EXEL WINDOW PROFILES

EXELENT VALUE

We are an uncompromising supplier and expert of top quality composite solutions for the most demanding door and window manufacturers all over the world. Composites are always a sum of multiple properties. Good thermal and mechanical properties make glassfibre profiles and ideals choice for windows.

- Low thermal conductivity improves the window U-value
- Excellent weatherability equals longer lifetime
- No need for thermal breaks means simple structure and easy assembly
- Very good chemical resistance and weatherability for the most demanding atmospheres
- Custom-made design and colors

SUPERIOR PRODUCT FEATURES

- High energy efficiency
- Non corrosive
- Class 1 paintable surface
- Low weight
- Composites enable slim profiles and thus enable maximum solar light and solar heating
- No cold air falls, so installation to floor level possible with no radiators needed

Composite is a sustainable long term solution.

SOME APPLICATIONS

- Window frames
- Facade components
- Thermal breaks for aluminium systems
- Stiffeners for PVC windows

EXEL OFFERING

- pultrusion profiles with traditional construcn
- high performance optimized pultrusion profiles
- all different materials
  - resins
    - polyester
    - polyurethane
    - epoxy
  - reinforcements
    - glassfiber
    - carbonfiber
    - natural fiber
- machining options
  - cutting
  - drilling
  - milling
- colour/coating options
  - through coloured resin systems
  - wet painting
  - powder coating
## TECHNICAL DATA SHEET

<table>
<thead>
<tr>
<th></th>
<th>UNIT</th>
<th>BASIC</th>
<th>SMOOTH</th>
<th>STIFF+ SMOOTH</th>
<th>STIFF</th>
<th>POLYURETHANE</th>
<th>FIRE</th>
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<tbody>
<tr>
<td><strong>Structure</strong></td>
<td>MUM</td>
<td>TUT</td>
<td>MUMT</td>
<td>MUM</td>
<td>U</td>
<td>MUM + FR</td>
<td></td>
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<tr>
<td><strong>Resin type</strong></td>
<td>UP</td>
<td>UP</td>
<td>UP</td>
<td>UP</td>
<td>UP</td>
<td>PU</td>
<td>UP</td>
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<tr>
<td><strong>Reinforcement</strong></td>
<td>GF</td>
<td>GF</td>
<td>GF</td>
<td>GF</td>
<td>GF</td>
<td>GF</td>
<td>GF</td>
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<tr>
<td><strong>Color</strong></td>
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<td>White or black, colours available</td>
<td>White or black, colours available</td>
<td>White or black, colours available</td>
<td>Base colour natural yellow</td>
<td>Off white or black</td>
<td></td>
</tr>
<tr>
<td><strong>Surface finish</strong></td>
<td>Plain mat texture</td>
<td>Fine mat texture</td>
<td>Fine mat texture</td>
<td>Plain mat texture</td>
<td>Plain</td>
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<td>65</td>
<td>80</td>
<td>40</td>
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<tr>
<td><strong>Fiber Volume Content</strong></td>
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<td>43</td>
<td>45</td>
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<td>40</td>
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<tr>
<td><strong>Bending strength (lengthwise)</strong></td>
<td>MPa</td>
<td>170</td>
<td>200</td>
<td>250</td>
<td>250</td>
<td>400</td>
<td>170</td>
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<tr>
<td><strong>E-modulus (lengthwise)</strong></td>
<td>GPa</td>
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<td><strong>Bending strength (crosswise)</strong></td>
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<td><strong>Linear Thermal expansion</strong></td>
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</tbody>
</table>

**APPLICATION SPECIFIC PROPERTIES**

**U** = unidirectional fibres

**M** = mat

**T** = tissue

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Data included in tables are for guiding and material choice. Final specifications can be finetuned for particular applications. Data is believed to be correct to the best of our knowledge at the date of printing. Basic laminates in accordance with ISO13706 E17 and E23 are available.