DuPont™ Kapton® 100CRC

Technical Data Sheet

Description

DuPont™ Kapton® corona resistant film is a state of the art polyimide film that withstands the damaging effects of corona discharge. The corona resistance provides improved service life and operational efficiencies versus conventional insulation materials.

Kapton® 100CRC polyimide film is a homogeneous film possessing improved resistance versus traditional polyimide films when exposed to the damaging effects of partial discharge. In addition to the corona resistant properties, Kapton® CRC offers excellent, physical, electrical, thermal and chemical resistant characteristics expected with Kapton® polyimide films.

Kapton® CRC polyimide film has been developed for use as an electrically insulating material for high voltage environments where the potential for corona discharge is present. Kapton® CRC is typically used in industrial motor and generator applications as magnet wire, turn to turn strand, coil, slot liner and ground insulation materials. It has also been used to form laminates with other materials, such as DuPont™ Nomex® paper or mica insulations, to provide tailored electrical insulation properties.

Applications

- AC Inverter Duty Motors
- Rail, Automotive Traction Motors
- Hydro, Wind Power Generators
- Transformers

Table 1–Typical Physical Properties of DuPont™ Kapton® 100CRC Polyimide Film

Property	Unit	Typical Value	Test Method
Thickness	mil	1	ASTM D-374
	µm	25.4	
Tensile Strength	kpsi	34	ASTM D-882
	MPa	227	
Elongation	%	80	ASTM D-882
Tensile Modulus	kpsi	500	ASTM D-882
	GPa	3.48	
Dielectric Strength	V/mil	7000	ASTM D-149
	kV/mm	276	
Dielectric Constant @ 1 kHz	–	3.4	ASTM D-150
Dissipation Factor @ 1 kHz	–	0.002	ASTM D-150
Volume Resistivity	ohm-cm	$>10^{16}$	ASTM D-257
Yield	ft^2/lb	128	–
	m^2/kg	26	
Density	g/cc	1.48	ASTM D-1505
UL Electrical RTI	°C	240*	UL 746B
UL Mechanical RTI	°C	200*	UL 746B
Flammability	UL-94	V-0*	UL Test Method

*Expected results at UL, material under current review

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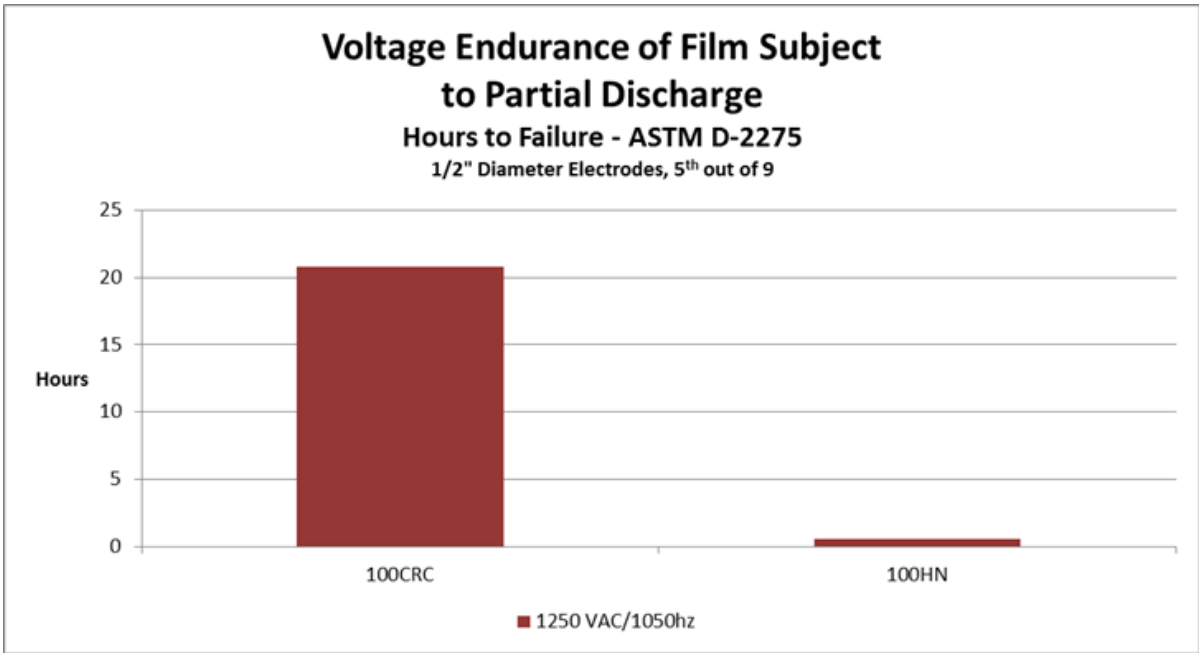
Figure 1–Comparison of Voltage Endurance, DuPont™ Kapton® 100CRC to DuPont™ Kapton® 100HN



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CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102-4.

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