



# THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

## PROPELLIS™ (FR & HT)

### Flexible Woven, Glass Epoxy Composite

Propellis™ is a fully cured, single-layer woven glass fabric impregnated with high-temperature epoxy resin. Used in EV battery and charger applications, Propellis™, Propellis FR™, and Propellis HT™ offer exceptional dielectric strength in a lower profile and at higher temperatures when compared to other flexible insulation materials. Unlike other woven glass epoxy sheets, Propellis™ can be cut and formed from rolls which significantly reduces manufacturing time and application development.

PROPERTIES	ASTM		TYPICAL VALUES						
	Test Method	Units	Propellis™	Propellis™	Propellis™	Propellis™	Propellis™ FR	Propellis™ HT	
<b>PHYSICAL</b>	Thickness (as tested)**	in. (mm)	0.005 (0.13 mm)	0.007 (0.18 mm)	0.010 (0.25 mm)	0.013 (0.33 mm)	-	-	
	Color		Amber	Amber	Amber	Amber	Light Green	Amber	
	Density	ASTM D792	lbs/in <sup>3</sup> (g/cm <sup>3</sup> )	-	-	-	-	0.049 (1.36)	0.049 (1.36)
	Area Weight		oz/yd <sup>2</sup> (g/m <sup>2</sup> )	5.7 (193)	9.0 (305)	12.2 (414)	14.5 (492)	-	-
<b>MECHANICAL</b>	Compressive Strength	ASTM D695	PSI	-	-	-	-	15,000	15,000
	Tensile Strength: Lengthwise	ASTM D638	PSI (MPa)	21,000 (145)	21,000 (145)	21,000 (145)	25,000 (173)	21,000 (145)	21,000 (145)
	Tensile Strength: Centerwise	ASTM D638	PSI (MPa)	15,000 (103)	15,000 (103)	15,000 (103)	15,000 (103)	15,000 (103)	15,000 (103)
	Relative Temp. Index: Mechanical	UL 746B	°F (°C)	-	-	-	-	266 (130)	310 (155)
<b>ELECTRICAL</b>	Dielectric Strength*	ASTM D149	V/mil (kV/mm)	1,200 (47)	1,000 (39)	900 (35)	700 (28)	1,000 (39)	1,000 (39)
	Dielectric Breakdown	ASTM D149	V	-	-	-	-	7,100	7,100
	Dielectric Constant	ASTM D150		-	-	-	-	4.4	4.7
	Dissipation Factor	ASTM D150		-	-	-	-	0.014	0.015
	Relative Temp. Index: Electrical	UL 746B	°F (°C)	-	-	-	-	266 (130)	310 (155)
<b>THERMAL</b>	Flammability	UL 94 V-0		-	-	-	-	FR	HB
	Thermal Rating		°C	155	155	155	155	-	-

\* 1/4" Electrode - ASTM D149

\*\* + 0.001" (+/- 0.025 mm) Thickness Tolerance

#### AVAILABILITY

##### ROLL WIDTH

- 36" x 50"

##### THICKNESS

- 0.005" to 0.013"

#### AVAILABILITY (SI)

##### SHEET SIZE

- 914 cm x 1,270 cm

##### THICKNESS

- 0.13 mm to 0.33 mm

The Gund Company custom fabricates insulation materials to the exact specifications and drawings specified by our customers. We offer our customers the proper product for their specific application. A variety of dimensions and diameter sizes are available. Product colors vary according to material type.



The data supplied are typical values. They are not to be considered specification values. All of the information, suggestions, and recommendations about these properties and uses of the products herein are based on tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the contemplated application, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty - expressed or implied - including, without limitation, warranties of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.



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PROPERTIES	ASTM		TYPICAL VALUES									
	Test Method	Units	Propellis™	Propellis™ FR	PolyPro® FR 10	PolyPro® FR 17	Propellis™ HT	PolyPro® EV 10	PolyPro® EV 17	G-Flex™ YT510	G-Flex YT510	
<b>PHYSICAL</b>	Thickness (as tested)	in	0.007	0.007	0.010	0.017	0.007	0.010	0.017	0.002	0.005	
	Available Thickness	in	0.005 - 0.013	0.005 - 0.013	0.01 - 0.125	0.01 - 0.125	0.005 - 0.013	0.01 - 0.125	0.01 - 0.125	0.002 - 0.030	0.002 - 0.030	
	Density	ASTM D792 lbs/in³ (g/cm³)	-	0.049 (1.36)	0.037 (1.035)	0.037 (1.035)	0.049 (1.36)	0.033 (0.91)	0.033 (0.91)	(0.79)	(0.9)	
	Color		Amber	Light Green	Black/White	Black/White	Amber	Blue	Blue	Tan	Tan	
<b>MECHANICAL</b>	Compressive Strength	ASTM D695	PSI	-	-	6,000	6,000	-	6,000	6,000	-	-
	Tensile Strength: Lengthwise	ASTM D638	PSI	21,000	21,000	5,200	4,700	21,000	5,200	4,800	-	-
	Tensile Strength: Centerwise	ASTM D638	PSI	15,000	15,000	3,200	3,200	15,000	3,200	3,200	-	-
	Tensile Strength: Lengthwise	ASTM D828	N/cm	-	-	-	-	-	-	-	41	130
	Tensile Strength: Centerwise	ASTM D828	N/cm	-	-	-	-	-	-	-	17	60
	Tensile Elongation: Yield	ASTM D882	%	-	15,000	>100	>100	15,000	>200	>200	7	11.5
	Relative Temp. Index: Mechanical	UL 746B	°F (°C)	-	266 (130)	230 (110)	230 (110)	310 (155)	230 (110)	230 (110)	410 (210)	410 (210)
<b>ELECTRICAL</b>	Dielectric Strength	ASTM D149	V/mil	1,000	1,000	2,000	1,500	1,000	2,000	1,500	406	508
	Dielectric Breakdown	ASTM D149	V	-	7,100	19,900	24,800	7,100	19,900	24,800	1,500	2,000
	Dielectric Constant	ASTM D150	-	-	4.4	2.3	2.3	4.7	2.2	2.2	1.6	1.6
	Dissipation Factor	ASTM D150	-	-	0.014	0.0009	0.0009	0.015	0.0009	0.0009	0.004	0.004
	Relative Temp. Index: Electrical	UL 746B	°F (°C)	-	266 (130)	230 (110)	230 (110)	310 (155)	230 (110)	230 (110)	410 (210)	410 (210)
<b>THERMAL</b>	Flammability	UL 94	-	-	FR	V0	V0	HB	NR	HB	VTM-0	VTM-0

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