



DUPONT™ NOMEX® LAMINATES TYPE NK AND TYPE NKN

TECHNICAL DATA SHEET

Product description

DuPont™ NOMEX® Laminates Type NK and Type NKN are duplex and triplex laminates constructed of calendered NOMEX® paper bonded to KAPTON® polyimide film with a proprietary high temperature adhesive system. These laminates are designed not to delaminate or blister at high temperatures.

The KAPTON® polyimide film in these 2- and 3-ply laminates 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

These laminates are 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

motors and generators which have thermal requirements above Class H applications.

There are a number of insulation systems recognized by Underwriters Laboratories (UL), which include these laminates for temperature classes up to and including 220°C. Upon request, access to these insulation systems is available from DuPont.

PRODUCT DATA

Product	ASTM D374 Thickness Nominal (inches)	Product Yield (yd ² /lb) (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)
NK 2-1	0.003	5.90	0.17	6,000	10 ¹⁵	10 ¹³	60	40	5	3
NK 2-2	0.004	4.17	0.24	9,000	10 ¹⁵	10 ¹³	70	45	6	4
NK 3-1	0.004	4.55	0.22	7,000	10 ¹⁵	10 ¹³	72	46	5	3
NK 3-2	0.005	3.57	0.28	9,000	10 ¹⁵	10 ¹³	80	60	6	5
NK 3-3	0.006	2.86	0.35	13,500	10 ¹⁵	10 ¹³	90	70	12	8
NKN 2-1-2	0.006	3.57	0.28	9,000	10 ¹⁵	10 ¹³	100	60	6	5
NKN 2-2-2	0.007	2.85	0.35	14,000	10 ¹⁵	10 ¹³	122	81	8	6
NKN 3-1-3	0.008	2.70	0.37	10,000	10 ¹⁵	10 ¹³	120	73	9	6
NKN 3-2-3	0.009	2.32	0.43	17,000	10 ¹⁵	10 ¹³	150	100	10	9
NKN 3-3-3	0.010	1.96	0.51	19,000	10 ¹⁵	10 ¹³	170	120	12	10
NKN 3-5-3	0.011	1.58	0.63	20,000	10 ¹⁵	10 ¹³	190	140	15	11
NKN 5-1-5	0.011	1.82	0.55	13,000	10 ¹⁵	10 ¹³	190	140	6	5
NKN 5-2-5	0.012	1.69	0.59	18,000	10 ¹⁵	10 ¹³	220	120	15	10
NKN 5-3-5	0.013	1.49	0.67	21,000	10 ¹⁵	10 ¹³	260	180	21	14
NKN 5-5-5	0.016	1.23	0.81	25,000	10 ¹⁵	10 ¹³	330	220	26	16

PERFORM WHEN THE HEAT'S ON