

Polypropylene Honeycomb Core

Polypropylene honeycomb core (PPHC) is a lightweight, high strength core used in sandwich panels for a wide variety of industries.

Many other honeycomb cores are typically more two-dimensional in performance due to the shape of the core, resulting in different mechanical properties in each principal direction. Our honeycomb core is based on a tubular design which allows the core to resist shear loads more uniformly regardless of direction. This isotropic behavior results in a much more consistent and robust finished sandwich panel.

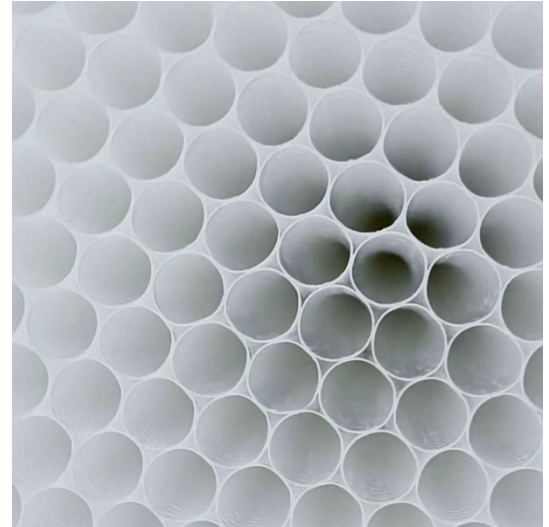
Our PPHC core sheets come standard with a plastic film thermally welded to the top and bottom of core along with a non-woven polyester scrim for bonding. This produces a sealed core with a one hundred percent bonding surface for the skins. By request the core is also available in an open cell configuration.

Benefits

- High strength-to-weight ratio
- Resistance to moisture, corrosion, chemicals and fungi
- Excellent impact resistance and sound dampening properties
- Low resin absorption
- Wide temperature range

Sample Applications

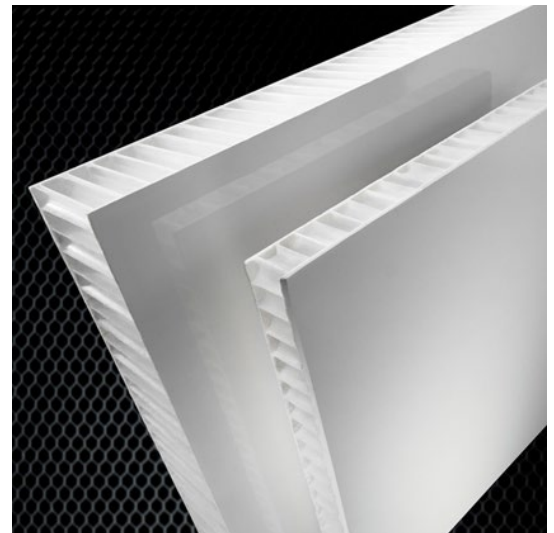
- Marine: Stringers, decks, transoms, bulkheads
- Wind Power: Nacelles, rotor blades
- Industrial: Tanks, covers, ductwork, tooling, storage and shipping containers
- Transportation: Cabs, floors, roofs, side walls, doors, partitions, shelves
- Construction: Portable buildings, RF enclosures, interior cladding, decking, building pod floors and ceilings, drop ceilings for clean rooms, overhead doors



Plan view of open cell block prior to slicing into sheets and applying film & scrim



Finished sheet with film & scrim



Finished honeycomb core panels with FRP skins (by Fiber-Tech)

ValuTex

Technical Data

Typical Physical Properties ¹ PPHC 5.0			
Property	Value	Units	Test Standard
Cell (Tube) Diameter	0.31	inch	n/a
	8	mm	n/a
Density (without film or scrim)	5.0	lb/ft ³	n/a
	80	kg/m ³	n/a
Compressive Strength	266	psi	ASTM C365
	1.83	MPa	
Compressive Modulus	6912	psi	ASTM C365
	47.66	MPa	
Shear Strength	68	psi	ASTM C273
	0.47	Mpa	
Shear Modulus	1900	psi	ASTM C273
	13.10	MPa	
Temperature Range	-20 to +180	°F	n/a
	-29 to 82	°C	n/a

¹ Typical properties shown are based on average tested values (13mm and 25mm depths) at room temperature with film and scrim surface only. For design, properties should be verified with physical testing.

Availability			
Property	Value	Units	Tolerance
Densities	5.0 to 7.5	lb/ft ³	+/-10%
	80 to 120	kg/m ³	+/-10%
Sheet Length	Up to 240	inch	+/- 0.125
	Up to 6096	mm	+/-3.18
Sheet Width	Up to 60	inch	+/- 0.125
	Up to 1524	mm	+/- 3.18
Sheet Thickness	.14 to 3.94	inch	+/- .03
	3.5 to 100	mm	+/- .76

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