

This datasheet is based on provisional product data and is subject to revision.

Gurit® Kerdyn™ Green FR

RECYCLABLE STRUCTURAL FOAM

Building & Construction Applications



Gurit® Kerdyn™ Green FR is a new recyclable, thermoplastic functional material with very good mechanical properties, as well as excellent temperature and moisture resistance.

The plate is made of up to 100% PET recycled material and can be processed with standard woodworking machines.

- ↪ High bending strength
- ↪ Very high pressure resistance
- ↪ Dimensionally stable
- ↪ Easy to handle
- ↪ Very resistant to breakage
- ↪ High Chemical resistance
- ↪ Very good water diffusion values
- ↪ Recyclable
- ↪ Good fire behaviour (fire, smoke and toxicity)
- ↪ Very good thermal insulation
- ↪ Very good screw extraction values
- ↪ Wide range of thicknesses
- ↪ Easy to work
- ↪ Versatile use of adhesives & resins
- ↪ Low resin absorption

INTRODUCTION

Gurit® Kerdyn™ Green FR is designed to meet the growing construction needs of structural core materials with good fire, smoke and toxicity (FST) behavior, and to combine environmental considerations with overall waste reduction goals.

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

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

Gurit® Kerdyn™ FR can be processed at various temperatures, withstands high levels of exothermicity in dry environments and has excellent chemical resistance with good adhesion. A consistent extruded foam, it is ideal for wind, construction, marine, industrial and transportation applications.

APPLICATIONS

The applications with the product Kerdyn Green FR are very diverse.

Due to its properties, the material is suitable for both thermal insulation and moisture applications.

- ↪ Window connection profiles
- ↪ Ground connection profiles
- ↪ Support plate in combination veneer
- ↪ Lightweight Partitioning: ship&transport
- ↪ Wall and floor elements for mobile container construction
- ↪ Attic area, laying blocks
- ↪ Support plate for plaster, tiles, in the wet area
- ↪ Outdoor furniture
- ↪ Architecture / Construction
- ↪ Heating, cooling and air conditioning technology

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 80FR	Kerdyn™ Green 115FR	Kerdyn™ Green 180FR	STANDARD
Edge Marking	-	Blue + Red	Black + Red	Brown + Red	-
Nominal Sheet Size	mm	1005 x 2440	1005 x 2440	1005 x 2440	-
	Inches	39.5 x 96	39.5 x 96	39.5 x 96	-
Nominal Density	kg/m ³	80	115	180	ISO 845
	lb/ft ³	4.99	7.18	11.24	
Typical Density range	kg/m ³	75-85	110-120	173 - 187	ISO 845
	lb/ft ³	4.68-5.31	6.87-7.49	10.8-11.67	
Compression Strength	MPa	1.00	1.60	3.05	ASTM D1621
	Psi	145	232	442	
Compressive Modulus	MPa	72	101	165	ISO 844
	Psi	10443	14649	23931	
Compression Strength 90°	MPa	0.31	0.57	1.71	ASTM D1621
	Psi	45	82.7	248	
Compressive Modulus 90°	MPa	16	38	95	ISO 844
	Psi	2321	5221	13779	
Bending Strength	MPa	-	1.4	3.2	EN 310
	Psi	-	195.8	462.7	
Vicat softening temperature	°C	-	-	77.6	ISO 306
	°F	-	-	171.7	
Tensile Strength	MPa	1.40	1.80	2.50	ASTM D-1623
	Psi	203	261	363	
Tensile Modulus	MPa	84	117	183	ASTM D-1623
	Psi	12183	16969	26542	
Thermal Conductivity	W/(mK)	0.0270	0.0332	0.0403	EN12667
Thermal Exp. Coeff.	K ⁻¹	-	LL 72.9*10 ⁻⁶ UL 73.8*10 ⁻⁶	LL 64.8*10 ⁻⁶ UL 65.4*10 ⁻⁶	DIN 53752
Resistance to axial screws withdrawal	N	-	210	450	EN320 (20 mm thickness)
Building Fire Class	Class	E ¹⁾	E-d2 ²⁾	E ²⁾	EN 13501
Absorption of water (7 days)	Vol.-%	-	2.2	1.3	EN 12087
	M.-%	-	19	7.3	
Swelling in thickness (7 days)	%	-	0.5	0.5	EN 12087

Note: no halogenated blowing agents are used, nor HBCD. ¹⁾Tested on 60mm ²⁾ Tested on 10mm

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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)
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24-HOUR CHEMICAL EMERGENCY NUMBER

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