

DuPont™ Kapton® 250FN029 Polyimide/FEP Composite Film

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

Material Notes:

250 Gauge film structure consisting of a 50 µm (2 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-250FN029-PolyimideFEP-Composite-Film.php

Physical Properties	Metric	English	Comments
Density	1.57 g/cc	0.0567 lb/in³	ASTM D542-90
Moisture Absorption at Equilibrium	0.40 %	0.40 %	50% RH; 23°C (400=FN022)
Water Absorption at Saturation	1.2 %	1.2 %	98% RH; 23°C
Water Vapor Transmission	2.40 g/m²/day	0.155 g/100 in²/day	

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Yield, MD	36.0 MPa	5220 psi	3% yield point; Orientation not specified; ASTM D882-91
	@Temperature 200 °C	@Temperature 392 °F	
	58.0 MPa	8410 psi	3% yield point; Orientation not specified; ASTM D882-91
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Film Elongation at Break, MD	85 %	85 %	Orientation not specified. Value at 200°C (390°F) is 110%; ASTM D882
Secant Modulus	1.38 GPa	200 ksi	ASTM D882
	@Temperature 200 °C	@Temperature 392 °F	
	2.62 GPa	380 ksi	ASTM D882
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	1.56 J	1.15 ft-lb	Impact strength per DuPont Pneumatic Impact Test
Tear Strength Test	17.8	17.8	N Graves (Initial) value; ASTM D1004-90
Elmendorf Tear Strength MD	58 g	58 g	Orientation not specified; ASTM D1922-89

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Break, MD	100 MPa	14500 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-ft²-°F	Value for Kapton® HN
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.90e+17 ohm-cm	1.90e+17 ohm-cm	
Dielectric Constant	3.0	3.0	
Dielectric Strength	197 kV/mm	5000 kV/in	
Dissipation Factor	0.0013	0.0013	

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