

Electrical Insulation Material

Norton® TH | FI 16011

Structure: Norton® TH | FI 16011 is a Polyimide Film, code PI which main structural feature are imides. The polyimides are produced by a condensation polymerization process and are further processed in a chemical processing of the film.

Characteristics: Norton® TH | FI 16011 is a high-performance plastic that is unique in its combination with polymer film materials, which is otherwise not found. This makes it ideal for a variety of applications in numerous areas. Norton® TH | FI 16011 has excellent chemical resistance, there are no known organic solvents. Norton® TH | FI 16011 is dimensionally stable, the shrinkage is less than 0.08%. In addition, Norton® TH | FI 16011 has no melting point, is flame resistant and has the highest flammability rating of UL-94 V-0 (UL File: E231847) and begins to carbonize at 800°C. Due to its excellent properties, Norton® TH | FI 16011 is used both at extremely low temperatures down to -265°C and high temperatures above +400°C and has a temperature resistance of +220°C, in which other organic materials are no longer functional. By default, Norton® TH | FI 16011 can be used at temperatures of 20 - 220°C.

Application: Norton® TH | FI 16011 is used for electrical motor insulation, cable and wire insulation, in windings, in magnetic coils, in transformers, in condensers and, in printed circuit boards. The film Norton® TH | FI 16011 can be laminated, metallized, die-cut or coated with adhesive.

Colour: Norton® TH | FI 16011 is supplied in amber.

Storage Conditions: Norton® TH | FI 16011 has an unlimited shelf life under normal conditions (20 ° C, 50% RH).

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Delivery Form: Norton® TH | FI 16011 is available in a thickness of 0.125 mm and delivered in widths from 5mm to 1028mm. Other delivery forms upon customer request.

Properties	Testmethod	Unit	Value				
			0.019	0.025	0.050	0.075	0.125
Total thickness	-	mm	0.019	0.025	0.050	0.075	0.125
Density	-	g/cm ³	1.46	1.46	1.46	1.46	1.46
Basis Weight	-	g/m ²	23.98	35.97	71.94	107.53	181.81
Area Yield	-	m ² /kg	41.70	27.8	13.9	9.3	5.5
Standard width	-	mm	1028	1028	1028	1028	1028
Roll Length	-	m	2286	1524	762	508	301
Standard Roll Weight	-	kg	56.3	56.3	56.3	56.3	56.3
Area Yield (per Roll)	-	m ²	2350	1566.6	783.3	523.0	309.6
Outside Diameter (with a core diameter of 152 mm)	-	mm	273	273	273	273	273
Max. tensile strength	ASTM D-882	N/mm ²	250	250	250	250	250
Max. elongation	ASTM D-882	%	85	85	85	85	85
Modulus	ASTM D-882	N/mm ²	3200	3200	3200	3200	3200
Dielectric strength	ASTM D-149	V/μm	290	280	260	230	220
Permittivity	ASTM D-150	-	3.3	3.3	3.3	3.3	3.3
Loss Factor	ASTM D-150	-	0.005	0.005	0.005	0.005	0.005
Volume Resistivity	ASTM D-257	Ω cm	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶
Surface Resistivity	ASTM D-257	Ω	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶	>10 ¹⁶
Thermal expansion coefficient	ASTM D-696	ppm/°C	40	40	40	40	40
Shrinkage	ASTM D-5213-04	%	0.05	0.05	0.05	0.05	0.05
Glass transition temperature	DSC, TMA	°C	>380	>380	>380	>380	>380
Moisture absorption	ASTM D-570	%	2.5	2.5	2.5	2.5	2.5

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Trademark Information: Norton® is a registered trademark of the company Saint-Gobain Performance Plastics.

Please note:

The information in this data sheet is based on our current knowledge and experience. They do not disengage the fabricator and user from own tests and inspections because of the plenty of possible effects. There is no judicial binding assurance of certain properties or of the qualification for a concrete application in our declaration. We recommend consulting us in individual cases. The acceptor of our products has to observe possible industrial property rights as well as present laws by himself.

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