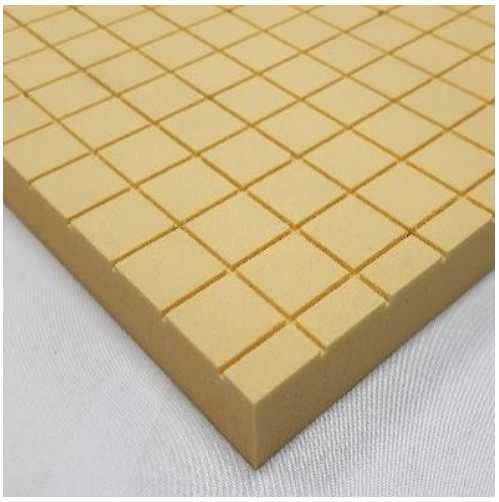
PRODUCT DATASHEET

GURIT CORECELL™ S

STRUCTURAL FOAM CORE



- High hydrostatic crush strength and water resistance
- Outstanding mechanical properties
- Ultra-fine cell size
- Lower density than resin-based syntactics
- Available from 210 up to 450 kg/m^3 density
- Available in sheet or kit – cut format
- DNV certified

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

Built in toughness - High ductility and damage tolerance

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

Superior uniformity - More consistent density than resin-based syntactics

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 - Robust for easy machining and use

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 900m, 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 that can be achieved with a syntactic, with standard products ranging from 200 to 450kg/m^3.

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	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	28	25	25	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/m³	210	245	270	315	350	400	450
		lb/ft³	13.1	15.3	16.9	19.7	21.8	25	28.1
Density Range	-	kg/m³	200-220	235-259	260-280	300-330	335-365	385-415	435-465
		lb/ft³	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	71	93	114	145	181	217	270
		MPa	7.1	9.3	11.4	14.5	18.1	21.7	27.2
		Psi	1030	1349	1653	2103	2625	3147	3945
		M of water	724	948	1163	1479	1846	2213	2774
Bulk modulus	ASTM D 2926-1976	MPa	185	272	326	378	474	552	721
		psi	26832	39450	47282	54824	68748	80061	104572
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	3.35	4.14	4.48	5.57	6.11	6.48	7.62
		psi	486	600	650	808	886	940	1105
Shear Modulus	ASTM C273	MPa	98	119	134	162	186	219	242
		psi	14214	17259	19435	23496	26977	31763	35099
Shear Elongation at break	ASTM C273	%	19	18	12	11	9	8	8
Tensile Strength	ASTM D1623	MPa	4.29	5.39	5.76	7.09	7.69	8.78	9.70
		psi	622	782	835	1028	1115	1275	1407
Tensile Modulus	ASTM D1623	MPa	306	396	476	574	723	786	946
		psi	44382	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

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.

If paint systems are to be applied to the foam directly it should be noted that some paint systems can degrade the properties of the foam. It is strong recommended that testing is carried out to determine that the combination of products meets your in-service requirements it being impossible for Gurit to test all combinations of possible paint systems,

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:

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