

Corecell™ T-Foam

Structural Foam Core

- Suitable for all PVC core applications
- Excellent mechanical properties
- Outstanding chemical resistance
- 120°C processing
- Ideal for resin infusion

Introduction

Corecell T-Foam shares the benefits of SAN chemistry common to all Corecell products.

Environmental stability – High tolerance for heat and chemical exposure

Built in toughness – High ductility and damage tolerance compared to cross-linked PVC and Balsa

Fine cell size – Resin absorption is very low, saving both weight and cost

Superior uniformity – Low density variation

Eliminating outgassing – Corecell eliminates the problems of foam outgassing

Compatibility – Suitable for use with all polyester, vinylester and epoxy resins

No inhibition - Corecell does not inhibit any epoxy resin curing mechanisms

Handling – Tough and easy to machine

Corecell T-Foam has been developed as a technological step-change from traditional PVC and Balsa structural core. It has slightly higher stiffness properties and even greater styrene resistance than the more ductile Corecell A-Foam. This makes it ideal for applications where loads are less dynamic in nature. Conceived for use above the waterline on yachts, on wind turbines and in mass transport, Corecell T-Foam is an outstanding core material in every application where balsa or X-PVC is commonly used.

High mechanical toughness and thermal stability give Corecell T-Foam excellent fatigue characteristics. This reliability makes Corecell T-Foam a natural replacement for cross-linked PVC or balsa in applications where a significant service life is required.

The high temperature stability of Corecell T-Foam also means that it can be used in manufacturing processes to at least 120°C with short durations during a cure cycle to over 150°C. This makes it ideal for use with conventional prepreps and in some liquid infusion processes where high resin exotherms can often be seen.

Corecell T-Foam is available in every resin infusion format and is compatible with polyester, vinylester and epoxy resin systems. The low resin absorption characteristics of Corecell and its unique knife cut formats allow for higher performing infusions, lower resin cost and lower weight than any other structural core material. Gurit's global technical team have 10 years experience in resin infusion and offer on-site support for Corecell customers. This combination makes Corecell a key part of the most reliable resin infusion package available.

Corecell T-Foam is approved by The American Bureau of Shipping, Germanischer Lloyd, Det Norske Veritas

Type	Test Method	Units	T400	T500	T550	T600	T800
Nominal Density		kg/m ³	71	94	104	115	143
		lb/ft ³	4.4	5.9	6.5	7.2	8.9
Density Range		kg/m ³	66-76	89-99	100-107	108-122	133-153
		lb/ft ³	4.1-4.7	5.6-6.2	6.2-6.7	6.7-7.6	8.3-9.6
Compression Strength	ASTM D1621	MPa	0.88	1.41	1.67	1.98	2.85
		psi	128	205	242	287	413
Compressive Modulus	ASTM D1621 - 1973	MPa	62	101	120	143	209
		psi	8992	14649	17405	20740	30313
	ASTM D1621 - 2004	MPa	45	69	79	90	119
		psi	6527	10008	11458	13053	17259
Shear Strength	ASTM C273	MPa	0.81	1.15	1.30	1.47	1.93
		psi	117	167	189	213	280
Shear Modulus	ASTM C273	MPa	28	40	46	52	70
		psi	4061	5802	6672	7542	10153
Shear Elongation at break	ASTM C273	%	24%	17%	15%	13%	10%
Tensile Strength	ASTM D1623	MPa	1.30	1.72	1.91	2.11	2.62
		psi	189	249	277	306	380
Tensile Modulus	ASTM D1623	MPa	85	118	134	151	196
		psi	12328	17114	19435	21901	28427
Thermal Conductivity	ASTM C518	W/mK	0.03	0.04	0.04	0.04	0.04
HDT	DIN 53424	°C	100	100	100	100	100
		°F	212	212	212	212	212

* Peak change rate under static load

Intermediate densities may be available on request subject to minimum order quantities.

Please Note:

Data quoted is average data at each product's nominal density, and is derived from our regular testing of production materials.

Statistically derived minimum value data, satisfying the design requirements of various classification societies, is available on request.

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