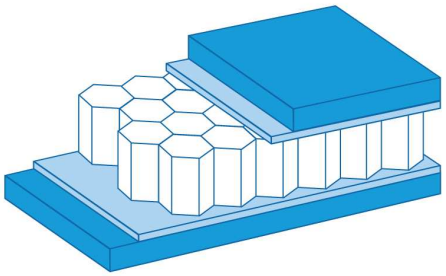
Elylite® Curv composite panel

Technical datasheet

Description

The Elylite® Curv panels are composed of two self-reinforced polypropylene skins combined with a honeycomb core (HC), joined together by adhesive bonding. The panels consist 100% of polypropylene (PP) and are consequently very cost effective.

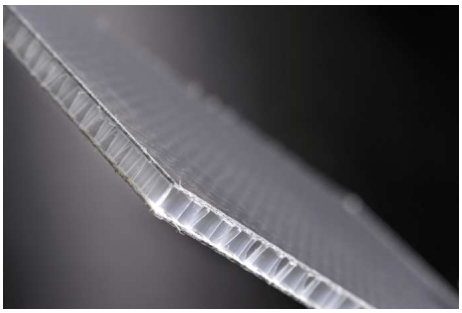


These ultra light weight panels are designed to meet the highest performance characteristics in impact and abrasion resistance, and are easily recyclable. The panels have been tested at temperatures as low as -30°C. Unlike typical polymer materials, the Curv material is known not to show any brittleness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

The Elylite® 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

- Polypropylene honeycomb core with a density of 80 kg/m3.
- 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*
17 mm	HC 80 kg/m3 15 mm	Curv 1 mm	Black or grey	●	●
22 mm	HC 80 kg/m3 20 mm	Curv 1 mm	Black or grey	●	●
26 mm	HC 80 kg/m3 24 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

Colors & surfaces	Other colours subject to minimum volume
	Anti-skid surface
	Scratch resistant finishing

Technical characteristics

Weight, stiffness & compression strength

Weight *(kg/m2)*	*Elylite® Curv*
17 mm	3.23
22 mm	3.63
26 mm	3.95

Bending stiffness E*I *(Nm2/m)*	*Elylite® Curv*
17 mm	468
22 mm	819
26 mm	1175

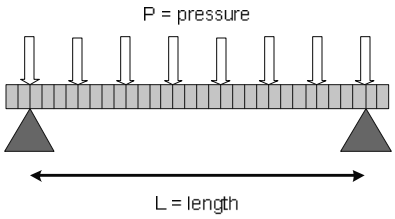
Core Compression strength *(MPa)*	*Elylite® Curv*
EHC 80 kg/m3	1.3

Core Shear strength *(MPa)*	*Elylite® Curv*
EHC 80 kg/m3	0.5

Deflection

Deflection (mm) *(*)*	*L = 1000 mm, W = 1000 mm, P = 1000 N/m2 (Mtot = 100 kg)*
17 mm	28.5
22 mm	16.4
26 mm	11.5

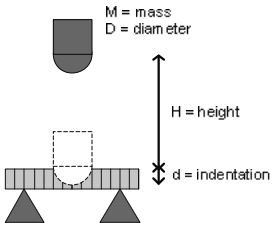
(*) calculated values including bending and shear stiffness.



Impact resistance

The Curv skins have an exceptionally high resistance to impact.

Impact resistance (mm)	*M = 2 kg, H = 1000 mm, diameter = 20 mm*
Curv 1.0	1.83
1 mm aluminum (ref)	6.58



Fire behavior

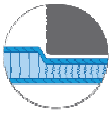
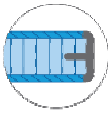
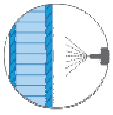
Uncoated Curv skins correspond to Class B2 according DIN 4102 which is described as “normal flammability”. The polypropylene honeycomb core material is estimated to correspond to Class B2.

Weather resistance

- Elylite® Curv composite panels are stable within a temperature range from -40 °C to +80 °C.
- Elylite® Curv composite panels are resistant to salt water, oil, fats and most other agents.
- Black Curv 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® Curv composite panels can be stacked up to a height of 2 m.

V4 – issue 01/10/2009