



# THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

## G-Flex™ TUG K-DPP

### Thermally Upgraded Diamond Pattern Paper (Kraft)

TUG-K DPP is made from 100% electrical-grade unbleached sulfate wood pulp, which has been chemically modified to slow down the thermal aging process of the material. This product features a B-stage epoxy resin coated in a diamond pattern on both sides, enhancing the mechanical bonding and ensuring optimal performance in liquid-filled transformer distribution applications.

**INSULATION CLASS: 120°C**



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.

		ASTM/ISO		TYPICAL VALUES									
PROPERTIES		Test Method	Units	3 mil	4 mil	5 mil	6 mil	7 mil	8 mil	10 mil	13 mil	15 mil	20 mil
PHYSICAL	Thickness	ASTM D374	Inches	0.0031	0.004	0.005	0.006	0.0068	0.0081	0.0097	0.0138	0.015	0.0199
	Thickness	ASTM D374	mm	0.079	0.101	0.127	0.153	0.173	0.207	0.247	0.35	0.382	0.505
	Density: Apparent	ASTM D202	g/cm3	0.95	0.96	0.98	0.97	0.98	0.95	0.99	0.92	0.96	0.94
	Air Resistance (AR)	TAPPIT460	Sec./100mL	680	551	760	318	1,137	269	910	433	917	829
	Nitrogen Content	TAPPI T418	%	2.6	2.5	1.8	2.1	1.7	2.1	1.9	1.9	1.8	1.9
	Moisture Content	ASTM D644	%	6.2	6	4.8	5.3	4.5	4.7	5.2	4.8	4.7	5.4
	pH of Aqueous Extract	ASTM E70	pH	7.9	7.4	7.3	7.5	7.5	7.8	7.7	7.6	7.6	7.8
	Ash Content	ASTM D586	%	0.25	0.2	0.26	0.44	0.2	0.33	0.35	0.34	0.32	0.26
MECHANICAL	Tensile Strength: MD	ASTM D828	lbs/in	40	62	108	105	137	173	198	276	296	326
	Tensile Strength: MD	ASTM D828	kN/m	7.1	10.9	18.9	18.4	24	30.2	34.6	48.3	51.8	57.1
	Tensile Strength: CMD	ASTM D828	lbs/in	17	22	25	35	42	45	53	75	89	125
	Tensile Strength: CMD	ASTM D828	kN/m	2.9	3.9	4.3	6.1	7.4	7.9	9.3	13.1	15.6	21.92
	Elongation: MD	ASTM D828	%	1.2	1.7	2.2	2.1	2.5	1.9	2.1	2.2	2.4	2.8
	Elongation: CMD)	ASTM D828	%	6.3	7.1	7.1	8.6	8.2	8.8	8.2	9	7.2	7.5
	Burst	TAPPI T403	PSI	40	58	103	106	140	159	204	253	254	340
	Burst	TAPPI T403	kPa	278	401	711	734	968	1,096	1,409	1,742	1,748	2,346
	Tear: MD	TAPPI T414	gf	49	77	106	140	156	251	294	528	543	1,021
	Tear: MD	TAPPI T414	mN	481	751	1,036	1,375	1,525	2,459	2,879	5,178	5,321	10,010
Tear: CMD	TAPPI T414	gf	70	97	181	214	239	300	426	651	706	1,120	
Tear: CMD	TAPPI T414	mN	690	954	1,776	2,101	2,344	2,942	4,179	6,381	6,926	10,983	
ELECTRICAL	Electric Strength: Air	ASTM D149	Volts	915	1,137	1,316	1,640	1,907	2,151	2,539	3,370	3,677	4,657
ROLL DIM.	Width		Inches	51	51	51	51	51	51	51	51	51	51
	Approx. Diameter		Inches	39	38	38	37	37	37	36	36	35	35
	Approx. Weight		lbs	1,800	1,800	1,750	1,750	1,730	1,730	1,710	1,700	1,700	1,700

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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## MARKETS



*Switchgear*



*Electronics*



*Power Generators*



*Motor Applications*



*Transformers*



*Metals Processing*



*Electric Vehicles*



*Military/Aerospace*



*Oil & Gas*



*Medical*



*Space*

## OUR EXPERTISE IS YOUR COMPETITIVE ADVANTAGE

We manufacture and custom-fabricate a complete line of components for market-specific applications (left column). As TGC better understands these markets – we can expand into other applications for our products.

As an employer, we are one family, acting in accordance with our Core Values: respect, trust, growth, passion, connection, teamwork, integrity, and performance. Collectively, we recognize and serve others so that lives are transformed!

### Material Families:

- Thermoset Rigid Laminates & Composites
- Flexible Laminates, Papers, Films & Felts
- Thermoplastic Materials
- Elastomeric Materials

### Engineering Capabilities:

- Custom Material Development
- Resin Formulation
- Laboratory Testing
- Comparative Materials Evaluation

### Manufacturing Capabilities:

- Compression Molding
- Autoclave & Light RTM Molding
- Pultrusion / Extrusion of Rods & Shapes
- Filament, Convolute & Wet Winding Tubes
- Additive & Injection Molding
- Infusion & B-Stage Composites Lay-Up
- Hand Lay-Up & Spray-Up Molding

### Conversion Capabilities:

- Die, Laser & Knife Cutting
- Waterjet Cutting
- Rotary Die Cutting
- Slitting
- Thermoforming

### Fabrication Capabilities:

- 5-Axis Machining
- CNC Milling
- Routing
- Turning & Lathe Cutting
- Punching
- Bending



## THE GUND COMPANY GLOBAL FOOTPRINT

