**YELLOW LONGPASS**

filter glass data sheets

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**SHARP-CUT YELLOW**

![Graph showing transmission of yellow longpass glass compositions](image)

**YELLOW LONGPASS GLASS COMPOSITIONS**

Click glass product number to jump to data sheet.

<table>
<thead>
<tr>
<th>SHARP-CUT YELLOW</th>
<th>SIGNAL YELLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>3060</td>
<td>3304</td>
</tr>
<tr>
<td>3384</td>
<td>3307</td>
</tr>
<tr>
<td>3385</td>
<td>K455</td>
</tr>
<tr>
<td>3387</td>
<td>K475</td>
</tr>
<tr>
<td>3389</td>
<td>K495</td>
</tr>
</tbody>
</table>

---

PLEASE NOTE: The transmission curves in this catalog should be understood as typical curves for reference only. Data listed without tolerances are to be understood as reference values.
SHARP-CUT YELLOW LONGPASS | 3060

OPTICAL PROPERTIES

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>365</th>
<th>405</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission (%)</td>
<td>&lt; 0.5</td>
<td>&gt; 40</td>
</tr>
</tbody>
</table>

PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Thickness Range</td>
<td>1.4-4.6 mm</td>
</tr>
<tr>
<td>Refractive Index</td>
<td>1.52</td>
</tr>
<tr>
<td>Density</td>
<td>2.52 g/cc</td>
</tr>
<tr>
<td>Thermal Expansion</td>
<td>104 E⁻⁹°C⁻¹ (30-300 °C)</td>
</tr>
<tr>
<td>Strain Temperature</td>
<td>473 °C</td>
</tr>
<tr>
<td>Annealing Temperature</td>
<td>506 °C</td>
</tr>
<tr>
<td>Deformation Temperature</td>
<td>662 °C</td>
</tr>
</tbody>
</table>
SHARP-CUT YELLOW LONGPASS | 3384

OPTICAL PROPERTIES

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>502 ± 11</th>
<th>&lt; 446</th>
<th>&gt; 558</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission (%)</td>
<td>37</td>
<td>&lt; 0.5</td>
<td>&gt; 80</td>
</tr>
</tbody>
</table>

PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Nominal Thickness Range</th>
<th>1.4-4.6 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refractive Index</td>
<td>1.51</td>
</tr>
<tr>
<td>Density</td>
<td>2.46 g/cc</td>
</tr>
<tr>
<td>Thermal Expansion</td>
<td>54 E⁻⁹°C⁻¹ (30-300 °C)</td>
</tr>
<tr>
<td>Strain Temperature</td>
<td>400 °C</td>
</tr>
<tr>
<td>Annealing Temperature</td>
<td>554 °C</td>
</tr>
<tr>
<td>Deformation Temperature</td>
<td>590 °C</td>
</tr>
</tbody>
</table>
### SHARP-CUT YELLOW LONGPASS | 3385

#### OPTICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength (nm)</td>
<td>478 ± 13, &lt; 431, &gt; 551</td>
</tr>
<tr>
<td>Transmission (%)</td>
<td>0.40, &lt; 0.0055, &gt; 0.85</td>
</tr>
</tbody>
</table>

#### PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
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<tr>
<td>Annealing Temperature</td>
<td>554 °C</td>
</tr>
<tr>
<td>Deformation Temperature</td>
<td>590 °C</td>
</tr>
</tbody>
</table>
# SHARP-CUT YELLOW LONGPASS | 3387

## OPTICAL PROPERTIES

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>451 ± 15</th>
<th>&lt; 411</th>
<th>&gt; 541</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission (%)</td>
<td>0.40</td>
<td>&lt; 0.0055</td>
<td>&gt; 0.85</td>
</tr>
</tbody>
</table>

## PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Thermal Expansion</td>
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</tr>
<tr>
<td>Strain Temperature</td>
<td>400 °C</td>
</tr>
<tr>
<td>Annealing Temperature</td>
<td>554 °C</td>
</tr>
<tr>
<td>Deformation Temperature</td>
<td>590 °C</td>
</tr>
</tbody>
</table>
SHARP-CUT YELLOW LONGPASS | 3389

**OPTICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Wavelength (nm)</th>
<th>Transmission (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength (nm)</td>
<td>426 ± 10</td>
<td>&lt; 391</td>
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<tr>
<td>Transmission (%)</td>
<td>37</td>
<td>&lt; 0.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 80</td>
</tr>
</tbody>
</table>

**PHYSICAL PROPERTIES**

- Nominal Thickness Range: 1.4-4.6 mm
- Refractive Index: 1.51
- Density: 2.46 g/cc
- Thermal Expansion: 54 E°C⁻¹ (30-300 °C)
- Strain Temperature: 400 °C
- Annealing Temperature: 554 °C
- Deformation Temperature: 590 °C

www.koppglass.com
SHARP-CUT YELLOW LONGPASS | 3391

OPTICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength (nm)</td>
<td>408 ± 8</td>
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<tr>
<td>Transmission (%)</td>
<td>37</td>
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PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
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<td>1.51</td>
</tr>
<tr>
<td>Density</td>
<td>2.46 g/cc</td>
</tr>
<tr>
<td>Thermal Expansion</td>
<td>54 E°C⁻¹ (30-300 °C)</td>
</tr>
<tr>
<td>Strain Temperature</td>
<td>400 °C</td>
</tr>
<tr>
<td>Annealing Temperature</td>
<td>554 °C</td>
</tr>
<tr>
<td>Deformation Temperature</td>
<td>590 °C</td>
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</tbody>
</table>
SHARP-CUT YELLOW LONGPASS | K435

**OPTICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>435 ± 6</th>
<th>370</th>
<th>530</th>
</tr>
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<tbody>
<tr>
<td>Transmission (%)</td>
<td>50</td>
<td>&lt; 0.5</td>
<td>&gt; 80</td>
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</table>

**PHYSICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Thickness Range</td>
<td>3.0 mm</td>
</tr>
<tr>
<td>Refractive Index</td>
<td>1.53</td>
</tr>
<tr>
<td>Density</td>
<td>2.67 g/cc</td>
</tr>
<tr>
<td>Thermal Expansion</td>
<td>$112 \text{E}^2\text{C}^{-1}$ (30-300 °C)</td>
</tr>
<tr>
<td>Strain Temperature</td>
<td>400 °C</td>
</tr>
<tr>
<td>Annealing Temperature</td>
<td>536 °C</td>
</tr>
<tr>
<td>Deformation Temperature</td>
<td>560 °C</td>
</tr>
</tbody>
</table>
SHARP-CUT YELLOW LONGPASS | K455

OPTICAL PROPERTIES

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>455 ± 6</th>
<th>390</th>
<th>550</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission (%)</td>
<td>50</td>
<td>&lt; 0.5</td>
<td>&gt; 80</td>
</tr>
</tbody>
</table>

PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Thickness Range</td>
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<td>1.53</td>
</tr>
<tr>
<td>Density</td>
<td>2.67 g/cc</td>
</tr>
<tr>
<td>Thermal Expansion</td>
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</tr>
<tr>
<td>Strain Temperature</td>
<td>400 °C</td>
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<tr>
<td>Annealing Temperature</td>
<td>536 °C</td>
</tr>
<tr>
<td>Deformation Temperature</td>
<td>560 °C</td>
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</table>
**SHARP-CUT YELLOW LONGPASS | K475**

**OPTICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>475 ± 6</th>
<th>410</th>
<th>550</th>
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<tbody>
<tr>
<td>Transmission (%)</td>
<td>50</td>
<td>&lt; 0.5</td>
<td>&gt; 80</td>
</tr>
</tbody>
</table>

**PHYSICAL PROPERTIES**

- **Nominal Thickness Range**: 3.0 mm
- **Refractive Index**: 1.53
- **Density**: 2.67 g/cc
- **Thermal Expansion**: 112 E⁻⁶°C⁻¹ (30-300 °C)
- **Strain Temperature**: 400 °C
- **Annealing Temperature**: 536 °C
- **Deformation Temperature**: 560 °C
## OPTICAL PROPERTIES

<table>
<thead>
<tr>
<th></th>
<th>495 ± 6</th>
<th>430</th>
<th>560</th>
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</thead>
<tbody>
<tr>
<td><strong>Wavelength (nm)</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transmission (%)</strong></td>
<td>50</td>
<td>&lt; 0.5</td>
<td>&gt; 80</td>
</tr>
</tbody>
</table>

## PHYSICAL PROPERTIES

<p>| | | | |</p>
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<th></th>
</tr>
</thead>
<tbody>
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<td><strong>Nominal Thickness Range</strong></td>
<td>3.0 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Refractive Index</strong></td>
<td>1.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>2.67 g/cc</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thermal Expansion</strong></td>
<td>112 E⁻⁷°C⁻¹ (30-300 °C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Strain Temperature</strong></td>
<td>400 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Annealing Temperature</strong></td>
<td>536 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Deformation Temperature</strong></td>
<td>560 °C</td>
<td></td>
<td></td>
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**SIGNAL YELLOW LONGPASS | 3304**

**OPTICAL PROPERTIES**

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<th>Property</th>
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<tbody>
<tr>
<td>Wavelength (nm)</td>
<td>560</td>
</tr>
<tr>
<td>Transmission (%)</td>
<td>20 ± 1.1</td>
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**PHYSICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Thickness Range</td>
<td>2.3-3.7 mm</td>
</tr>
<tr>
<td>Refractive Index</td>
<td>1.52</td>
</tr>
<tr>
<td>Density</td>
<td>2.72 g/cc</td>
</tr>
<tr>
<td>Thermal Expansion</td>
<td>101 E⁻⁷°C⁻¹ (30-300 °C)</td>
</tr>
<tr>
<td>Strain Temperature</td>
<td>437 °C</td>
</tr>
<tr>
<td>Annealing Temperature</td>
<td>473 °C</td>
</tr>
<tr>
<td>Deformation Temperature</td>
<td>652 °C</td>
</tr>
</tbody>
</table>
OPTICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength (nm)</td>
<td>600</td>
</tr>
<tr>
<td>Transmission (%)</td>
<td>70 ± 0.8</td>
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</tbody>
</table>

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</tbody>
</table>
HIGH-PERFORMANCE CUSTOM GLASS
for mission-critical applications

MATERIAL SCIENCE EXPERTISE
Founded over 90 years ago, Kopp Glass began with a deep understanding of glass chemistry and how it can be used to innovate. Today, our portfolio includes more than 200 different glasses. Depending on your need, our engineers and scientists are also able to create new compositions to meet tough design challenges.

APPLICATIONS ENGINEERING EXPERTISE
We refine product designs alongside customers to help them reduce costs and increase yields. While our solutions are crafted to perform in some of the harshest environments on Earth, they’re also designed to help the performance of our customers’ bottom lines.

RESPONSIVENESS
Kopp Glass is a small manufacturer, but the design and production challenges we face every working day are huge. Our customers see the difference in how we respond to them and in how our team responds to each other.

ON-TIME IN-SPEC DELIVERY
Kopp Glass works to ensure the mission-critical, molded glass components we ship meet your standards—the first time.

WORK WITH US
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Year Founded 1926
Ownership Closely Held
Location Pittsburgh, PA USA
No. of Employees 110
Mfg. Sq. Ft. 127,000