Gurit® Kerdyn® Green

RECYCLABLE STRUCTURAL FOAM

- Gurit® Kerdyn® Green: up to 100% recycled PET based product range
- Withstands high process temperatures
- Excellent chemical resistance
- Good adhesion & mechanical properties
- Recyclable
- PET low resin uptake performance
- DNV-GL Certified

INTRODUCTION

Gurit® Kerdyn® Green has been developed to respond to the growing need for structural core materials with stable properties and improved resin uptake performance. Additionally the Gurit® Kerdyn® Green allows to comply with the wind energy aim to reduce foot print and reinforce overall goals of waste reduction.

Highly adaptable, recyclable, thermoplastic core material with good balance of mechanical properties, temperature resistance, density and cost for a wide range of applications and processes.

Gurit® Kerdyn® is compatible with a wide range of resin systems including epoxy, vinyl ester, unsaturated polyester and phenolic resins.

Gurit® Kerdyn® can be processed at high temperatures, withstanding high exotherms and offers outstanding chemical resistance, good adhesion; as highly consistent extruded foam, it is ideal for wind energy, marine, industrial, and transportation applications.

Applicable processing techniques include vacuum infusion, bonding, prepreg, and thermoforming.
Available in a wide range of thicknesses.

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).

TYPICAL MECHANICAL PROPERTIES

PROPERTY	UNIT	Kerdyn® Green 80	Kerdyn® Green 100	Kerdyn® Green 115	Kerdyn® Green 135	STANDARD
Edge Marking	-	Blue	Green	Black	Black & Green	-
Nominal Density	kg/m^3	80	100	115	135	ISO 845
	lb/ft^3	4.99	6.24	7.18	8.43	
Typical Density range	kg/m^3	75-85	95-105	110-120	130 - 140	ISO 845
	lb/ft^3	4.68-5.31	5.93-6.55	6.87-7.49	8.11-8.74	
Compression Strength	MPa	0.86	1.30	1.65	2.12	ASTM D1621
	Psi	125	189	239	307	
Compressive Modulus	MPa	74	91	105	126	ISO 844
	Psi	10 733	13 198	15 299	18 275	
Shear Strength 0º	MPa	0.59	0.80	0.97	1.20	ASTM C-273
	Psi	81.22	116	141	174	
Shear Modulus 0ª	MPa	18	25	30	37	ASTM C-273
	Psi	2 611	3 626	4 351	5 399	
Shear Strength 90º	MPa	0.58	0.79	0.95	1.17	ASTM C-273
	Psi	84.12	114	138	170	
Shear Modulus 90º	MPa	16	23	27	34	ASTM C-273
	Psi	2 321	3 336	3 916	4 931	
Shear Elongation	%		16	13	10	ASTM C-273
Tensile Strength	MPa	1.54	1.82	2.02	2.27	ASTM D-1623
	Psi	223	264	293	329	
Tensile Modulus	MPa		103	116	136	ASTM D-1623
	Psi		14 939	16 825	19 725	

PROPERTY	UNIT	Kerdyn® Green 150	Kerdyn® Green 200	Kerdyn® Green 235	Kerdyn® Green 250	Kerdyn® Green 300	STANDARD
Edge Marking	-	Orange	Black & Yellow	Black & Brown	Black & Blue	Black & Orange	-
Nominal Density	kg/m^3	150	200	235	250	300	ISO 845
	lb/ft^3	9.39	12.49	14.67	15.61	18.73	
Typical Density range	kg/m^3	143-157	190-210	225-245	240-260	288-312	ISO 845
	lb/ft^3	8.93-9.80	11.86-13.11	14.05-15,29	14.98-16.23	17.98-19.48	
Compression Strength	MPa	2.49	3.79	4.63	5.21	6.73	ASTM D1621
	Psi	361	550	672	756	976	
Compressive Modulus	MPa	142	203	246	276	360	ISO 844
	Psi	20 595	29 443	35 679	40 030	52 214	
Shear Strength 0º	MPa	1.40	2.04	2.23	2.36	2.66	ASTM C-273
	Psi	203	296	323	342	386	
Shear Modulus 0ª	MPa	43	62	76	83	105	ASTM C-273
	Psi	6 237	8 992	11 022	12 038	15 229	
Shear Strength 90º	MPa	1.35	1.95	2.17	2.31	2.65	ASTM C-273
	Psi	196	283	315	335	384	
Shear Modulus 90º	MPa	39	57	69	75	93	ASTM C-273
	Psi	5 656	8 268	10 008	10 878	13 488	
Shear Elongation	%	9	6	5	4		ASTM C-273
Tensile Strength	MPa	2.45	2.98	3.26	3.42	3.77	ASTM D-1623
	Psi	355	432	473	496	547	
Tensile Modulus	MPa	152	214	260	290		ASTM D-1623
	Psi	22 045	31 038	37 710	42 061		

	UNIT	Length	Width	Diagonal	Thickness
Dimensions	mm	2440	1005 / 1220	(1)	5 – 200 (2)
	inches	96	39.5 / 48	(1)	5 – 200 (2)
Tolerances (3)	mm	-3 / +6	-3 / +5	< 2	< 100: +/- 0.5 ≥ 100: +/- 1
	inches	-0.12 / +0.24	-0.12 / 0.20	< 0.08	< 100: +/- 0.02 ≥ 100: +/- 0.04

(1) Depending on combination of length/width
(2) Maximum thickness depending on the density
(3) Tolerances at room temperature

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	+65 158 1412

Kerdyn is a registered trademark in the EU and in other countries.

E customer.support@gurit.com

W www.gurit.com