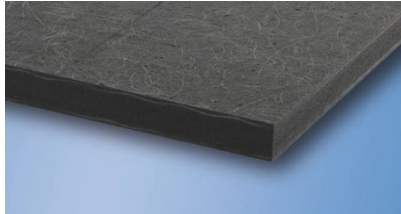


### DESCRIPTION



**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
- **Building & Construction:** concrete forms, substrates for fascia, SIPs panels, tub and shower enclosures

### PROCESSING\*

- Contact molding (hand/spray)
- Resin infusion / injection (VARTM / RTM)
- Adhesive bonding
- Pre-preg
- Press / compression molding

\* for details, please refer to AIREX® Processing Guidelines

<b>MECHANICAL PROPERTIES</b>						
<b>Typical properties</b>		<b>Unit (metric)</b>	<b>AIREX® PXw.320</b>	<b>AIREX® PXw.385</b>	<b>AIREX® PXw.420</b>	<b>AIREX® PXw.520</b>
Density	ASTM C-271 ISO-845	kg/m <sup>3</sup>	320	385	420	527
Compressive strength perpendicular to the plane	ASTM C-365 ISO-844	N/mm <sup>2</sup>	4.52	6.17	7.00	10.90
Compressive modulus perpendicular to the plane	ASTM C-365 ISO-844	N/mm <sup>2</sup>	116	215	244	379
Tensile Strength	ASTM C-297	N/mm <sup>2</sup>	3.7	3.76	3.78	3.9
Tensile Modulus	ASTM C-297	N/mm <sup>2</sup>	97	117	127	367
Shear strength	ASTM C-273 ISO 1922	N/mm <sup>2</sup>	2.5	3.15	3.47	4.47
Shear modulus	ASTM C-273 ISO 1922	N/mm <sup>2</sup>	88	115	128	189
Flexural strength	ASTM D-790	N/mm <sup>2</sup>	23.31	30.39	33.43	38.20
Flexural modulus	ASTM D-790	N/mm <sup>2</sup>	1.546	1.739	1.836	1.918
Screw pull-out strength*	ASTM D1761	N	658	Not tested	888	Not tested
Water absorption	ASTM C-272	%	2.53	Not tested	2.14	Not tested
Standard sheet	Width	mm	1219	1219	1219	1219
	Length	mm	2438	2438	2438	2438
	Thickness	mm	20 to 50	12 to 45	12 to 45	12 to 50

Finishing Options, other dimensions and closer tolerances upon request.

All properties evaluated on 3/4" (20 mm) rigid sheet; other thickness will have similar performance based on that specific sheet density. Flexural testing support span ratio 16:1.

\*fastener type #14 sheet metal screw

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		Unit (imperial)	AIREX® PXw.320	AIREX® PXw.385	AIREX® PXw.420	AIREX® PXw.520
Density	ASTM C-271 ISO-845	lb/ft <sup>3</sup>	20	24	26	32
Compressive strength perpendicular to the plane	ASTM C-365 ISO-844	psi	655	895	1,015	1,581
Compressive modulus perpendicular to the plane	ASTM C-365 ISO-844	psi	22,603	31,139	35,407	54,969
Tensile Strength	ASTM C-297	psi	536	545	549	562
Tensile Modulus	ASTM C-297	psi	14,125	16,959	18,375	53,228
Shear strength	ASTM C-273 ISO 1922	psi	363	457	504	648
Shear modulus	ASTM C-273 ISO 1922	psi	12,744	16,660	18,618	27,412
Flexural strength	ASTM D-790	psi	3,525	4,407	4,848	5,538
Flexural modulus	ASTM D-790	psi	224,273	252,250	266,238	278,169
Screw pull-out strength*	ASTM D1761	lbf	148	Not tested	199	Not tested
Water absorption	ASTM C-272	%	2.53	Not tested	2.14	Not tested
Standard sheet	Width	in	48	48	48	48
	Length	in	96	96	96	96
	Thickness	in	¾ to 2	½ to 1 ¾	½ to 1 ¾	½ to 2

Finishing Options, other dimensions and closer tolerances upon request

All properties evaluated on ¾" (20 mm) rigid sheet; other thickness will have similar performance based on that specific panel density. Flexural testing support span ratio 16:1.

\*fastener type #14 sheet metal screw

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