

# CoreLite® PET

## Product Data Sheet

Last Revised: February 15, 2016

CoreLite® PET is a cost-effective, closed-cell PET foam specially formulated to provide high mechanical properties. It is a 100% recyclable polymer foam with excellent performance. Engineered to meet the physical demands needed in high performance applications, including carrying static and dynamic loads. CoreLite® PET can be used as a replacement for PVC and Honeycomb. It possesses excellent laminate-to-core bonding adhesion.

Resistance to fatigue is superior, as well as its chemical stability and UV resistance. Water absorption is minimal. CoreLite® PET can handle processing temperatures up to 150 °C (302 °F). During high temperature processing it is thermally stable and no outgassing or expansion after post-cure occurs. In the event of fire, no toxic gases are generated.

## PROCESSING

- Prepreg processing
- Resin infusion / injection (VARTM / RTM)
- Adhesive bonding
- Vacuum infusion
- Thermo-formable
- Hand Lay-up and Spray-up
- Compression molding (GMT, SMC)



## APPLICATIONS

**Marine:** Hulls, Decks, Superstructures, Bulkheads, Interiors and Stringers

**Wind Energy:** Blades (shear webs & shells), Nacelles

**Transportation:** Primary Body Structure, Interior Structure, Sidewalls, Floors and Ceilings

**Construction:** Roof Panels, Support Wall Insulation and Door Laminate

**Industrial:** Covers, Containers, Local Reinforcements, X-ray tables, Sporting goods

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## Mechanical Properties for CoreLite® PET

TEST STANDARDS		Units (Imperial)	65	80	110	200
Density	ISO 845	Lbs. / cu.ft	4.1	5	6.9	13.1
Compressive Strength	ASTM D1621	psi	104	152	236	537
Compressive Modulus	ASTM D1621 B-73	psi	9,458	11,205	15,953	34,681
Tensile Strength	ASTM C297	psi	215	264	325	442
Shear Strength	ISO 1922	psi	71	87	132	290
Shear Modulus	ISO 1922	psi	1,857	2,907	4,301	8,756
Shear Elongation at Break	ISO 1922	%	22	18	15	6
Closed Cell	ISO 4590	%	< 90	< 90	< 90	< 90
Standard Sheet (Plain)	Length	inch	96	96	96	96
	Width	inch	48	48	48	48
	Thickness	inch	1/8 to 3	1/8 to 3	1/8 to 3	1/8 to 3

Values shown are nominal average determined from independent laboratory and house testing. Tests are perpendicular to the plane.

Processing temperature:	< 302 °F
Density Tolerance:	+ / - 10%
Color:	White

**Disclaimer:** The information and data presented herein are subject to revision. CoreLite Inc. reserves the right to release replacement data. The data presented is derived from in house and independent testing. Calculations should be verified with physical test. The data is provided without liability to CoreLite, Inc. or its agents and does not constitute warranty or representation in respect to the material or its use.

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## Mechanical Properties for CoreLite® PET

TEST STANDARDS		Units (metric)	65	80	110	200
Density	ISO 845	Kg. / m <sup>3</sup>	65	80	110	200
Compressive Strength	ASTM D1621	MPa	0.72	1.05	1.63	3.70
Compressive Modulus	ASTM D1621 B-73	MPa	65	77	110	239
Tensile Strength	ASTM C297	MPa	1.48	1.82	2.24	3.05
Shear Strength	ISO 1922	MPa	0.49	0.60	0.91	2.00
Shear Modulus	ISO 1922	MPa	13	20	30	60
Shear Elongation at Break	ISO 1922	%	22	18	15	8
Closed Cell	ISO 4590	%	< 90	< 90	< 90	< 90
Standard Sheet (Plain)	Length	mm	2440	2440	2440	2440
	Width	mm	1220	1220	1220	1220
	Thickness	mm	3 to 76,20	3 to 76,20	3 to 76,20	3 to 76,20

Values shown are nominal average determined from independent laboratory and house testing. Tests are perpendicular to the plane.

Processing temperature:	< 150 °C
Density Tolerance:	+ / - 10%
Color:	White

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