

# Elylite® Curvtex composite panel

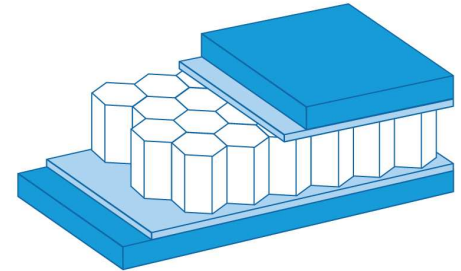
## Technical datasheet

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### Description

The Elylite® Curvtex panels are composed of two self/glass fiber reinforced polypropylene skins combined with a honeycomb core (EHC), joined together by adhesive bonding. The Curvtex skins are a consolidated material of 100% polypropylene (PP) self-reinforced material, combined with glass fiber.



These ultra light weight panels are designed to meet the highest performance characteristics in impact and abrasion resistance, and also provide an increased stiffness. The panels have been tested at temperatures as low as -30°C. Unlike typical polymer materials, the Curv material is known not to show any brittleness even at extremely low temperatures.

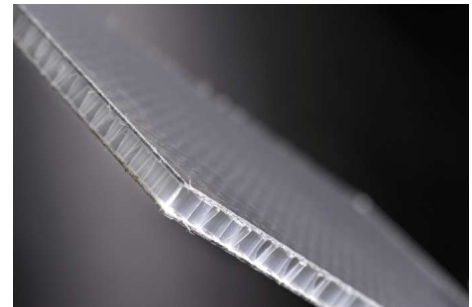
The Elylite® Curvtex panels are particularly suited for application in transport, packaging and temporary installations, as well as partitioning systems and doors.

### Product range

#### Standard panels

##### Composition

- Polypropylene Honeycomb Core with a density of 60 kg/m<sup>3</sup> or 80 kg/m<sup>3</sup>.
- Two Curvtex skins of 1.2 mm. The skins have a unique woven structure; they are a consolidated material of two 0.35 mm self-reinforced PP layers and of 0.5 mm glass fiber reinforced PP.
- Joined together by a high performance adhesion system.



##### Dimensions

Panel	Core (*)	Skins	Colour (*)	1250 x 2400 mm	1250 x 2750 mm
10,4 mm	HC 60 kg/m <sup>3</sup> 8 mm	Curvtex 1.2 mm	Black or grey	•	•
14,4 mm	HC 80 kg/m <sup>3</sup> 12 mm	Curvtex 1.2 mm	Black or grey	•	•
17,4 mm	HC 80 kg/m <sup>3</sup> 15 mm	Curvtex 1.2 mm	Black or grey	•	•
22,4 mm	HC 80 kg/m <sup>3</sup> 20 mm	Curvtex 1.2 mm	Black or grey	•	•
26,4 mm	HC 80 kg/m <sup>2</sup> 24 mm	Curvtex 1.2 mm	Black or grey	•	•

(\*) Black Curvtex skins are UV-resistant

#### On request

Other compositions are available on request.

<b>Composition</b>	Different core thickness
	Different core density

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<b>Dimensions (*)</b>	<i>minimum</i>	<i>maximum</i>	<i>tolerances</i>
<b>Length (**)</b>	400 mm	3000 mm	+/- 2 mm
<b>Width</b>	400 mm	1320 mm	+/- 2 mm
<b>Thickness</b>	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

<b>Colors &amp; surfaces</b>	Other colours subject to minimum volume
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## Technical characteristics

### Weight, stiffness, compression & shear strength

<b>Weight (kg/m<sup>2</sup>)</b>	<i>Elylite® Curvtex</i>
10,4 mm	3.61
14,4 mm	3.93
17,4 mm	4.17
22,4 mm	4.57
26,4 mm	4.89

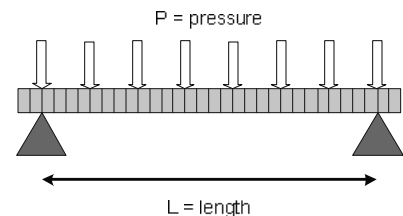
<b>Bending stiffness E*I (Nm<sup>2</sup>/m)</b>	<i>Elylite® Curvtex</i>
10,4 mm	404
14,4 mm	835
17,4 mm	1261
22,4 mm	2172
26,4 mm	3083

<b>Core Compression strength (MPa)</b>	<i>Elylite® Curvtex</i>
EHC 60 kg/m <sup>3</sup>	0.7
EHC 80 kg/m <sup>3</sup>	1.3

<b>Core Shear strength (MPa)</b>	<i>Elylite® Curvtex</i>
EHC 60 kg/m <sup>3</sup>	0.5
EHC 80 kg/m <sup>3</sup>	0.5

### Deflection

<b>Deflection (mm) (*)</b>	<i>L = 1000 mm, W = 1000 mm, P = 1000 N/m<sup>2</sup> (Ftot = 100 kg)</i>
10,4 mm	33.3
14,4 mm	16.4
17,4 mm	11.0
22,4 mm	6.5
26,4 mm	4.6



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

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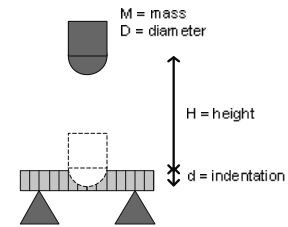
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### Impact resistance

The Curvtex skins have an exceptionally high resistance to impact.

<b>Impact resistance</b> (mm)	<i>M = 2 kg, H = 1000 mm, diameter = 20 mm</i>
<i>Curvtex 1.2</i>	0.71
1 mm aluminum (ref)	6.58



### Fire behavior

Uncoated Curvtex skins correspond to Class B2 according to DIN 4102 which is described as “normal flammability”. The polypropylene honeycomb core material is estimated to correspond to Class B2.

### Weather resistance

- Elylite® Curvtex composite panels are stable within a temperature range from -40 °C to +80 °C.
- Elylite® Curvtex composite panels are resistant to salt water, oil, fats and most other agents.
- Black Curvtex skins guarantee excellent UV-protection and do not show any significant signs of ageing compared to other similar polymer materials. Other color panels need to be provided with an additional UV protecting film when exposed to direct sunlight.
- 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:

 Cutting	 Milling	 Drilling	 Fastening	 Adhesive bonding
 Bending	 Pressing	 Joining	 Edge finishing	 Surface finishing

Or contact Elytra for any further information.

## Storage

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

These datasheet represent the current state of our technical knowledge. Its purpose is to inform our customers about the Elylite® Curvtex 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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