

# Elyfoam® PET Curv composite panel



## Technical datasheet

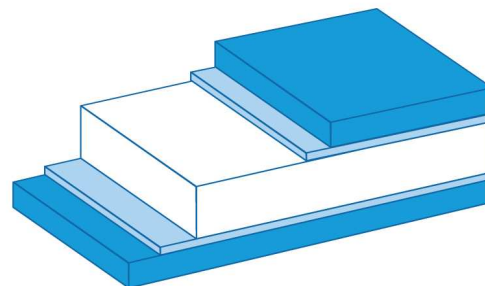
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### Description

The Elyfoam® Curv composite panels are composed of two self-reinforced polypropylene skins combined with polyester foam (PET), joined together by adhesive bonding.

These ultra light weight panels are designed to meet the highest performance characteristics in impact and abrasion resistance, and in compression strength. Further, these panels are easy to process in a wide range of applications. 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 Elyfoam® Curv panels are particularly suited for application in transport, packaging and temporary installations, as well as partitioning systems and doors.



### Product range

#### Standard panels

##### Composition

- Polyester (PET) foam with a density of 100 kg/m<sup>3</sup>.
- Two Curv skins of 1 mm. The skins are a 100% polypropylene (PP) composite; they consist of a unique woven structure of stretched PP fibers.
- Joined together by a high performance adhesion system.

##### Dimensions

Panel	Core	Skins	Colour (*)	1250 x 2400 mm	1250 x 2750 mm
12 mm	PET 100 kg/m <sup>3</sup> 10 mm	Curv 1 mm	Black or grey	●	●
17 mm	PET 100 kg/m <sup>3</sup> 15 mm	Curv 1 mm	Black or grey	●	●

(\*) Black Curv skins are UV-resistant

#### On request

Other compositions are available on request.

Composition
Different skin thickness
Different core thickness
Different core density

Dimensions (*)	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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<b>Colors &amp; surfaces</b>	Other colours subject to minimum volume
	Anti-skid surface
	Scratch resistant finishing

## Technical characteristics

### Weight, stiffness, compression & shear strength

<b>Weight (kg/m<sup>2</sup>)</b>	<i>Elyfoam® PET Curv</i>
12 mm	3.03
17 mm	3.53

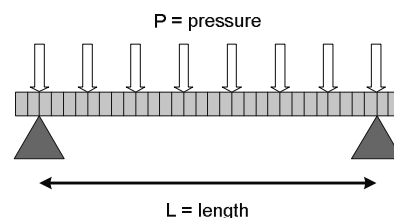
<b>Bending stiffness E*I (Nm<sup>2</sup>/m)</b>	<i>Elyfoam® PET Curv</i>
12 mm	218
17 mm	468

<b>Core Compression strength (MPa)</b>	<i>Elyfoam® PET Curv</i>
PET 100 kg/m <sup>3</sup>	1.8

<b>Core Shear strength (MPa)</b>	<i>Elyfoam® PET Curv</i>
PET 100 kg/m <sup>3</sup>	0.8

### Deflection

<b>Deflection (mm) (*)</b>	<i>L = 1000 mm, W = 1000 mm, P = 1000 N/m<sup>2</sup> (M<sub>tot</sub> = 100 kg)</i>
12 mm	60.3
17 mm	28.2

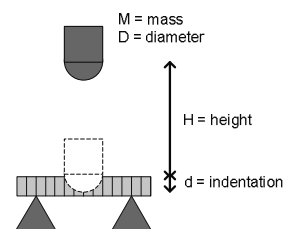


(\*) calculated values including bending and shear stiffness.

### Impact resistance

The Curv skins have an exceptionally high resistance to impact.

<b>Impact resistance (mm)</b>	<i>M = 2 kg, H = 1000 mm, diameter = 20 mm</i>
Curv 1.0	1.83
1 mm aluminum (ref)	6.58



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### Fire behavior

Uncoated Curv skins correspond to Class B2 according DIN 4102 which is described as “normal flammability”.




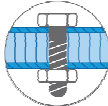


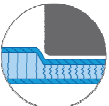

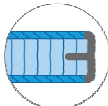
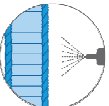
PET foam 100 kg/m<sup>3</sup> is classified as M4 / F1 in accordance with NF F16-101.

### Weather resistance

- Elyfoam® PET Curv panels are stable within a temperature range from -40 °C to +80 °C.
- Elyfoam® PET Curv panels are resistant to salt water, oil, fats and most other agents.
- Black Curv skins guarantee excellent UV-protection and don't 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:

 <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. Elyfoam® PET Curv 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 Elyfoam® PET Curv 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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