



AIREX® T92

Easy Processing Structural foam

Characteristics

- Easy to process with all types of resin and lamination processes
- High process temperature up to 150°C (302°F)
- Excellent fatigue strength
- High compression and shear properties
- Very low variance of mechanical properties
- Excellent chemical stability
- Good adhesion (skin-to-core bond)
- Excellent long term thermal stability up to 100°C (212°F)
- No water absorption
- No after expansion, no out-gassing

Applications

- **Wind energy:**
Blades (shear webs & shells), nacelles
- **Marine:**
Hulls, decks, superstructures, bulkheads, transoms, interiors stringers
- **Industrial:**
Covers, containers, local reinforcements, x-ray tables, sporting goods

Processing

- Contact molding (hand/spray)
- Vacuum infusion
- Resin infusion / injection (VARTM / RTM)
- Adhesive bonding
- Prepreg processing
- Compression molding (GMT, SMC)
- Thermoformable

Description:

AIREX® T92 is a closed-cell, thermoplastic and recyclable polymer foam with very good mechanical properties and an outstanding price / performance ratio.

It has an extraordinary resistance to fatigue, is chemically stable, UV-resistant and has negligible water absorption. It is thermally stable during high temperature processing and post curing without after expansion or out-gassing. T92 is designed for easy use with all resin systems and processing technologies.

AIREX® T92 is ideally suited as a core material for a wide variety of lightweight sandwich structures subjected to static and dynamic loads and/or exposed to elevated temperatures during manufacturing.



Typical properties AIREX® T92		Unit (metrical)	Value ¹⁾	T92.100	T92.110	T92.130	T92.200 ³⁾
Density	ISO 845	kg/m ³	Average <i>Typ. range</i>	105 102 - 112	115 112 - 122	135 127 - 143	210 200 - 220
Compressive strength perpendicular to the plane	ISO 844	N/mm ²	Average <i>Minimum</i>	1.4 1.2	1.8 1.45	2.4 2.1	3.5
Compressive modulus perpendicular to the plane	DIN 53421	N/mm ²	Average <i>Minimum</i>	90 65	110 80	140 110	170
Tensile strength perpendicular to the plane	ASTM C297	N/mm ²	Average <i>Minimum</i>	2.3 1.5	2.9 1.8	3.3 2.0	
Tensile modulus perpendicular to the plane	ASTM C297	N/mm ²	Average <i>Minimum</i>	110 90	145 100	175 130	
Shear strength	ISO 1922	N/mm ²	Average <i>Minimum</i>	0.9 0.75	1.05 0.9	1.3 1.1	2.0
Shear modulus	ISO 1922	N/mm ²	Average <i>Minimum</i>	21 18	23 20	30 25	50
Shear elongation at break	ISO 1922	%	Average <i>Minimum</i>	15 10	15 10	12 8	6
Thermal conductivity at room temperature	ISO 8301	W/m.K	Average	0.034	0.035	0.036	0.041
Standard sheet	Width ²⁾	mm ± 5		610	610	610	610
	Length ²⁾	mm ± 5		1220	1005	1220	1220
	Thickness	mm ± 0.5		5 to 100	5 to 100	5 to 100	5 to 100

Finishing Options, other dimensions and closer tolerances upon request

¹⁾ Minimum values acc. DNV definition; test sample thickness 20mm except compressive modulus (40mm)

²⁾ Alternative width 1220 mm (1005 mm for T92.110), alternative length 2440 mm

³⁾ Preliminary Data

The data provided gives approximate values for the nominal density and DNV minimum values according to DNV type approval certificate. 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.

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Typical properties AIREX® T92		Unit (imperial)	Value ¹⁾	T92.100	T92.110	T92.130	T92.200 ³⁾
Density	ISO 845	lb/ft ³	Average <i>Typ. range</i>	6.6 6.4 – 7.0	7.2 7.0 – 7.6	8.4 7.9 – 8.9	13 12.5 – 13.7
Compressive strength perpendicular to the plane	ISO 844	psi	Average <i>Minimum</i>	200 174	260 210	350 305	508
Compressive modulus perpendicular to the plane	DIN 53421	psi	Average <i>Minimum</i>	13'050 9'425	15'950 11'600	20'310 15'950	24'660
Tensile strength perpendicular to the plane	ASTM C297	psi	Average <i>Minimum</i>	330 218	420 261	480 290	
Tensile modulus perpendicular to the plane	ASTM C297	psi	Average <i>Minimum</i>	15'950 13'050	21'030 14'500	25'380 18'850	
Shear strength	ISO 1922	psi	Average <i>Minimum</i>	130 109	150 131	190 160	290
Shear modulus	ISO 1922	psi	Average <i>Minimum</i>	3'045 2'610	3'335 2'900	4'350 3'625	7'250
Shear elongation at break	ISO 1922	%	Average <i>Minimum</i>	15 10	15 10	12 8	6
Thermal conductivity at room temperature	ISO 8301	W/m.K	Average	0.034	0.035	0.036	0.041
Standard sheet	Width ²⁾	mm ± 5		610	610	610	610
	Length ²⁾	mm ± 5		1220	1005	1220	1220
	Thickness	mm ± 0.5		5 to 100	5 to 100	5 to 100	5 to 100

Finishing Options, other dimensions and closer tolerances upon request

¹⁾ Minimum values acc. DNV definition; test sample thickness 20mm (3/4") except compressive modulus 40mm (1 1/2")

²⁾ Alternative width 1220 mm (1005 mm for T92.110), alternative length 2440 mm

³⁾ Preliminary Data

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