

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 its 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/m ³	65		85		107.5		140		200	
		lb/ft ³	4.1		5.3		6.7		8.7		12.5	
Density Range		kg/m ³	61-69		81-89		100-115		130-150		185-215	
		lb/ft ³	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 the selling Gurit entity (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 Gurit's Website: www.gurit.com/terms-and-conditions.aspx

The Company strongly recommends that Customers make test panels in the final process conditions and conduct appropriate testing of any goods or materials supplied by the Company prior to final use 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. Due to the varied nature of end-use applications, the Company does, in particular, not warrant that the test panels in the final process conditions and/or the final component pass any fire standards.

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 is continuously reviewing and updating literature. Please ensure that you have the current version by contacting your sales contact and quoting the revision number in the bottom left-hand corner of this page.

TECHNICAL CONTACT INFORMATION

For all other enquiries such as technical queries:

Telephone + 44 1983 828000 (08:30 – 17:00 GMT)
Email technical.support@gurit.com

24-HOUR CHEMICAL EMERGENCY NUMBER

For advice on chemical emergencies, spillages, fires or exposures:

Europe +44 1273 289451
Americas +1 646 844 7309
APAC +65 3158 1412

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E customer.support@gurit.com

W www.gurit.com