

# Elylite® GFR composite panel

## Technical datasheet

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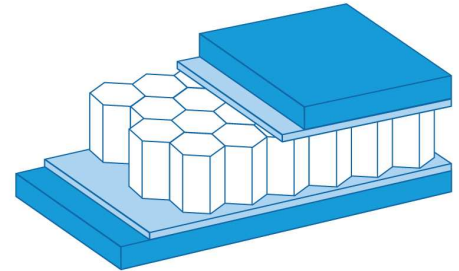


### Description

The Elylite® GFR panels are composed of two glass fiber reinforced polypropylene skins combined with a honeycomb core (HC), joined together by adhesive bonding.

These ultra light weight panels are designed to meet the highest performance characteristics in impact resistance, and also provide a high stiffness.

The Elylite® GFR panels are particularly suited for application in transport, packaging and temporary installations, as well as partitioning systems and doors.



### Product range

#### Standard panels

##### Composition

- Polypropylene Honeycomb Core with a density of 80 kg/m<sup>3</sup>.
- Two glass fiber reinforced polypropylene skins of 0.5 mm.
- Joined together by a high performance adhesion system.

##### Dimensions

Panel	Core	Skins	Colour	1250 x 2400 mm	1250 x 2750 mm
16 mm	HC 80 kg/m <sup>3</sup> 15 mm	PP GFR 0.5 mm	White	•	•
21 mm	HC 80 kg/m <sup>3</sup> 20 mm	PP GFR 0.5 mm	White	•	•
25 mm	HC 80 kg/m <sup>3</sup> 24 mm	PP GFR 0.5 mm	White	•	•

#### On request

Other compositions are available on request.

Composition
Different skin thickness
Different core thickness
Different core density

Min – max (*)	minimum	maximum	tolerances
Length (**)	400 mm	3000 mm	+/- 2 mm
Width	400 mm	1320 mm	+/- 2 mm
Thickness	9 mm	50 mm	+/- 0.4 mm

(\*) Certain combinations might not be available

(\*\*) A maximum length of up to 6000 mm is available upon special request

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### Technical characteristics

#### Weight, stiffness, compression & shear strength

<b>Weight</b> (kg/m <sup>2</sup> )	Elylite® GFR
16 mm	2.89
21 mm	3.29
25 mm	3.61

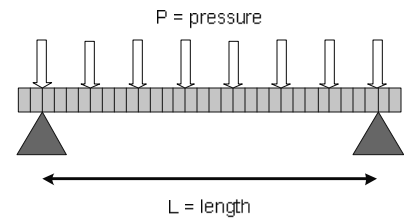
<b>Bending stiffness E*I</b> (Nm <sup>2</sup> /m)	Elylite® GFR
16 mm	861
21 mm	1518
25 mm	2182

<b>Core Compression strength</b> (MPa)	Elylite® GFR
HC 80 kg/m <sup>3</sup>	1.3

<b>Core Shear strength</b> (MPa)	Elylite® GFR
HC 80 kg/m <sup>3</sup>	0.5

#### Deflection

<b>Deflection</b> (mm) (*)	<i>L = 1000 mm, W = 1000 mm, P = 1000 N/m<sup>2</sup> (Ftot = 100 kg)</i>
16 mm	15.8
21 mm	9.1
25 mm	6.4

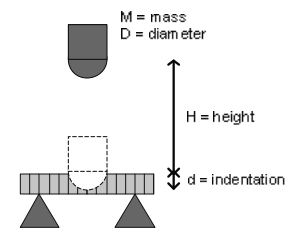


(\*) calculated values including bending and shear stiffness.

#### Impact resistance

The glass fiber reinforced polypropylene skins have an exceptionally high resistance to impact.

<b>Impact resistance</b> (mm)	<i>M = 2 kg, H = 1000 mm, diameter = 20 mm</i>
GFR 0.5	0.71
1 mm aluminum (ref)	6.58



#### Fire resistance

Uncoated glass fiber reinforced polypropylene skins and honeycomb core are estimated to correspond to Class B2 according DIN 4102 which is described as “normal flammability”.

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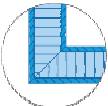
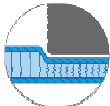


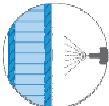


### Weather resistance

- Elylite® GFR panels are stable within a temperature range from -40 °C to +80 °C.
- Elylite® GFR panels are resistant to salt water, oil, fats and most other agents.
- Water absorption of the panels is minimal.

### Processing guidelines

Please refer to Elytra's 'Processing Guidelines for Thermoplastic Composite Panels' for following panel processing topics:

 <i>Cutting</i>	 <i>Milling</i>	 <i>Drilling</i>	 <i>Fastening</i>	 <i>Adhesive bonding</i>
 <i>Bending</i>	 <i>Pressing</i>	 <i>Joining</i>	 <i>Edge finishing</i>	 <i>Surface finishing</i>

Or contact Elytra for any further information.

### Storage

Elytra advises to protect the panels from rain, penetration of moisture and condensation during storage. Elylite® GFR composite panels can be stacked up to a height of 2 m.

These datasheet represent the current state of our technical knowledge. Its purpose it to inform our customers about the Elylite® GFR panels and their applications. The datasheets do not guarantee particular properties or suitability for a specific application. We reserve the right to make changes in accordance with technological advancements and other developments.

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