DuPont™ Kapton® 150FCRC019

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. This coronal resistance provides improved service life and operational efficiencies vs 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

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

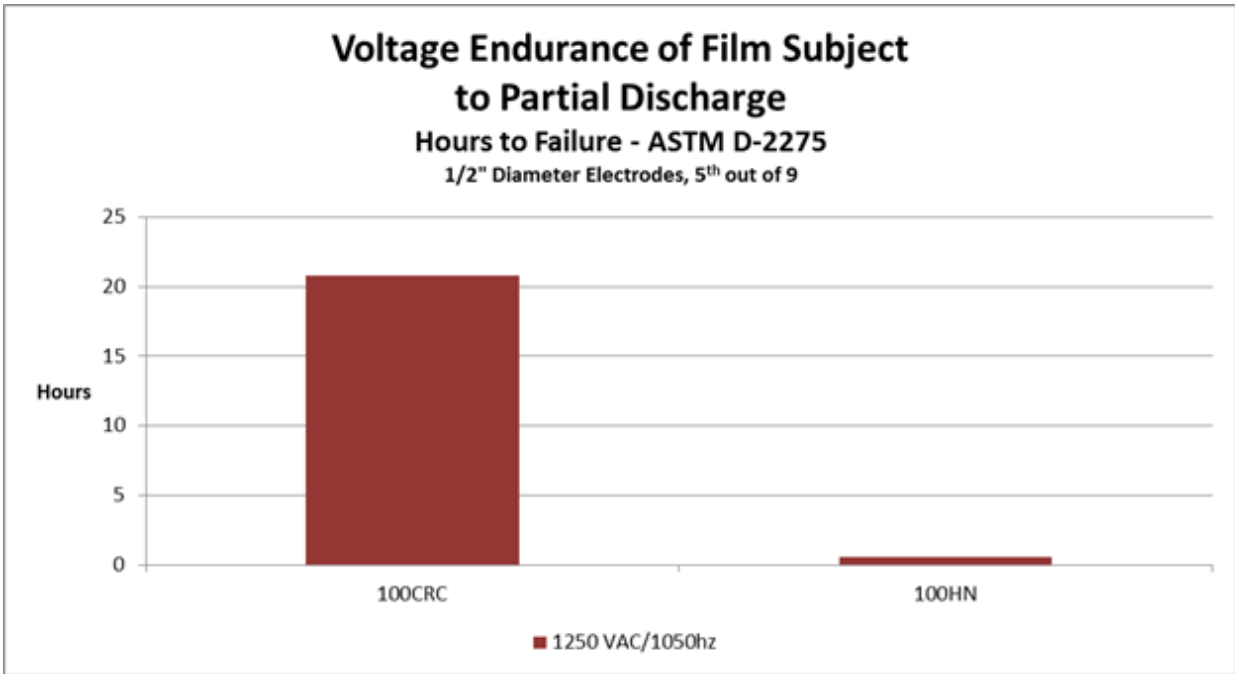
Property	Unit	Typical Value	Test Method
Thickness	mil	1.5	ASTM D-374
	µm	38	
Tensile Strength	kpsi	26	ASTM D-882
	MPa	179	
Elongation	%	90	ASTM D-882
Tensile Modulus	kpsi	330	ASTM D-882
	GPa	2.28	
Dielectric Strength	V/mil	4600	ASTM D-149
	kV/mm	181	
315 °C Heat Seal Strength	gms/in	1100	DuPont Test 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 D-1505
Results Below - polyimide film data only			
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
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

DuPont™ Kapton® 150FCRC019

Technical Data Sheet

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



For more information on DuPont™ Kapton® polyimide films, please contact your local representative, or visit our website for additional regional contacts:

Americas
DuPont High Performance Films
U.S. Rt. 23 & DuPont Road
Circleville, OH 43113
Tel: 800-967-5607

Asia
DuPont Taiwan
No. 45, Hsing-Pont Road
Taoyuan, Taiwan, R.O.C.
Tel: 886-3-377-3688

Japan
DuPont-Toray Co., Ltd.
5-6 Nihonbashi Honcho 1-chome
Chuo-ku, Tokyo 103-0023 Japan
Tel: 81-3-3245-5061

Europe
DuPont de Nemours (Luxembourg) S.A.R.L.
Rue General Patton
L-2984 Luxembourg
Tel: 352-3666-5935

DuPont Shanghai
399 Keyuan Road, Bldg. 11
Zhangjiang Hi-Tech Park
Pudong New District, Shanghai,
P.R. China 201203
Tel: 86-21-3862-2888

kapton.dupont.com

K-28402 06/14