

AIREX® PXw

GM-TDS-110

Fiber-Reinforced Structural Foam Panel

DATA SHEET 07.2011 - Replaces 08.2010

DESCRIPTION














AIREX® PXw is a closed-cell, fiber reinforced polymer foam panel with a special formulation and very high mechanical properties.




The sophisticated manufacturing process evenly distributes continuous glass fibers with woven fabrics throughout the foam. This generates a product with enhanced mechanical properties in flexure (bending), allowing it to be used with or without face sheets.

AIREX® PXw is dimensionally stable, does not lose strength when wet, and is resistant to chemicals and high temperatures. It is ideally suited as a material for static applications requiring high stiffness or as a replacement for wood and plywood.






CHARACTERISTICS

-  Stand alone product – does not need face sheets
-  High flexural strength and stiffness
-  Replacement for wood and plywood
-  Good fastener pull-out strength
-  High heat resistance
-  Compatible with a wide range of resins and adhesives
-  Dimensionally stable
-  High styrene resistance
-  Very low water absorption
-  Non biodegradable
-  Excellent chemical resistance

APPLICATIONS

-  **Wind energy:** Floors, soles, bulkheads, transoms, stringers, engine beds, interiors, local reinforcements, tooling and molds
-  **Road and Rail:** Floors, sidewalls, roofs, engine covers, interior panels
-  **Industrial:** Covers, tanks, containers, floors, tooling and molds, concrete pouring forms, architectural panels, tub and shower enclosures

PROCESSING

-  Contact molding (hand/spray)
-  Resin infusion / injection (VARTM / RTM)
-  Adhesive bonding
-  Pre-preg processing
-  Processing molding (GMT)

MECHANICAL PROPERTIES					
Typical properties for AIREX® PXw		Unit (metric)		PXw.385	PXw.420
Density	ASTM C-271		320	385	420
Compressive strength perpendicular to the plane*	ASTM C-365		1.5	3.1	3.9
Compressive modulus perpendicular to the plane*	ASTM C-365		72	145	182
Shear strength	ASTM C-273		0.9	1.8	2.2
Shear modulus	ASTM C-273		44	83	103
Flexural strength*	ASTM D-790		22	33	38
Flexural modulus*	ASTM D-790		1'870	2'243	2'430
Standard sheet	Width		1219	1219	1219
	Length		2438	2438	2438
	Thickness		20 to 50	12 to 45	12 to 45

Finishing Options, other dimensions and closer tolerances upon request

* Evaluated on ¾" (20 mm) rigid sheet

The data provided gives approximate values for the nominal density. Due to density variations these values can be lower than indicated above. Minimum values to calculate sandwich constructions can be provided upon request.

The information contained herein is believed to be correct and to correspond to the latest state of scientific and technical knowledge. However, no warranty is made, either expressed or implied, regarding its accuracy or the results to be obtained from the use of such information. No statement is intended or should be construed as a recommendation to infringe any existing patent.

MECHANICAL PROPERTIES					
Typical properties for AIREX® PXw		Unit (imperial)	PXw.320	PXw.385	PXw.420
Density	ASTM C-271	lb/ft³	20	24	26
Compressive strength perpendicular to the plane*	ASTM C-365	psi	214	445	560
Compressive modulus perpendicular to the plane*	ASTM C-365	psi	10'538	21'100	26'382
Shear strength	ASTM C-273	psi	125	255	320
Shear modulus	ASTM C-273	psi	6'330	12'040	14'890
Flexural strength*	ASTM D-790	psi	3'245	4'770	5'535
Flexural modulus*	ASTM D-790	psi	271'070	325'305	352'425
Standard sheet	Width	in	48	48	48
	Length	in	96	96	96
	Thickness	in	¾ to 2	½ to 1 ¾	½ to 1 ¾

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