Gurit® Corecell™ M

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
- Benefits from GL, DNV, RINA and ABS certification

INTRODUCTION

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

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

If looking for reliable processing, Gurit® Corecell™ M delivers through the benefits recognised in all Gurit® Corecell™ products of fine cell size and unique knife-cuts giving low resin uptake in infusion processes. For prepreg, Gurit® Corecell™ M 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, Gurit® Corecell™ M delivers high shear strength at a low density. Where dynamic performance is crucial, the high elongation delivers higher useful properties and the toughness to give impact resistance and superior fatigue performance.

Gurit® Corecell™ M is available in resin infusion format and is compatible with polyester, vinylester and epoxy resin systems. The low resin absorption characteristics of Gurit® Corecell™ and it's unique knife cut formats deliver higher performing infusions, low resin cost and low weight. 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 Gurit® Corecell™ customers. This combination makes Gurit® Corecell™ a key part of a reliable package.

INSTRUCTIONS FOR USE

General working practices apply to these products, details of which can be obtained from the Gurit Guide to Composites or by contacting a Gurit representative (contact details provided at the end of this datasheet).

MECHANICAL PERFORMANCE

Type	Test Method	Units	M60	M80	M100	M130	M200
Short Edge Marking	-	-	Yellow / Green	Yellow / Blue	Yellow / Black	Yellow / Pale Brown	Yellow / Brown
Nominal Sheet Size	-	mm	1285 x 2605	1220 x 2440	1130 x 2275	1015 x 2045	915 x 1830
		inches	50.5 x 102.5	48 x 96	44.5 x 89.5	40 x 80.5	36 x 72
Nominal Density		kg/m³	65	85	107.5	140	200
		lb/ft³	4.1	5.3	6.7	8.7	12.5
Density Range		kg/m³	61-69	81-89	100-115	130-150	185-215
		lb/ft³	3.8-4.3	5.1-5.6	6.2-7.2	8.1-9.4	11.5-13.4
Compressive Strength	ASTM D1621	MPa	0.55	1.02	1.55	2.31	4.40
		psi	80	148	225	336	638
Compressive Modulus	ASTM D1621 – 1973	MPa	45	71	107	170	317
		psi	6480	10340	15570	24670	45977
	ASTM D1621 - 2004	MPa	31	52	76	111	210
		psi	4530	7610	11080	16100	30458
Shear Strength	ASTM C273	MPa	0.68	1.09	1.45	1.98	2.95
		psi	98	158	211	287	428
Shear Modulus	ASTM C273	MPa	20	29	41	59	98
		psi	2900	4240	5920	8600	14214
Shear Elongation at break	ASTM C273	%	53%	58%	52%	43%	20%
Tensile strength	ASTM D1623	MPa	0.81	1.62	2.11	2.85	4.29
		psi	118	234	306	414	622
Tensile modulus	ASTM D1623	MPa	44	72	109	176	334
		psi	6440	10420	15880	25510	48443
Thermal Conductivity	ASTM C518	W/mK	0.03	0.04	0.04	0.04	0.04
HDT	DIN 53424	°C	110	110	110	110	110
		°F	230	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.

NOTICE

All advice, instruction or recommendation is given in good faith but Gurit AG (the company) only warrants that advice in writing is given with reasonable skill and care. No further duty or responsibility is accepted by the Company. All advice is given subject to the terms and conditions of sale (the Conditions) which are available on request from the Company or may be viewed at the Company's Website: www.gurit.com/terms-and-conditions.aspx.

The Company strongly recommends that Customers make test panels and conduct appropriate testing of any goods or materials supplied by the Company to ensure that they are suitable for the Customer's planned application. Such testing should include testing under conditions as close as possible to those to which the final component may be subjected. The Company specifically excludes any warranty of fitness for purpose of the goods other than as set out in writing by the Company. The Company reserves the right to change specifications and prices without notice and Customers should satisfy themselves that information relied on by the Customer is that which is currently published by the Company on its website. Any queries may be addressed to the Technical Services Department.

Gurit are continuously reviewing and updating literature. Please ensure that you have the current version, by contacting Gurit Marketing Communications or your sales contact and quoting the revision number in the bottom right-hand corner of this page.

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