



MANUFACTURERS OF  
ELECTRICAL INSULATION MATERIALS

INSULATING COMPONENTS FOR  
POWER SYSTEMS EQUIPMENT

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## MATERIAL DATA SHEET

- Item:** Nomex™ 410 with TGC's TIB, Class F, b-Stage Pressure Sensitive Adhesive
- Description:** Aramid paper (Nomex™ 410) is coated with a pressure sensitive, thermoset epoxy adhesive on one side and a release liner over the adhesive. Bonds to copper with excellent tensile shear strength at room temperatures to at least 160°C. Baking is required to cure the adhesive.
- Application:** Rotor turn insulation to bond to copper initially at room temperature with the pressure-sensitive adhesive. In its b-stage form, the pressure sensitive adhesive has outstanding tackiness. The turn insulation stays where it is placed, eliminating the need for double-sided tape during the winding process, yet allows the winder to re-position the insulation during the winding process. The adhesive is converted to a thermoset solid during baking (curing).
- Advantages:** Traditional b-stage epoxy turn insulation with a release liner has so little tackiness, that it is nearly impossible to keep on the coil during the winding process. This slippage during the winding process can result in numerous turn-to-turn shorts. To overcome slippage, most repair companies resort to using a double-sided tape between the coil and the b-stage turn insulation to keep the turn insulation from slipping during the winding process. TGC's solution eliminates the need for double-sided tape and the labor to apply it while providing a B-stage insulation material that cures in four hours at 203-230°F (95-100°C).
- Availability:**
- |             |                   |   |                                      |
|-------------|-------------------|---|--------------------------------------|
|             |                   | English Units   | SI Units                             |
| Nomex™ 410: | Thickness:        | 0.003", 0.005",<br>0.007", 0.010"   | 0.08 mm, 0.13 mm,<br>0.18mm, 0.26 mm |
|             | Adhesive:         | Thickness: 0.0005" Typical  | 0.012 mm Typical                     |
|             | Fabricated Parts: | The Gund Company custom fabricates insulation materials to the exact specifications and drawings of our customers |                                      |

Key Characteristics	Test Method	Units - English (SI)	Typical Values
Standard Color	--	--	Tan
Bond Strength After Cure, to 320°F (160°C)	Tensile Shear Strength (Cross-head Speed 0.15 in./min.)	psi (MPa)	> 100 (0.69) Material delaminated before bond failure
Recommended Ambient Conditions	--	°F (°C)	60-75 (16-24)
Release Liner Material	--	--	White Polypropylene

### Recommended Cure Schedule:

	Cure Time	Temperature
Note: The actual length of time required to bring the entire assembly up to curing temperature must be added to the recommended cure time in order to determine a suitable curing schedule for a particular assembly	4 Hours	203-230°F (95-110°C)
	2 Hours	248-302°F (120-150°C)
	1 Hour	320°F (160°C)

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