



The new generation of lightweight core materials - ThermHex polypropylene honeycombs



## The new generation of lightweight core materials - ThermHex honeycomb cores in polypropylene.

A new generation of polypropylene honeycomb cores are now available from new producer ThermHex; this latest innovation in honeycomb technology is available in different configurations to suit the needs of panel producers.

With a standard core density of 80 kg per cubic metre, ThermHex Waben GmbH from Halle a.d. Saale (Germany) offers their customers an extensive range of options for the production of high quality, durable and inexpensive lightweight components. For less demanding applications a more economical lighter weight core density of 60 kg per cubic metre is available.

Whether for the manufacture of panels used in trailer bodies, marine panels or modern swimming baths, ThermHex polypropylene honeycomb cores are the versatile choice.

Sandwich structures using honeycomb core enable significant weight reductions in components. Resultant energy savings can help to lower our carbon footprint and the minimized raw material consumption helps you to build a more sustainable business.

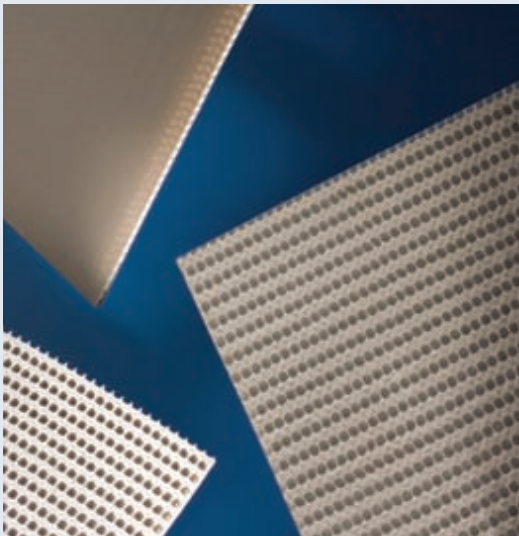
Continuous and joint-free cores are available in unlimited lengths using patented ThermHex technology.

The maximum production width of 1,400 mm is unique in the market, enabling the user to optimise material usage when processing further.

ThermHex honeycomb cores are finished with both a polypropylene covering film and polyester nonwoven fabric. This enables the product to be simply and safely laminated with a variety of finishes, they are also suitable for a wide range of adhesive systems (including polyester, epoxy, polyurethane etc).

Processing can be via automated or manual application.

By optimising the cell size and using a special structure in ThermHex honeycomb cores, the material achieves an outstanding surface quality even with extremely thin skins.



### Your ThermHex Advantage

- > Significant weight saving
- > Major cost reduction
- > Superior surface quality
- > Safe and simple processing
- > Improved noise and temperature insulation

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### Technical information

#### Markets and applications

##### Vehicle and automobile production



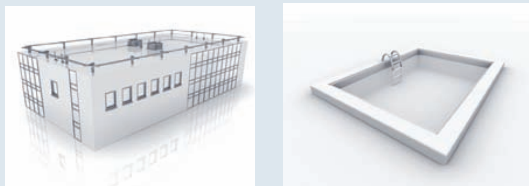
##### Yacht and boat construction



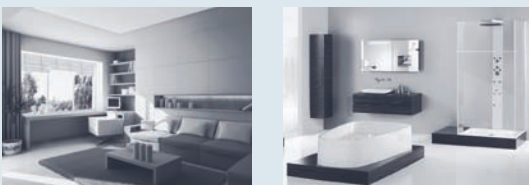
##### Wind and solar energy production



##### Architecture / swimming pool construction



##### Interior fitting and furniture

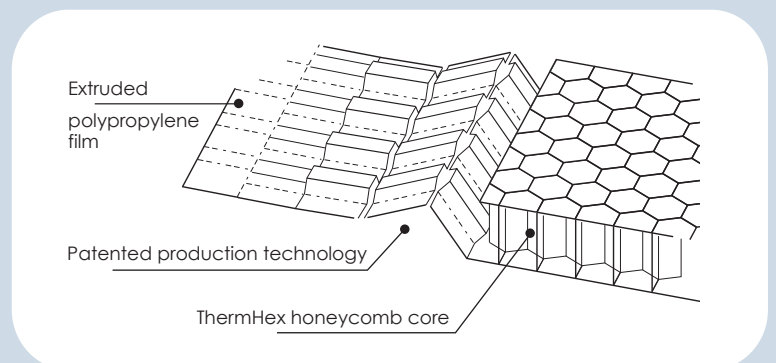


#### General

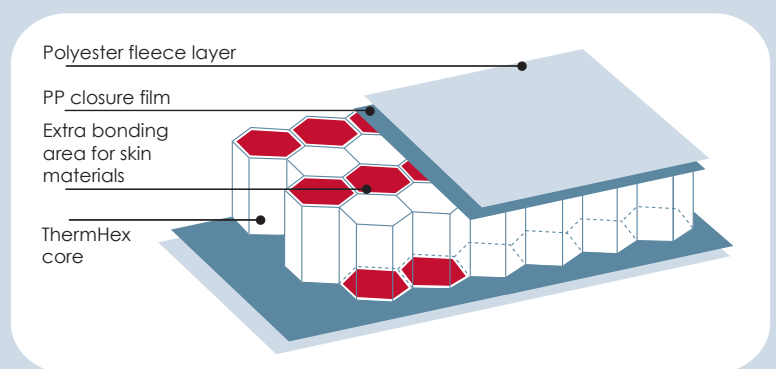
This data sheet contains information on the key technical properties of the polypropylene honeycomb cores produced by ThermHex Waben GmbH. Polypropylene honeycomb cores are used in a wide range of applications in industrial lightweight construction, including the construction industry, vehicle and automobile production, shipbuilding, sport and leisure equipment and in many other sectors.

#### ThermHex Processing

ThermHex polypropylene honeycomb cores are suitable as a core material for the manufacture of sandwich panels by laminating with a range of skins and by various production processes; i.e. Hand laminating for the manufacture of panels with glass-fibre skins, thermoplastic lamination or bonding with duromer adhesives.



ThermHex honeycomb cores are made with a backing film of polypropylene as standard. This prevents the ingress of resin into the cells during processing, and therefore safeguards uniformity in the mechanical characteristics of the finished component. This also reduces the quantity of adhesive required to the minimum necessary. Polyester fleece layers on both sides are used to finish, achieving a surface for perfect bonding with the core.





Technical parameters

Material Nomenclature	THPP80FN						
Base material	Polypropylene						
Core thickness [mm] - standard dimensions	4	8	10	15	20	28	
Cell size [mm]	3.0	8.0	8.0	9.6	9.6	9.6	
Nominal cell wall density [kg/m <sup>3</sup> ]	80						
Compression strength [MPa]* (ASTM C365-57)	1.2						
Compression modulus [MPa]* (ASTM C365-57)	40						
Shear strength L/W [MPa] (ASTM C273-61)	0.3 / 0.5						
Shear modulus L/W [MPa] (ASTM C273-61)	6 / 15						
Temperature range for processing and application [°C]	-30 to +80 short-term up to +140						
Thermal conductivity* [W/mK]	0.065						
Standard surface finish (both sides)	Polypropylene closure film and Polyester nonwoven						
Standard dimensions [mm]	2,500 (length) x 1,200 (width) Other dimensions upon request						

\*data provided from testing of bare core

You can find more details about ThermHex honeycomb cores and our company at: [www.thermhex.com](http://www.thermhex.com)  
Enquiries to: [info@thermhex.com](mailto:info@thermhex.com)  
Please visit [www.econcore.com](http://www.econcore.com) for more information on patented ThermHex technology

**Liability for defects**

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