Corecell™ M FOAM

The Marine Foam

- **Replacement for PVC cores**
- **High shear strength combined with low density**
- **High temperature processing (prepreg compatible)**
- **High elongation for toughness**
- **Suitable for all composite processes including prepreg**

Introduction

Corecell M-Foam is the newest addition to the **Core**cell range and shares the benefits of SAN chemistry common to all **Core**cell 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 – **Core**cell eliminates the problems of foam outgassing
Compatibility – Suitable for use with all polyester, vinylester and epoxy resins
No inhibition - **Core**cell does not inhibit any epoxy resin curing mechanisms
Handling – Tough and easy to machine

Corecell M-Foam has been developed to deliver one product for all Marine applications. It provides a unique combination of high shear strength with low density, high elongation, high temperature resistance and low resin uptake. M-Foam is the performance leader whether your application is slamming area or superstructure, hull or deck, using hand lamination, infusion or prepreg.

If looking for reliable processing, M-Foam delivers through the benefits recognized in all **Core**cell products of fine cell size and unique knife-cuts giving low resin uptake in infusion processes. For prepreg, M-Foam offers high temperature resistance to allow shorter cure cycles and the confidence to process without fear of inhibition of prepreg catalysis. Where static properties are important, M-Foam delivers market-leading shear strength at a lower density. Where dynamic performance is crucial, the high elongation delivers higher useful properties and the toughness to give impact resistance and superior fatigue performance,

Corecell M-Foam is available in resin infusion format and is compatible with polyester, vinylester and epoxy resin systems. The low resin absorption characteristics of **Core**cell and it's 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, hand lamination and prepreg processing and offer on-site support and structural engineering for **Core**cell customers. This combination makes **Core**cell a key part of the most reliable package available.

Type	Test Method	Units	M60	M80	M100	M130
Nominal Density		kg/m³	65	85	107.5	140
		lb/ft³	4.1	5.3	6.7	8.7
Density Range		kg/m³	61-69	81-89	100-115	130-150
		lb/ft³	3.8-4.3	5.1-5.6	6.2-7.2	8.1-9.4
Compression Strength	ASTM D1621	MPa	0.55	1.02	1.55	2.31
		psi	80	148	225	336
Compressive Modulus	ASTM D1621-1973	MPa	45	71	107	170
		psi	6480	10340	15570	24670
	ASTM D1621-2004	MPa	31	52	76	111
		psi	4530	7610	11080	16100
Shear Strength	ASTM C273	MPa	0.68	1.09	1.45	1.98
		psi	98	158	211	287
Shear Modulus	ASTM C273	MPa	20	29	41	59
		psi	2900	4240	5920	8600
Shear Elongation at break	ASTM C273	%	53%	58%	52%	43%
Tensile Strength	ASTM D1623	MPa	0.81	1.62	2.11	2.85
		psi	118	234	306	414
Tensile Modulus	ASTM D1623	MPa	44	72	109	176
		psi	6440	10420	15880	25510
Thermal Conductivity	ASTM C518	W/mK	0.03	0.04	0.04	0.04
HDT	DIN 53424	°C	110	110	110	110
		°F	230	230	230	230

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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