



THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

G-Flex APA Flex Laminate



Item:	G-Flex™ APA Flex Laminate
Description:	G-Flex™ APA are laminates with G-Flex™ aramid paper and polyester film. The material is available with our G-Flex™ aramid papers and electrical grade polyester film bonded a proprietary high temperature adhesive system. These laminates will not delaminate or blister at high temperatures. The polyester film contributes high dielectric strength, tear, and tensile and burst strength.
Applications:	G-Flex™ APA laminates are suitable for use as slot, phase and end turn insulation as well as ground and wrapper insulation in dry type transformers and a variety of punched and fabricated parts.
Benefits:	Laminates of aramid paper and polyester film provide the user with the benefits of both materials. The aramid paper provides already excellent electrical insulation properties, while the addition of the polyester film dramatically increases the dielectric strengths while increasing the overall durability and puncture resistance of the materials.

G-Flex™ APA Flexible Laminate Typical Data										
Construction	Units	Test Method	2/2/2	2/5/2	3/3/3	3/5/3	5/5/5	2/10/2	5/10/5	3/7.5/3
Standard Thickness	mil	--	7	10	10	12	16	15	21	14.5
	mm	--	0.17	0.25	0.25	0.3	0.4	0.37	0.53	0.36
	in	--	0.007	0.010	0.010	0.012	0.016	0.015	0.021	0.014
Yield	yd ² /lb	--	3.02	1.90	2.05	1.62	1.22	1.19	0.87	1.27
	lb/yd ²	--	0.33	0.53	0.49	0.62	0.82	0.84	1.14	0.78
Tensile Strength lb/in	MD	ASTM D882	86	126	140	171	210	200	246	206
	CD		57	114	100	137	160	188	240	183
Tear Strength, lb	MD	ASTM D1004	8.5	17	16	26	27	20	35	30
	CD		7	12	11	18	18.5	14	31	22
Breakdown Voltage (BDV)	kV	ASTM 149	9	16	12	16	18	20	25	18
Dielectric Strength	v	ASTM 149	11,000	16,000	13,000	17,000	19,000	20,000	22,000	19,500

Data supplied above are typical values and are not to be considered specification values. All of the information, suggestions and recommendations pertaining to the properties and uses of the products herein are based upon tests and data believed to be accurate; however, the final determination regarding 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 warranty 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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G-Flex™ APA Flex Laminates

G-Flex™ APA flex laminate is The Gund Company's brand of flex laminated aramid paper and polyester film. The Gund Company has used its broad engineering and application knowledge along with extensive testing and global relationships to bring our customers the G-Flex™ APA flex laminate.

G-Flex™ APA flex laminate is manufactured from 100% aramid fibers paper, polyester film laminated together with a patented high temperature adhesive. It carries a Temperature Index (TI) of 210°C, a VTM-O Flame Rating, and full UL approval (File #: TBD). This flexible laminate offers higher inherent dielectric strength, mechanical toughness, flexibility, and resilience. Applications for G-Flex™ APA include stator slot liners, phase insulations, coil wrap, conductor wrap, and other insulation applications for the electrical industry.

G-Flex APA Flex Laminate Benefits

- **Heat Resistance:** G-Flex™ APA has long-lasting thermal stability. It can be used for many hours at high temperatures while maintaining excellent dimensional stability. It will not embrittle, soften or melt when it is exposed temporarily at high temperatures of 300°C.
- **Flame Resistance:** It is inherently flame resistant. It does not self-burn or melt in the room air, no combustion-supporting, and has the property of self-extinguishing.
- **Electrical Insulation:** The meta-aramid fiber, plus the polyester film has very good electrical insulation properties. The dielectric strength of meta-aramid paper plus the polyester film can provide more than 20kv/mm.
- **Underwriters Laboratories (UL) recognized:** At 210°C insulation.
- **Sold World-wide:** Directly from The Gund Company and readily available in 12 locations.
- **UL certified product:** File # TBD
- **Excellent Properties:** Superior Dielectric Breakdown strength
- **Additional constructions are available upon request.**



Common Applications for G-Flex™ APA Flex Laminates

- Slot Liners
- Phase Insulation
- Coil Wraps
- Wire Wraps
- Slit into Tape Width
- Pole Collars