SynFlex Elektro GmbH
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3M™ Flame Barrier FRB-NT

The FRB-NT series flame barrier offers both electric arc and flame protection for electrical and electronic devices.

Properties

The FRB-NT flame barrier is:

- A halogen-free material on an inorganic basis
- Classified in the highest flame retardancy class UL 94-5VA
- Dimensionally stable - minimal to no shrinkage at elevated temperatures
- Low outgassing
- Highest tracking resistance

Application

- Power electronics (improvement of clearance and creepage distances)
- Lighting (including LED lights)
- Battery housings (including electric and hybrid vehicles)
- Device housings (e.g. timers, actuators, switches)

Standards

- UL 746 (E65069)
- Flame Retardant (UL 94-5VA)
- Halogen-free
- tracking resistance CTI ≥600

Forms of delivery

Material strength: 0,076 to 0,381 mm

Roll goods, tapes and punched parts, optionally also adhesive.

Stand 08/24

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Mechanical	Unit							Test Method
Nominal Thickness	mm	0,076	0,102	0,127	0,178	0,254	0,381	ASTM D-645
Tensile Strength MD	N/cm	30	49	54	72	93	175	ASTM D-828
Tensile Strength CD	N/cm	14	25	28	39	60	102	ASTM D-828
Elongation to Break MD	%	1,5	1,5	1,5	1,5	1,5	2,0	ASTM D-828
Elongation to Break CD	%	1,1	1,1	1,1	1,1	1,1	2,0	ASTM D-828
Elmendorf Tear MD	N	0,4	0,9	1,1	1,7	2,7	5,2	ASTM D-689
Elmendorf Tear CD	N	0,6	1,3	1,4	3,0	3,5	7,2	ASTM D-689

Electrical	Unit							Test Method
Nominal Thickness		0,076	0,102	0,127	0,178	0,254	0,381	
Dielectric Breakdown Voltage	kV	1,1	2,6	3,1	3,3	5,0	8,0	ASTM D-149

Physical	Unit							Test Method
Nominal Thickness		0,076	0,102	0,127	0,178	0,254	0,381	
Basis Weight	g/m²	103	156	195	274	376	561	ASTM D-202
Density	g/cc	1,4	1,5	1,5	1,5	1,5	1,5	
Moisture Absorption	%	<1	<1	<1	<1	<1	<1	ASTM D-644
Dimensional Shrinkage 150 °C MD	%	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	ASTM D-2305
Dimensional Shrinkage 200 °C MD	%	<0,3	<0,3	<0,3	<0,3	<0,3	<0,3	ASTM D-2305

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