

GURIT CORECELL™ I

STRUCTURAL FOAM CORE



Gurit® Corecell™ I 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

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™ I has been developed to deliver a SAN core product suitable for general Marine and Industrial applications. It provides a combination of high shear modulus with low density, high temperature resistance, low resin uptake and retains the inherent toughness of the SAN chemistry. Gurit® Corecell™ I is the perfect choice for Marine applications in superstructure, bulkheads, hull top sides or deck, using hand lamination, infusion or prepreg manufacturing processes.

If looking for reliable processing, Gurit® Corecell™ I delivers through the benefits recognized in all Gurit® Corecell™ products of fine cell size and unique knife-cuts giving low resin uptake in infusion processes. For prepreg, Gurit® Corecell™ I offers high temperature resistance to allow shorter cure cycles and the confidence to process without fear of inhibition of prepreg catalysis.

Gurit® Corecell™ I 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 more than 15 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 for composite sandwich structures.

- New General-Purpose SAN core for Marine and Industrial applications
- Well balanced mechanical properties with high shear modulus and inherent toughness
- Suitable for all composite processes including prepreg
- Compatible with epoxy, polyester and vinylester resin systems
- Available at 40, 60, 80 and 100 kg/m³ density
- Available with all standard finishes and unique knife cut options
- Benefits from DNVGL, ABS and Lloyds certifications

INSTRUCTIONS FOR USE

General working practices apply to these products, details of which can be obtained from the Gurit Guide to Composites at www.gurit.com

MECHANICAL PERFORMANCE

TYPE	TEST METHOD	UNITS	Corecell™ I-40	Corecell™ I-60	Corecell™ I-80	Corecell™ I-100
Short Edge Marking	-	-	Red	Green	Blue	Black
Nominal Sheet Size	-	mm	965 x 1448	1285 x 2605	1220 x 2440	1130 x 2275
		Inches	38 x 57	50.5 x 102.5	48 x 96	44.5 x 89.5
Unbonded Thickness Range (Tolerance)	-	mm	3 – 60 (+/-0.5)	3 – 55 (+/-0.5)	3 – 53 (+/-0.5)	3 – 48 (+/-0.5)
		Inches	1/8 - 2 23/64 (+/-0.02)	1/8 - 2 1/6 (+/-0.02)	1/8 - 2 (+/-0.02)	1/8 - 1 7/8 (+/-0.02)
Nominal Density	ISO845	kg/m ³	45	65	85	105
		lb/ft ³	2.8	4.1	5.3	6.5
Density Range	-	kg/m ³	35-54	55-74	75-94	95-115
		lb/ft ³	2.2-3.4	3.4-4.7	4.7-5.9	5.9-7.2
Compressive Strength	ASTM D1621 /ISO844	MPa	0.36	0.95	1.45	1.90
		psi	52	138	210	276
Compressive Modulus	ASTM D1621 – 1973/ISO844	MPa	24	63	92	116
		psi	3481	9137	13343	16824
Shear Strength	ASTM C273	MPa	0.46	0.78	1.10	1.43
		psi	67	113	160	207
Shear Modulus	ASTM C273	MPa	14	28	37	46
		psi	2030	4061	5366	6672
Shear Elongation at break	ASTM C273	%	40	34	30	25
Tensile Strength	ASTM D1623	MPa	0.75	1.16	1.60	2.0
		psi	109	168	232	290
Tensile Modulus	ASTM D1623	MPa	34	74	105	130
		psi	4931	10733	15229	18855
Thermal Conductivity	ASTM C518	W/mK	0.03	0.03	0.04	0.04
Heat Distortion Temperature (HDT)	DIN 53424	°C	115	110	110	110
		°F	239	230	230	230

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.

CONTACT INFORMATION

Please see local contact information at www.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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customer.support@gurit.com

www.gurit.com