

Polyimide FEP Film (F46 Film)

Property

Polyimide FEP Film is FEP fluoropolymer resin-coated polyimide film developed for high temperature applications where heat sealability or improved moisture and chemical resistance are required. Polyimide FEP Film is an FEP coated/laminated polyimide exhibiting an excellent balance of physical, electrical, moisture, and chemical resistance properties. Polyimide Film maintains the unique balance of properties exhibited by Polyimide Film. The backing film could be adopt by casting PI film or BOPI film based on different application and usage, the FEP coated for single side or both sides.

Application

- * Wrapping of cable ,Electric magnetic wire
- * Motor slot liners, transformer(capacitor) interlayer insulation

Specification

Table 1 Kinds Of Polyimide FEP Film

Type No.	FEP Mil(μm)	PI Mil(μm)	FEP Mil(μm)	Total Thickness Mil(μm)	KAPTON Type No.
CON-100FHF	0.15(5.0)	1(25.4)	0.15(5.0)	1.3(33.0)	120FN616B
CON-150FH		1(25.4)	0.5(12.7)	1.5(38.1)	150FN019
CON-200FHF	0.5(12.7)	1(25.4)	0.5(12.7)	2.0(50.8)	200FN919
CON-250FH		2(50.8)	0.5(12.7)	2.5(63.5)	250FN029
CON-300FHF	0.5(12.7)	2(50.8)	0.5(12.7)	3.0(76.2)	300FN929
CON-350FH		3(76.2)	0.5(12.7)	3.5(88.9)	
CON-400FHF	0.5(12.7)	3(76.2)	0.5(12.7)	5.0(127.0)	



Table 2 Specifications And Measure Tolerance

Type No.	Thickness Mil(μm)	Thickness Tolerance Mil(μm)		Width Range inch(mm)		Unit Weight (g/m^2)		Area Factor (m^2/kg)
		Min.	Max.	Min.	Max.	Min.	Max.	
CON-100FHF	1.3(33.0)	1.2(10.7)	1.5(14.7)	1/8(3)	20.5(520)	47	54	18.8
CON-150FH	1.5(38.1)	1.25(22.9)	1.75(27.9)	1/8(3)	20.5(520)	53	74	15.8
CON-200FHF	2.0(50.8)	1.7(46.7)	2.3(54.9)	3/16(4.8)	20.5(520)	77	104	11.1
CON-250FH	2.5(63.5)	2.25(57.2)	2.75(69.9)	3/16(4.8)	20.5(520)	87	113	10.0
CON-300FHF	3.0(76.2)	2.6(66.0)	3.4(86.4)	3/16(4.8)	20.5(520)	111	142	8.0
CON-350FH	3.5(88.9)	3.2(81.3)	3.8(96.5)	3/16(4.8)	20.5(520)	121	149	7.4
CON-400FHF	5.0(127.0)	4.5(114.3)	5.5(139.7)	3/16(4.8)	20.5(520)	145	178	6.2

Table 3 Mechanical Properties

Items		Units	CON-100 FHF	CON-150 FH	CON-200 FHF	CON-250 FH	CON-300 FHF	CON-350 FH	CON-400 FHF
Tensile Strength (min)	MD	Psi (Mpa)	17000 (120)	16000 (110)	16000 (110)	17000 (120)	16000 (110)	16000 (110)	16000 (110)
	TD		14000 (100)	13000 (90)	13000 (90)	14000 (100)	14000 (100)	13000 (90)	13000 (90)
Elongation at Rupture (min)		%	60	60	60	60	60	60	70
Moisture Absorption (max)		%	3.8	3.8	3.0	3.0	3.0	3.0	3.0

Table 4 Electric Properties

Items	Units	CON-100FHF	CON-150FH	CON-200FHF	CON-250FH	CON-300FHF	CON-350FH	CON-400FHF
Breakdown Strength (min)	V/mil (KV/mm)	3500 (140)	3300 (130)	3000 (120)	3300 (130)	3000 (120)	3300 (130)	3000 (120)
Volume Resistance At 200°C (min)	Ω.cm	10 ¹²	10 ¹²	10 ¹²	10 ¹²	10 ¹²	10 ¹²	10 ¹²
Surface Resistivity At 200°C (min)	Ω	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³
Dielectric Constant At 50Hz 20°C	-----	2-4	2-4	2-4	2-4	2-4	2-4	2-4
Dielectric Dissipation Factor (max)	-----	0.004	0.004	0.004	0.004	0.004	0.004	0.004

Heat Seal Strength of Polyimide FEP Film

between uncoated side and coated side: 450 g/in (1.7 N/cm) min

between coated side and coated side: 600 g/in (2.3 N/cm) min

Bond(peel) strength of Polyimide FEP Film

The bond(peel) strength between FEP and polyimide film: 200 g/in (0.77 N/cm) min