Smart Home: Polycarbonates for Automation and Security

Covestro offers cost-effective and brand-enhancing material solutions that meet strict material and regulatory standards. As technology continues to progress, Covestro can take your products to the next level by offering a wide range of thermoplastic products and world-class services for your automation and security applications.

<table>
<thead>
<tr>
<th>MARKET TRENDS</th>
<th>CUSTOMER NEEDS</th>
<th>COVESTRO SOLUTIONS</th>
</tr>
</thead>
</table>
| Increased Use of Wireless Devices | Proper transmission of signals  
Interconnectivity to control components  
Designs to exceed the product life cycle | Plastics with low radio frequency attenuation  
Design freedom to maximize performance  
Part design recommendations |
| Décor-Friendly Gadgets         | Blend in or differentiated devices  
Retention of color after indoor UV exposure  
Production in more than 1 world region | Wide variety of colors and different gloss levels  
Plastics that exceed standards for color shift  
Global plastic production for on-time deliveries |
| Increased Energy Efficiency    | Devices with lower total cost  
Effective and low cost lighting  
DIY installation | Design to consolidate components with plastic  
LED grades for increased efficiency  
Plastics that can be easily assembled |
Consider these valuable services in your next generation products:
- Idea / concept / product development
- Feasibility analysis and cost modeling
- Part consolidation and assembly advice
- Mold design and filling simulation
- Color matching and same day sampling
- Field technical service and troubleshooting

Let's Talk:
plastics@covestro.com

Security Camera Components

![Diagram of security camera components]

<table>
<thead>
<tr>
<th>Lens / Optics</th>
<th>Diffusers</th>
<th>Reflectors 2</th>
<th>Housings / Bezels</th>
<th>Heat Sink</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Property</strong></td>
<td><strong>Test Condition</strong></td>
<td><strong>Unit</strong></td>
<td><strong>Standard</strong></td>
<td><strong>Makrolon® LED2643</strong></td>
</tr>
<tr>
<td>UV stabilized</td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Melt volume-flow rate (MVR)</td>
<td>Various</td>
<td>cm$^3$/10 min</td>
<td>ISO1133</td>
<td>34</td>
</tr>
<tr>
<td>Mold shrinkage, parallel/normal</td>
<td>60x60x2 mm</td>
<td>%</td>
<td>ISO294-4</td>
<td>0.5-0.7</td>
</tr>
<tr>
<td>Transmittance</td>
<td>2 mm thickness</td>
<td>%</td>
<td>ISO13468-2</td>
<td>90</td>
</tr>
<tr>
<td>Izod notched impact strength</td>
<td>23°C</td>
<td>kJ/m$^2$</td>
<td>ISO180-A</td>
<td>55</td>
</tr>
<tr>
<td>Temperature of deflection under load</td>
<td>1.80 MPa</td>
<td>°C</td>
<td>ISO75-1,-2</td>
<td>125</td>
</tr>
<tr>
<td>Flame Class @ 1.5 mm</td>
<td>Rating</td>
<td></td>
<td>UL94</td>
<td>V-2</td>
</tr>
<tr>
<td>Flame Class @ 3.0 mm</td>
<td>Rating</td>
<td></td>
<td>UL94</td>
<td>HB</td>
</tr>
<tr>
<td>Relative Thermal Index (RTI)</td>
<td>°C</td>
<td></td>
<td>UL746B</td>
<td>125/115/125</td>
</tr>
<tr>
<td>UV light exposure and hot water</td>
<td>Rating</td>
<td></td>
<td>UL746C</td>
<td>f1</td>
</tr>
<tr>
<td>Shielding effectiveness</td>
<td>2.4 GHz Vertical/Horizontal</td>
<td>Db</td>
<td>IEEE-STD-299</td>
<td>8/8</td>
</tr>
</tbody>
</table>

Notes
1. Values are provided as general information only and are not part of product specifications
2. 94-96% reflectivity
3. MVR conditions: Bayblend 240°C; 5 kg, Makroblend 270°C; 5 kg, Makrolon 300 °C; 1.2 kg

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