

DuPont™ Kapton® 150FN019 Polyimide/FEP Composite Film

Category : Polymer , Film , Thermoset , Polyimide, TS , Polyimide, Thermoset Film

Material Notes:

150 Gauge film structure consisting of a 25 µm (1 mil) base polyimide film with a 13 µm (0.5 mil) coating of Teflon® FEP on one side. Kapton® Type HN film coated with Teflon® FEP fluoropolymer resin, imparts heat sealability, provides a moisture barrier, and enhances chemical resistance. General Kapton® information: Kapton® is synthesized by polymerizing an aromatic dianhydride with an aromatic diamine. It has excellent chemical resistance; there are no known organic solvents for the film. It does not melt. It can be used at both high and low temperature extremes. Kapton® polyimide films can be used in a variety of electrical and electronic uses: wire and cable tapes, formed coil insulation, substrates for printed circuit boards, motor slot liners, magnet wire insulation, transformer and capacitor insulation, magnetic and pressure-sensitive tapes, and tubing. Data provided by DuPont High Performance Films.

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Kapton-150FN019-PolyimideFEP-Composite-Film.php

Physical Properties	Metric	English	Comments
Density	1.67 g/cc	0.0603 lb/in ³	ASTM D542-90
Moisture Absorption at Equilibrium	0.80 %	0.80 %	50% RH; 23°C
Water Absorption at Saturation	1.7 %	1.7 %	98% RH; 23°C
Water Vapor Transmission	9.60 g/m ² /day	0.618 g/100 in ² /day	

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Yield, MD	43.0 MPa	6240 psi	3% yield point. Orientation not specified; ASTM D882-91
	@Temperature 200 °C	@Temperature 392 °F	
Film Tensile Strength at Yield, MD	49.0 MPa	7110 psi	3% yield point. Orientation not specified; ASTM D882-91
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Film Elongation at Break, MD	70 %	70 %	Orientation not specified. Value at 200°C (390°F) is 75%; ASTM D882
Secant Modulus	1.14 GPa	165 ksi	ASTM D882
	@Temperature 200 °C	@Temperature 392 °F	
Secant Modulus	2.28 GPa	331 ksi	ASTM D882
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	0.686 J	0.506 ft-lb	Impact strength per DuPont Pneumatic Impact Test
Tear Strength Test	11.5	11.5	N Graves (Initial) value; ASTM D1004-90
Elmendorf Tear Strength MD	48 g	48 g	Orientation not specified; ASTM D1922-89

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break, MD	162 MPa	23500 psi	Orientation not specified; ASTM D882

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.09 J/g-°C	0.261 BTU/lb-°F	Value for Kapton® HN
Thermal Conductivity	0.120 W/m-K	0.833 BTU-in/hr-ft ² -°F	Value for Kapton® HN
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	2.30e+17 ohm-cm	2.30e+17 ohm-cm	
Dielectric Constant	2.7	2.7	
Dielectric Strength	197 kV/mm	5000 kV/in	
Dissipation Factor	0.0013	0.0013	

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