

BANSAL INSULATION AND MICA HOUSE

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Insulation Class F (155°C)

NOMEX PAPER F CLASS

Products Description :

Triple - layer insulation made from polyester film and Nomex® paper overlay on both sides. In this composite, good mechanical and electrical properties of the polyester film are ideally supplemented by excellent chemical and thermal properties of the Nomex® aramid paper. The high specific insulation resistance and di-electric strength do not change to any extent up to 200°C for short duration and 155°C continuous.

Nomex® layers also protect film from high temperature against damaging effect of oxidation and hydrolysis as well as mechanical damages. Impregnating resins bond very well with NEOTHERM®.

NEOTHERM® is best for manufacturing electrical machines of class F because of high tensile strength, tearing strength, dielectric strength and excellent absorption of varnish with temperature rise upto class F.

The different overall thicknesses of NEOTHERM® flexible composites are achieved by different thickness of polyester film inlays, whereas Nomex® 50µ on each side are always same.

The NEOTHERM® flexible composites are also available with 80µ and 130µ calendered Nomex® paper + polyester film composite and uncalendered Nomex® thickness 125µ.

- Raw material composition** - Nomex® Paper/Polyester film
- Composite Colour** - Ivory
- Composite Thickness** - from 140 µ to 500µ
- Dimensions width / rolls** - 905mm +/- 5mm
- Roll weight standard** - 50 kgs (also available as per customer's requirement)
- Tapes width** - 10mm (+/-0.2mm) and above as per customer order.
- Polyester film thickness** - 25µ - 350µ



Technical Data : Nomex® Paper Thickness - 50µ

Nomex® Paper - Polyester Film Composite Insulation According To Specification

IEC 60626-3:2008 Sheet No. 312

Property	Clause in IEC 60626-2	Unit Tolerance										
Laminate Nominal Thickness	2	mm	0.14	0.15	0.17	0.19	0.22	0.24	0.31	0.37	0.47	
Laminate Thickness Tolerance	2	±%	15	15	15	15	15	15	15	10	10	
Laminate Nominal Grammage	3	g/m ² ±12%	140	150	170	200	230	270	360	450	590	
Film Nominal Thickness		µm	23	36	50	75	100	125	190	250	350	
Tensile Strength Unfolded	4	N/10 mm Min MD CMD	100 80	150 90	160 90	170 105	190 120	220 150	270 200	330 300	400 350	
Tensile Strength Folded	4	N/10 mm Min MD CMD	80 50	80 70	90 70	100 90	110 100	130 120	200 150	250 200	300 250	
Elongation Unfolded	4	% min. MD CMD	15 20	15 20	15 20	15 20	15 20	20 20	20 25	20 25	20 25	
Electric Breakdown Voltage (6mm Diameter Electrode)	9	kV min. Unfolded Folded	6 5	7 6	8 7	11 9	12 10	14 12	19 15	23 18	28 20	

Property	Clause in IEC 60626-2	Unit Tolerance										
Laminate Nominal Thickness	2	mm	0.20	0.21	0.22	0.25	0.28	0.30	0.36	0.43	0.48	0.53
Laminate Thickness Tolerance	2	±%	15	15	15	15	15	15	15	10	10	10
Laminate Nominal Grammage	3	g/m ² ±12%	185	200	220	255	290	325	420	500	570	640
Film Nominal Thickness		µm	23	36	50	75	100	125	190	250	300	350
Tensile Strength Unfolded	4	N/10 mm Min MD CMD	160 100	160 120	170 140	190 180	220 190	270 200	320 250	380 300	430 300	450 300
Tensile Strength Folded	4	N/10 mm Min MD CMD	80 60	90 70	160 100	180 140	190 150	200 160	250 200	300 250	300 250	300 250
Elongation Unfolded	4	% min. MD CMD	15 20	15 20	15 20	15 20	15 20	20 25	20 25	20 25	20 25	20 25
Electric Breakdown Voltage (6mm Diameter Electrode)	9	kV min. Unfolded Folded	7 5	8 7	9 8	12 10	13 11	15 13	20 16	23 18	25 20	30 NR

Nomex® Paper Thickness - 130µ
Technical Data : Nomex® Paper - Polyester Film Composite Insulation According To Specification IEC 60626-3:2008 Sheet No. 315

Property	Clause in IEC 60626-2	Unit Tolerance										
Laminate Nominal Thickness	2	mm	0.32, 0.35, 0.37, 0.40, 0.52									
Laminate Thickness Tolerance	2	±%	15, 15, 15, 15, 15									
Laminate Nominal Grammage	3	g/m ² ±12%	330, 360, 400, 440, 620									
Film Nominal Thickness		µm	50, 75, 100, 125, 250									
Tensile Strength Unfolded	4	N/10mm min. MD CMD	200, 220, 250, 300, 400 170, 200, 220, 260, 320									
Tensile Strength Folded	4	N/10mm min. MD CMD	170, 190, 210, 230, 330 120, 130, 150, 190, 300									
Elongation Unfolded	4	% min. MD CMD	7, 7, 7, 7, 15 10, 10, 10, 10, 20									
Electric Breakdown Voltage (6mm Diameter Electrodes)	9	kV min. Unfolded Folded	10, 13, 14, 16, 25 8, 11, 12, 14, NR									

Shelf Life: Flexible composite insulation materials can be stored for practically unlimited periods if properly protected from dust, direct heat and moisture. It is recommended that the material should be retained in its original packing until it is to be used.

Note: All information quoted on this Technical Data Sheet has been obtained as a result of tests carried out to the best of our ability on specimens produced and treated as described above. The figures are intended to give a general indication of the characteristics of the above material but no liability must be assumed or implied as a result of any data given.