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DUPONT™ NOMEX® LAMINATE TYPE NMN

TECHNICAL DATA SHEET

Product description

NOMEX® Laminate Type NMN is a triplex laminate constructed of calendered NOMEX® paper bonded to polyester film with a proprietary high temperature adhesive system. This laminate is designed not to delaminate or blister at high temperatures.

The polyester film in this three-ply laminate contributes high dielectric strength, as well as good initial tear strength and tensile properties. The calendered NOMEX® paper provides long-term thermal stability, as well as improved propagation tear strengths.

Application

This laminate is broadly used in the manufacture and remanufacture of motors and generators of many sizes and temperature classes. The most important applications are for slot liners, wedges and phase insulation in Class H motors and generators, as well as in large and specialty Class F motors. Motor manufacturers as well as motor repair facilities who remanufacture motors like the ability to standardize on Type NMN, and use just one insulation material for all motors.

There are a number of insulation systems recognized by Underwriters Laboratories (UL), which include this laminate for both Class F and Class H motors. Upon request, access to these insulation systems is available from DuPont.

Case histories

Case histories detailing the use of Type NMN in motors and generators are available upon request.

PRODUCT DATA

Product	ASTM D374 Thickness Nominal (inches)	Product Yield (yd^2/lb)	Product Yield (lb/yd^2)	ASTM D149 Dielectric Strength (volts)	ASTM D257 Volume Resistivity (ohms-cm)	ASTM D257 Surface Resistivity (ohms/square)	ASTM D882 MD Tensile Strength (lb/in width)	ASTM D882 XD Tensile Strength (lb/in width)	ASTM D1004 MD Tear Strength (lbs)	ASTM D1004 XD Tear Strength (lbs)
NMN 2-2-2	0.007	3.08	0.32	11,000	10^{15}	10^{15}	95	70	9	7
NMN 2-5-2	0.010	1.92	0.52	16,000	10^{15}	10^{15}	115	145	18	12
NMN 2-7½-2	0.012	1.49	0.67	18,000	10^{15}	10^{15}	200	180	25	20
NMN 3-3-3	0.010	2.04	0.49	13,000	10^{15}	10^{15}	170	110	17	10
NMN 3-5-3	0.012	1.64	0.61	17,000	10^{15}	10^{15}	175	150	26	18
NMN 3-7½-3	0.014	1.28	0.78	19,500	10^{15}	10^{15}	210	175	30	22
NMN 3-10-3	0.017	1.03	0.97	21,000	10^{15}	10^{15}	250	210	33	27
NMN 3-14-3	0.021	0.91	1.10	32,000	10^{15}	10^{15}	314	213	45	41
NMN 5-3-5	0.013	1.52	0.66	16,000	10^{15}	10^{15}	185	145	24	16
NMN 5-5-5	0.016	1.25	0.80	19,000	10^{15}	10^{15}	200	170	28	19
NMN 5-10-5	0.021	0.89	1.12	22,000	10^{15}	10^{15}	275	235	35	31

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Specifications

The properties shown in this data sheet are typical values, and should not be used as specification limits. Contact DuPont for assistance in preparing specifications of these materials for your application.

Shelf life

The shelf life of NOMEX® laminates is in excess of one year when they are stored at or below room temperature.

Safety precautions

A Material Safety Data Sheet (MSDS) describing the use of this product is available upon request from DuPont.

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