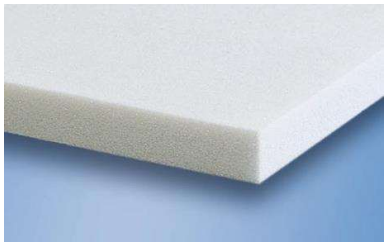
AIREX® T10

GM--TDS-113

Premium Surface with High Specific Properties **DATA SHEET 03.2023 - Replaces 08.2022**

DESCRIPTION



AIREX® T10 is a closed-cell, thermoplastic and recyclable polymer foam with a very homogeneous cell structure, high mechanical properties and an outstanding price / performance ratio.

It has an extraordinary resistance to fatigue, is chemically stable and has negligible water absorption. It is thermally stable during high temperature processing and post curing. T10 is designed for easy use with all resin systems and processing technologies.

AIREX® T10 is ideally suited for high volume applications of lightweight sandwich structures subjected to static and dynamic loads and/or exposed to elevated temperatures during manufacturing.

CHARACTERISTICS

- Very high compression and shear properties
- Outstanding fatigue strength
- Homogeneous cell structure
- Easy to process with all types of resin and lamination processes
- High process temperature up to 150 °C (short peaks up to 180 °C)
- Good adhesion (skin-to-core bond)
- Excellent long term thermal stability, up to 100 °C (212 °F)
- No water absorption
- Recyclable and recycled material
- Highly consistent material properties
- Comprehensive material traceability (machine-readable batch information on each foam sheet)

APPLICATIONS

- **Road:** Structural and semi-structural parts in interior and exterior of cars Sidewalls, floors, skirts/covers of trucks
- **Wind energy:** Blades (shear webs & shells), nacelles
- **Marine**: Hulls, decks, superstructures, bulkheads, stringers, interiors
- **Industrial:** Covers, containers, X-ray tables, sporting goods

PROCESSING

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

Europe I Middle East I India I Africa
Airex AG
5643 Sins, Switzerland
T +41 41 789 66 00
corematerials@3AComposites.com

North America I South America
Baltek Inc.
High Point, NC 27261, USA
T +1 336 398 1900
corematerials.americas@3AComposites.com

Asia I Australia I New Zealand
3A Composites (China) Ltd.
201201 Shanghai, China
T +86 21 585 86 006
corematerials.asia@3AComposites.com

MECHANICAL PROPERTIES					
Typical properties for AIREX® T10		**Unit (metric)**	**Value**[1)]	**T10.100**	**T10.110***
Density	ISO 845	kg/m³	Average *Typ. range*	100 *99 - 109*	110 *103 - 117*
Compressive strength perpendicular to the plane	ISO 844	N/mm²	Average *Minimum*	1.2 *0.9*	1.6 *1.0*
Compressive modulus perpendicular to the plane	ISO 844	N/mm²	Average *Minimum*	105 *90*	120 *100*
Tensile strength perpendicular to the plane	ASTM C297	N/mm²	Average *Minimum*	2.0 *1.5*	2.3 *1.8*
Tensile modulus perpendicular to the plane	ASTM C297	N/mm²	Average *Minimum*	150 *125*	165 *140*
Shear strength lengthwise	ISO 1922	N/mm²	Average *Minimum*	1.1 *0.9*	1.15 *0.95*
Shear strength crosswise	ISO 1922	N/mm²	Average *Minimum*	0.8 *0.73*	0.9 *0.78*
Shear modulus lengthwise	ISO 1922	N/mm²	Average *Minimum*	34 *29*	38 *32*
Shear modulus crosswise	ISO 1922	N/mm²	Average *Minimum*	17.5 *16*	22 *19*
Shear elongation at break	ISO 1922	%	Average *Minimum*	20 *15*	20 *15*
Thermal conductivity at room temperature	ISO 8301	W/m.K	Average	tbd	tbd
Standard sheet	Width	mm ± 5		1005	1005
	Length[2)]	mm ± 5		2440	2440
	Thickness[3)]	mm ± 0.5		5 to 45	5 to 45

*T10.110 is not a standard product, availability only per request.

Finishing Options and other dimension upon request

[1)] Minimum values acc. DNV-GL definition; test sample thickness 20 mm
[2)] Alternative lengths on request
[3)] Thickness in standardized configurations available, special on request.

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

MECHANICAL PROPERTIES					
Typical properties for AIREX® T10		**Unit (imperial)**	**Value**[1)]	**T10.100**	**T10.110***
Density	ISO 845	lb/ft³	Average *Typ. range*	6.2 *6.2 - 6.8*	6.9 *6.4 - 7.3*
Compressive strength perpendicular to the plane	ISO 844	psi	Average *Minimum*	174 *130*	232 *145*
Compressive modulus perpendicular to the plane	ISO 844	psi	Average *Minimum*	15'225 *13'050*	17'410 *14'500*
Tensile strength perpendicular to the plane	ASTM C297	psi	Average *Minimum*	280 *218*	334 *261*
Tensile modulus perpendicular to the plane	ASTM C297	psi	Average *Minimum*	21'760 *18'130*	23'930 *20'310*
Shear strength lengthwise	ISO 1922	psi	Average *Minimum*	160 *130*	167 *138*
Shear strength crosswise	ISO 1922	psi	Average *Minimum*	116 *106*	131 *113*
Shear modulus lengthwise	ISO 1922	psi	Average *Minimum*	4'931 *4'206*	5'511 *4'641*
Shear modulus crosswise	ISO 1922	psi	Average *Minimum*	2'538 *2'321*	3'191 *2'756*
Shear elongation at break	ISO 1922	%	Average *Minimum*	20 *15*	20 *15*
Thermal conductivity at room temperature	ISO 8301	Btu.in/hr.ft².F	Average	tbd	tbd
Standard sheet	Width	in ± 0.2		39.6	39.6
	Length[2)]	in ± 0.2		96	96
	Thickness[3)]	in ± 0.02		0.2 to 1.8	0.2 to 1.8

*T10.110 is not a standard product, availability only per request.

Finishing Options and other dimension upon request

[1)] Minimum values acc. DNV-GL definition; test sample thickness 20 mm (¾")
[2)] Alternative lengths on request
[3)] Thickness in standardized configurations available, special on request.

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