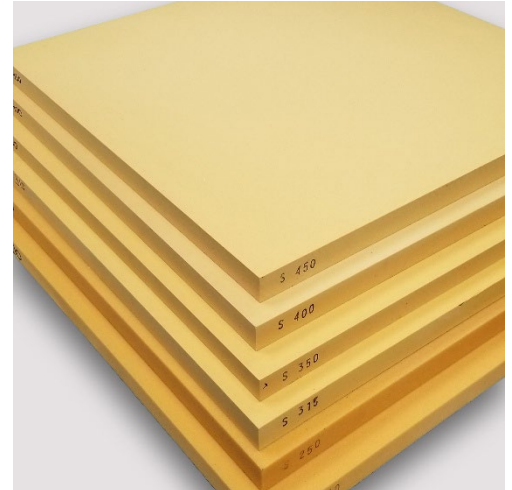


GURIT CORECELL™ S

STRUCTURAL FOAM CORE



Gurit Corecell S has been designed specifically for use in sub-sea buoyancy applications. Its resistance to crushing means that it can withstand depths of over 2500m, and its closed-cell structure gives it a high-water resistance that ensures buoyancy is maintained over time. With its very high compressive strength, Gurit Corecell S can also replace other materials, such as plywood, when creating high strength inserts for through-bolting in composite laminates.

Having the smallest cell size of all the Gurit Corecell products, Gurit Corecell S absorbs very little resin in lamination processes, thus minimizing weight gain. The small cell size and the product's inherent toughness also contribute to the excellent machinability of Gurit Corecell S. Complex shapes can be created in Gurit Corecell S using a variety of milling, routing, sawing, and drilling techniques.

Gurit Corecell S is available at lower densities than can be achieved with a syntactic, with standard products ranging from 200 to just over 450kg/m³.

Gurit Corecell S shares the benefits of SAN chemistry common to all Gurit Corecell products.

Ultra-fine cell size - Resin absorption is very low, saving both weight and cost

High hydrostatic crush strength and very low water absorption

Good chemical resistance

Superior uniformity - More consistent density than resin-based syntactics

Outgassing - Gurit Corecell reduces 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 - Robust for easy machining and use

- Excellent buoyancy performance
- Outstanding mechanical properties & High impact resistance
- Replacement for PVC cores
- Suitable for all composite processes including prepreg
- Compatible with epoxy, polyester, and vinyl ester resin systems
- Available from 210 up to 450 kg/m³ density
- Available in sheet form or kit-cut format
- Benefits from DNV certifications (ongoing)

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 S210		Corecell S250		Corecell S270		Corecell S315		Corecell S350		Corecell S400		Corecell S450	
Short edge marking	–	–	Black	Brown	Black	Green	Black	Orange	Black	Mauve	Black	White	Black	Red	Black	Blue
Nominal sheet size	–	mm	889 x 1829		813 x 1727		813 x 1676		787 x 1600		762 x 1524		686 x 1448		660 x 1397	
		Inches	35 x 72		32 x 68		32 x 66		31 x 63		30 x 60		27 x 57		26 x 55	
Unbonded thickness range	–	mm	32		31		30		29		28		26.5		25	
		Inches	1 17/64		1 7/32		1 3/16		1 9/64		1 7/64		1 3/64		63/64	
Nominal density	ISO845	kg/m ³	210		245		270		315		350		400		450	
		lb/ft ³	13.1		15.3		16.9		19.7		21.8		25		28.1	
Density range	–	kg/m ³	200-220		230-259		260-280		300-330		335-365		385-415		435-465	
		lb/ft ³	12.5-13.7		14.7-16.2		16.2 – 17.5		18.7-20.6		20.9-22.8		24.0-25.9		27.2-29.0	
Hydrostatic crush pressure (HCP)	ASTM-D2736	Bar	70		90		110		140		180		210		270	
		MPa	7		9		11		14		18		21		27	
		Psi	1015		1305		1595		2030		2611		3046		3916	
		M of water	714		918		1122		1428		1835		2141		2753	
Compressive strength	ASTM D1621 /ISO844	MPa	4.95		6.76		8.17		10.55		13.72		16.39		19.88	
		psi	718		980		1185		1530		1990		2377		2883	
Compressive modulus	ASTM D1621 – 1973 / ISO844	MPa	298		377		424		542		672		778		961	
		psi	43221		54679		61496		78610		97465		112839		139381	
Shear strength	ASTM C273	MPa	3.41		4.14		4.48		5.57		6.11		6.48		7.62	
		psi	495		600		650		808		886		940		1105	
Shear modulus	ASTM C273	MPa	97		119		134		162		186		219		242	
		psi	14069		17259		19435		23496		26977		31763		35099	
Shear elongation at break	ASTM C273	%	25		15		10		7		6		6		6	
Tensile strength	ASTM D1623	MPa	4.51		5.39		5.76		7.09		7.69		8.78		9.7	
		psi	654		782		835		1028		1115		1275		1407	
Tensile modulus	ASTM D1623	MPa	299		396		476		574		723		786		946	
		psi	43366		57435		69038		83252		104862		114000		137206	
Thermal conductivity	ASTM C518	W/mK	0.044		0.047		0.050		0.054		0.058		0.063		0.068	
Coeff, linear heat expansion	ASTM E831	10 ⁻⁶ /°C	60-75		60-75		60-75		60-75		60-75		60-75		60-75	
Heat Distortion Temperature (HDT)	DIN 53424	°C	115		120		120		120		130		130		130	
		°F	239		248		248		248		266		266		266	
Dissipation factor	ASTM D2520	-	0.0048		0.0056		0.0054		0.0064		0.0070		0.0074		0.0085	
Dielectric constant	ASTM D2520	-	1.32		1.39		1.40		1.45		1.53		1.59		1.72	

HEALTH AND SAFETY

The following points must be considered:

1. Skin contact must be avoided by wearing protective gloves. Gurit recommends the use of disposable nitrile gloves for most applications. The use of barrier creams is not recommended, but to preserve skin condition a moisturizing cream should be used after washing.
2. Protective clothing should be worn when mixing, laminating or sanding. Contaminated work clothes should be thoroughly cleaned before re-use.
3. Eye protection should be worn if there is a risk of resin, hardener, solvent or dust entering the eyes. If this occurs flush the eye with water for 15 minutes, holding the eyelid open, and seek medical attention.
4. Ensure adequate ventilation in work areas. Respiratory protection should be worn if there is insufficient ventilation. Solvent vapors should not be inhaled as they can cause dizziness, headaches, loss of consciousness and can have long term health effects.
5. If the skin becomes contaminated, then the area must be immediately cleansed. The use of resin-removing cleansers is recommended. To finish, wash with soap and warm water. The use of solvents on the skin to remove resins etc must be avoided.

Washing should be part of routine practice:

- before eating or drinking
- before smoking & vaping
- before using the lavatory
- after finishing work

6. The inhalation of sanding dust should be avoided and if it settles on the skin then it should be washed off. After more extensive sanding operations a shower/bath and hair wash is advised.

Gurit produces a separate full Safety Data Sheet for all hazardous products. Please ensure that you have the correct SDS to hand for the materials you are using before commencing work.

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

customer.support@gurit.com

www.gurit.com

All trademarks used or mentioned in this document are protected by law.