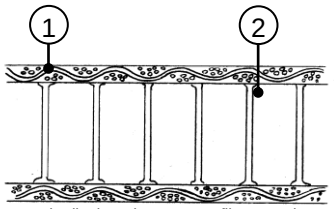
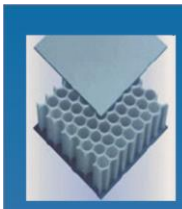
MonoPan®
Datasheet

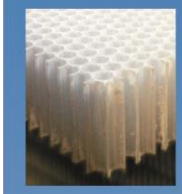
Panel structure

MonoPan® is a thermoplastic sandwich panel, consisting of polypropylene-honeycomb core and fibre-glass reinforced polypropylene face sheets which are homogeneously and permanently joined together by a thermoplastic fusion/welding 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 the following specifications:
Standard: single-layered on each side, natural colour (opaque-white) with a thickness of 0.7 mm (resulting in 980 g/m² in fabric weight).

Standard	0.7 mm natural colour	980 g/m²
On request	0.7 mm black	980 g/m²
	1.0 mm natural colour	1.485 g/m²
	1.0 mm black	1.485 g/m²

Honeycomb

Standard	PP-honeycomb	Density 80 or 85 kg/m³
On request	PP-honeycomb	Density 90 kg/m³
		Density 100 kg/m³
		Density 120 kg/m³

Surface coating

Optional (1 site)	Surface with primer	- plasma pre-treatment - Polypropylene - bonding agent - UV-priming
	Surface painted white RAL 9010	- plasma pre-treatment - Polypropylene – bonding agent - UV-final coating
On request	Anti-Slip-Surface	

- - - custom specifications on request from 500 m² - - -

Technical delivery terms

Production Sizes			
Length	2.000 to 13.600 mm		
Width	2.190 to 2.750 mm		
On request in smaller dimensions			
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

Panel thickness		
Standard	25 and 30 mm	Tolerance: ± 0.35 mm
On request	14 to 50 mm (from 500 m²)	Tolerance: ± 0.5 mm

Wihag Composites GmbH & Co. KG
Industrie- u. Gewerbegebiet 10
D-07426 Königsee-Rottenbach / Germany

Phone: +49 (0)36739 31-5 Fax: +49 (0)36739 31-666
Internet: www.wihag-composites.de
E-mail: zentrale@wihag-composites.de

Properties

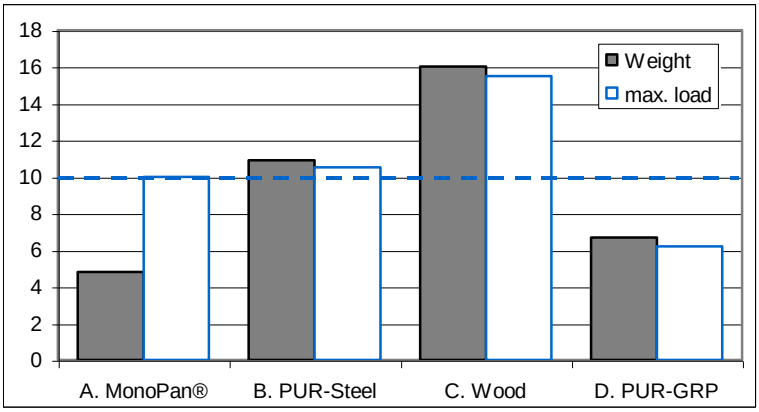
Weight
The weight of a panel consists of the weight of the face sheets and the weight of the honeycomb core. For a 25 mm panel weight is approx. 4.5 kg/m² or 4.9 kg/m² for a 30 mm panel.

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

Weather resistance
The face sheets provide excellent UV-protection according to manufacturer's tests in a desert 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-radiation.
MonoPan® does not decompose and is resistant to salt water.
Chemical resistance is very high and the product also offers high resistance against oil, grease and the most commonly used agents.
According to internal tests the water absorption of panels is below 1.5%.

Compression strength
Compression strength at short term load is 2.3 MPa on an area of 50x50 mm.

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 MonoPan®
B: 40 mm PUR, 0.6 mm Steel
C: 16 mm Plywood
D: 40 mm PUR, 2 mm GRP

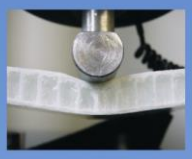
Fire
Unpainted MonoPan® is flammable according to DIN 4102 – class B2.
A standard coating achieves fire precaution class F1 according to DIN 53438-3.

Heat insulation

Thermal Insulation Behaviour of Standard Panels			
25 mm	Heat transfer coefficient K	2.5	W/m²K
30 mm	Heat transfer coefficient K	2.2	W/m²K

Treatment
MonoPan® can be shaped mechanically and by thermal forming.
Feasible options for joining parts are riveting, welding or gluing.





For applications, treatment and storage please note the „Technical Data Sheet" of the manufacturer.

Wihag Composites GmbH & Co. KG
Industrie- u. Gewerbegebiet 10
D-07426 Königsee-Rottenbach / Germany
Phone: +49 (0)36739 31-5 Fax: +49 (0)36739 31-666
Internet: www.wihag-composites.de
E-mail: zentrale@wihag-composites.de