



DUPONT™ KAPTON® 150FCRC019

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® 150FCRC019 is a composite film consisting of Kapton® 100CRC corona resistant polyimide film and a heat fusible FEP fluoropolymer film. In addition to the corona resistant properties, Kapton® FCRC offers excellent, physical, electrical, thermal, and chemical resistant characteristics expected with Kapton® polyimide films.

Kapton® 150FCRC019 has been developed for use as a magnet wire insulation in rail traction, industrial motors and generators where there is a need for enhanced insulation life under partial discharge environments.

Kapton® FCRC may also be used in other electrically insulating applications where partial discharge may occur.

CHARACTERISTICS

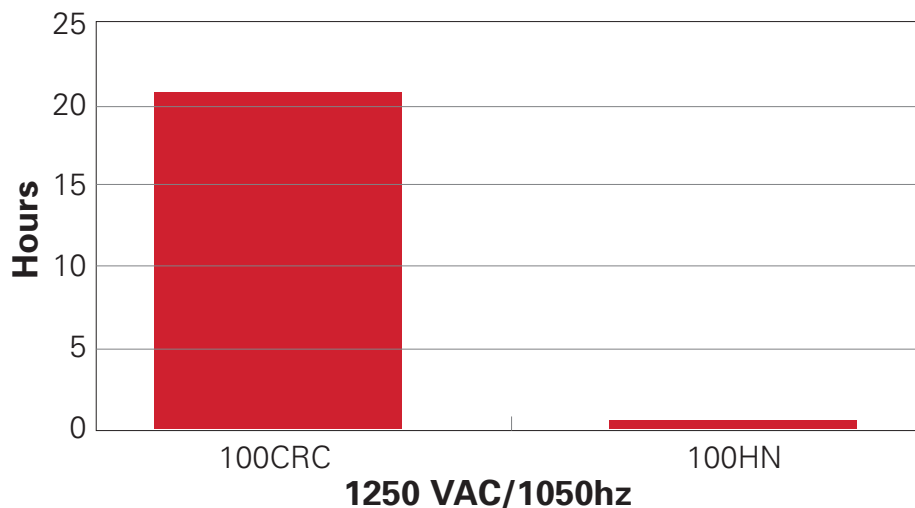
- Corona resistant film
- Heat fusible adhesive
- High dielectric strength
- Reduced thickness versus mica laminates

APPLICATIONS

- Magnet wire
- Traction motors: rail, auto, mining
- Industrial motor insulation
- Wind, hydro generators
- ESP motors
- High temperature
- High reliability
- Aerospace and specialty wires

Figure 1—Comparison of Voltage Endurance, DuPont™ Kapton® corona resistant base film (100CRC) to DuPont™ Kapton® 100HN

Voltage Endurance of Film Subject to Partial Discharge Hours to Failure - ASTM D2275 - 1/2" Diameter Electrodes, 5th out of 9





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Table 1—Typical Physical Properties of DuPont™ Kapton® 150FCRC019 Polyimide Film

Property	Unit	Typical Value	Test Method
Thickness	mil	1.5	ASTM D374
	µm	38	
Tensile Strength	kpsi	26	ASTM D882
	MPa	179	
Elongation	%	90	ASTM D882
Tensile Modulus	kpsi	330	ASTM D882
	GPa	2.28	
Dielectric Strength	V/mil	4600	ASTM D149
	kV/mm	181	
315 °C Heat Seal Strength	gms/in	1100	DuPont Test Method
	gms/cm	433	
Melt Point, TEP	°C	>257	ASTM E-794
Yield	ft ² /lb	78	—
	m ² /kg	16	
Density	g/cc	1.65	ASTM D1505
Results Below - polyimide film data only			
Dielectric Constant @ 1 kHz	—	3.4	ASTM D150
Dissipation Factor @ 1 kHz	—	0.002	ASTM D150
Volume Resistivity	ohm-cm	>10 ¹⁶	ASTM D257
UL Electrical RTI	°C	240	UL 746B
UL Mechanical RTI	°C	200	UL 746B
Flammability	UL-94	V-0	UL Test Method

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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-50102-5.

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