DuPont™ Kapton® 120FN616 Polyimide/FEP Composite Film

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

Material Notes:

120 Gauge film structure consisting of a 25 µm (1 mil) base polyimide film with a 2.5 µm (0.1 mil) coating of Teflon® FEP on both sides.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-120FN616-PolyimideFEP-Composite-Film.php

Physical Properties	Metric	English	Comments
Density	1.53 g/cc	0.0553 lb/in³	ASTM D542-90
Moisture Absorption at Equilibrium	1.3 %	1.3 %	50% RH; 23°C
Water Absorption at Saturation	2.5 %	2.5 %	98% RH; 23°C
Water Vapor Transmission	17.5 g/m²/day	1.13 g/100 in²/day	

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Yield, MD	42.0 MPa @Temperature 200 °C	6090 psi @Temperature 392 °F	3% yield point. Orientation not specified; ASTM D882-91
	61.0 MPa @Temperature 23.0 °C	8850 psi @Temperature 73.4 °F	3% yield point. Orientation not specified; ASTM D882-91
Film Elongation at Break, MD	75 %	75 %	Orientation not specified. Value at 200°C (390°F) is 80%; ASTM D882
Secant Modulus	1.62 GPa @Temperature 200 °C	235 ksi @Temperature 392 °F	ASTM D882
	2.48 GPa @Temperature 23.0 °C	360 ksi @Temperature 73.4 °F	ASTM D882
Impact Test	0.780 J	0.575 ft-lb	Impact strength per DuPont Pneumatic Impact Test
Tear Strength Test	11.8	11.8	N Graves (Initial) value; ASTM D1004-90
Elmendorf Tear Strength MD	8.2 g	8.2 g	Orientation not specified; ASTM D1922-89

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Break, MD	207 MPa	30,000 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	1.40e+17 ohm-cm	1.40e+17 ohm-cm	
Dielectric Constant	3.1	3.1	
Dielectric Strength	272 kV/mm	6910 kV/in	
Dissipation Factor	0.0015	0.0015	

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