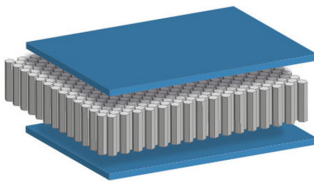
Fused Panel



Technical Data

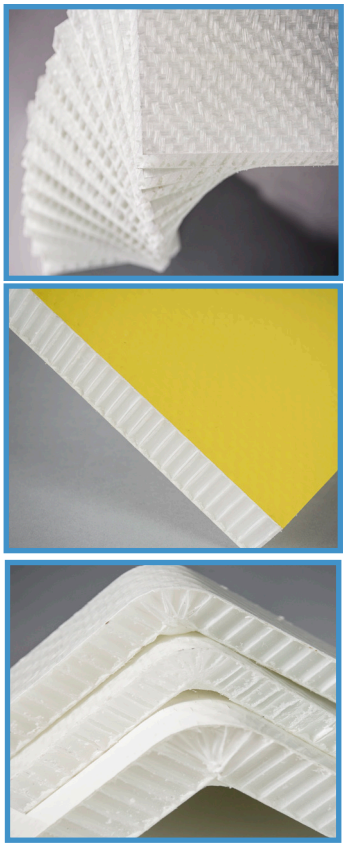
2017

The Omnia fused panel consists of a reinforced thermoplastic composite sandwich where a glass fibre reinforced polypropylene face sheet is thermally fused to both sides of the honeycomb core. This therefore eliminates the possibility of delamination. An additional polypropylene layer is applied to the outside of the panel, providing a smoother surface.

The Omnia Panel has ideal structure properties unachievable with alternative bonded materials such as plywood, aluminium, fibreglass and steel.

Main Features:

- **Suitable for Thermoplastic Welding technology:** Ability to easily join the panels optimising the panel strength
- **Low Weight:** At less than 5kg per square metre we can offer a measurable benefit in weight saving opportunities
- **High Strength:** Impact resilient and extremely resistant to mechanical stressing
- **Ecological impact:** The Omnia panel uses considerably less kilojoules during manufacture compared to most conventional materials and production methods.
- **Resistance to climatic conditions:** The thermoplastic composition allows the panels to be put into permanent service in temperatures ranging from -40° to +80° Celsius
- **Recyclable:** Standard panel is 100% recyclable



Panel Dimensional Capabilities		Standard Omnia Panel	Available Omnia Panels		On Request for orders >500m²
Thickness	mm	25	17 (±0.3)	30 (± 0.3)	15-50 (± 0.3)
Weight	kg/m²	4.4	4	4.8	
Length	mm	Up to 6,100	Up to 6,100 (± 4)		2,000 - 13,600 (2 ± 8)
Width	mm	2,440	2,400		2,000 - 2,750
Honeycomb Density	kg/m³	80	80		70 - 120
Face sheet Thickness	mm	0.7	0.7		1.0 or 1.4mm
Finish upon Despatch	Primed / Upainted		Primed /Unpained		Primed for lengths upto 7,500 mm/Unpainted
Panel Planarity	± mm/m upon dispatch				

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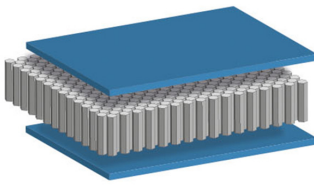
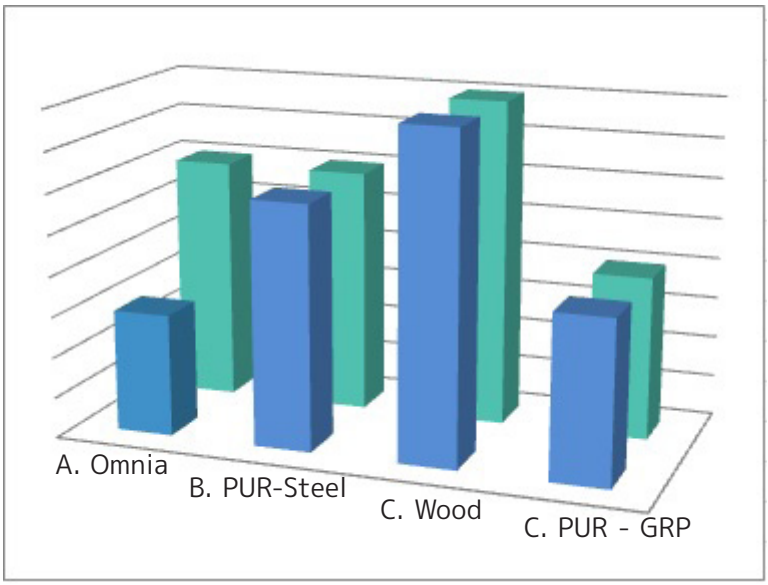


Forming Techniques

The honeycomb panels can be processed in various ways to enhance the properties of the panel further. Mechanical fasteners can be used to join the panels but a more desirable method is to weld the panel with PP welding rod; this is a very quick method and forms a light, strong and watertight bond. Other bonding methods such as adhesives can also be used if desired. The panels can be shaped by either rebating or thermal forming.



A. 30mm thick Omnia Panel

B. 40mm polyurethane with 2mm think steel face sheets

C. 16mm plywood

D. 40mm polyurethane with 2mm thick GRP face sheets

Heat Insulation

Panel	Thermal Coeffcient (U Value)	Thermal Resistace R (Value)
15mm thickness	3.5 W/m²K	1.6 (0.29) m²K/W
25mm thickness	2.5 W/m²K	2.3 (0.4) m²K/W
30mm thickness	2.2 W/m²K	2.6 (0.46) m²K/W
18mm thickness - Plywood	3.6 W/m²K	1.6 (0.28) m²K/W

Fire Rating

Coating	Combustibility	Rating
Unpainted	Normal	DIN 4102, B2
Primed	Not easily flammable	DIN 53438-T3, F1
Flame Retardant Spray	Meets criteria for floors	DIN 4102-14,B1

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