122°F)</td>
<td>0.937 W/m-K</td>
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<tr>
<td>Softening Point</td>
<td>722°C</td>
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<tr>
<td>Annealing Point</td>
<td>546°C</td>
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<tr>
<td>Strain Point</td>
<td>510°C</td>
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**CHEMICAL COMPOSITION**

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
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<tbody>
<tr>
<td>SiO₂</td>
<td>73%</td>
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<tr>
<td>Na₂O</td>
<td>14%</td>
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<tr>
<td>CaO</td>
<td>9%</td>
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<tr>
<td>MgO and Trace elements</td>
<td>4%</td>
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**SUSTAINABILITY**

To provide architects with the assurance and documentation they need to meet and verify their sustainability goals, Vitro Architectural Glass participates in a range of programs and initiatives. Resources available include, but are not limited to:

- Type III Environmental Product Declarations
- Cradle to Cradle Certified™ Bronze with associated Gold Material Health Certificate
- LEED® and Living Building Challenge documentation
- Material Ingredient Disclosure and Safety Data Sheets
- Annual Corporate Sustainability Report

Further information is available through VitroGlazings.com or by calling 855-887-6457 (VTRO GLS)

**COLOR**

<table>
<thead>
<tr>
<th>Value</th>
<th>6.0 mm</th>
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<tr>
<td>Transmitted Color: D65, 10° L°</td>
<td>84.2</td>
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<td>a°</td>
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<td>b°</td>
<td>-6.5</td>
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<tr>
<td>Hue Angle (°)</td>
<td>260</td>
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<tr>
<td>Dominant wavelength</td>
<td>C, 2°</td>
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**CHEMICAL COMPOSITION**

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<th>Value</th>
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<tbody>
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<tr>
<td>MgO and Trace elements</td>
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**SOLAR PERFORMANCE VALUES [1]**

<table>
<thead>
<tr>
<th>Glass Thickness</th>
<th>Transmittance</th>
<th>Reflectance</th>
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<tr>
<td>inches</td>
<td>mm</td>
<td>Ultra-violet (%)</td>
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[1] Figures may vary due to manufacturing tolerances. All tabulated solar performance data are based on the methodology prescribed in ISO 9050, 2003 except Infrared, which is based on the solar irradiance data prescribed by ISO 9050, 2003 from 780 to 2500 nm. Slight changes in transmitted optical properties may occur on exposure to sunlight.
### Optiblue® Technical Product Data

#### Transmittance (% at 6 mm/0.223")

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<th>Optiblue® Glass %T</th>
<th>Wavelength (nm)</th>
<th>Optiblue® Glass %T</th>
<th>Wavelength (nm)</th>
<th>Optiblue® Glass %T</th>
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#### Transmittance (% at 6 mm)

![Graph showing transmittance (% at 6 mm) vs Wavelength (nm)](image-url)

**Optiblue® Glass**

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**ADDITIONAL INFORMATION/DOCUMENTS**

The following documents can be referenced for additional information regarding Optiblue® glass:

- Optiblue® Performance Data
- Vitro Float Glass Warranty
- Vitro Float Glass SDS
- C2C Material Health Certificate
- Vitro Float Glass EPD