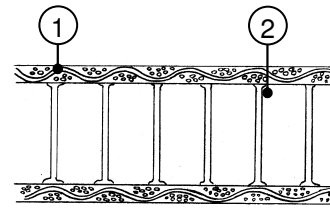
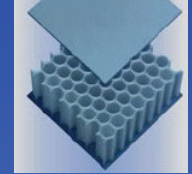


Panel structure

The Omnia panel is a thermoplastic sandwich panel, consisting of polypropylene honeycomb and glass fibre reinforced polypropylene face sheets, which are joined together by a lamination/melting process.



1. Longitudinal- and transverse filaments in PP-matrix
2. Honeycomb with cell walls melted to face sheets



Face sheets

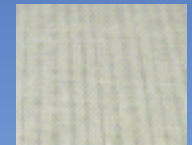
The face sheets on both sides are of the same thickness and have following specifications: Standard: single-layered on each side, natural colour (opaque-white) with a thickness of 0.7 mm (meaning 980 g/m² in woven fabric).

Standard	0.7 mm natural colour	980 g/m ²
On request	0.7 mm black	980 g/m ²
	1.0 mm natural colour/black	1,485 g/m ²
	1.4 mm natural colour/black	2 x 980 g/m ²



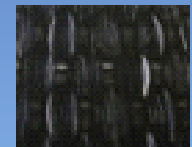
Honeycomb

Standard	PP-honeycomb	Density 80 kg/m ³
On request	PP-honeycomb	Density 100 kg/m ³
		Density 120 kg/m ³



Surface coating

Optional	Painting RAL 9010, system:	Polypropylene – bonding agent, filler and PU - final coat
On request	Special colour	
	Anti-Slip-Surface	
	Fabric made from natural fibre	



The paint surface can be over coated with accepted vehicle paints and glued with PUR- and MS-Polymer adhesives.

Woven natural fibre can be online applied as a surface ready for bonding.

--- special specifications on request from 500 m² ---

Technical delivery terms

Panel Sizes		
Length	2,000 to 13,600 mm	(painted up to 7,500 mm)
Width	2,000 to 2,750 mm	
Tolerances		
	Length	Width
	± 2 mm	In case length ≤ 2,750
	± 4 mm	In case 2,750 < length ≤ 6,800
	± 8 mm	± 4 mm In case length > 6,800
Planarity¹		
	± 4 mm/m	

¹ The surface flatness tolerance refers to the state of the panel upon dispatch.

--- special sizes on request ---

Panel thickness		
Standard	25 and 30 mm	Tolerance: ± 0.3 mm
On request	15 to 50 mm (from 500 m ²)	Tolerance: ± 0.5 mm



Properties

Weight

The weight of a panel consists of the weight of the face sheets and the weight of the honeycomb core. It is 4.4 kg/m² for a 25 mm panel and 4.8 for 30 mm.

Impact strength

At room temperature the impact strength, appraised by a Falling Dart Impact Test with a Ø20 mm spherical head, is >80 J (translated >250 J/m²), at -20 °C it is >35 J.

Weather resistance

The face sheets guarantee excellent UV-protection according to manufacturer tests in a dessert area of Arizona. The panel has excellent UV resistance with no important signs of aging compared to similar plastic materials, which have a stronger tendency to surface cracks at intensive UV-irradiation.

The Omnia panel does not decompose and is resistant to salt water.

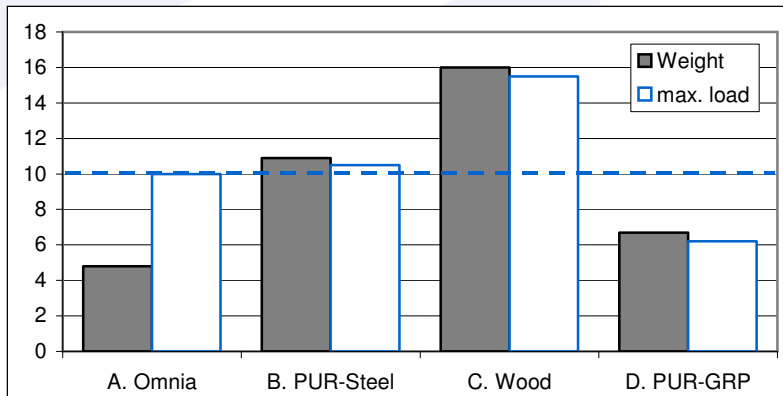
Chemical resistance is very high and the product also offers high resistance against oil, fats, and the most commonly used agents.

According to internal tests the water absorption of panels is below 1.5%.

Compression strength

The compression strength at short time load to an area of 50x50 mm² is 2.3 MPa.

Bending Properties



The figure shows the strength in kg/cm width at centred line load on a panel having a bearing distance of 750 mm compared to a weight per unit area of kg/m².

Materials:
A: 30 mm Standard Omnia
B: 40 mm PUR, 0.6 mm Steel
C: 16 mm Plywood
D: 40 mm PUR, 2 mm GRP

Fire

Uncoated Omnia panel is normal inflammable according DIN 4102 – meaning B2. A standard paint coating achieves fire precaution class F1 according to DIN 53438-3.

Heat insulation

Thermal Insulation Behaviour of Standard Panels			
25 mm	Heat transfer coefficient K	2.5	W/m ² K
30 mm	Heat transfer coefficient K	2.2	W/m ² K

Post fabrication and Forming

The Omnia panel can be shaped by rebating and thermal forming. Suitable techniques for joining components are: riveting, welding or gluing.

For applications, treatment and storage please pay attention to the safety data sheet of the manufacturer.

The specifications in this data sheet represent the current state of our technical knowledge and its purpose is to inform about the Omnia panel and its applications. The specifications therefore do not guarantee particular properties or suitability for a specific application. We reserve the right to make changes in accordance with technological processes and other developments. We guarantee faultless quality in accordance with our conditions of sale.

