

VESTAKEEP® Film 0FH80

Polyetheretherketone
Evonik Industries AG

Message:

VESTAKEEP® film 0FH80 is based on 100% unreinforced polyether ether ketone (PEEK). The film is semi-crystalline. VESTAKEEP® films feature a unique combination of superior thermal and chemical resistance, excellent abrasion resistance and low coefficient of friction, good electrical properties, low flammability and low weight. The films excel in applications like electrical insulation, anti-wear tapes, protective housings, ultra-resistant oxygen and moisture barriers, membranes in hot and moist ambient conditions (heat exchangers).

General Information			
Features	Electrically Insulating		
	Flame Retardant		
	Food Contact Acceptable		
	Good Abrasion Resistance		
	Good Chemical Resistance		
	Good Electrical Properties		
	Good Impact Resistance		
	Good Toughness		
	Halogen Free		
	Low Friction		
	Low to No Water Absorption		
	Moisture Barrier		
	Oxygen Barrier		
	Recyclable Material		
	Semi Crystalline		
Uses	Electronic Insulation		
	Housings		
	Membranes		
	Tape		
RoHS Compliance	RoHS Compliant		
Forms	Film		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.30	g/cm³	ISO 1183
Dimensional Stability			ASTM D1042
Across Flow, 150°C	0.0	%	
Across Flow, 220°C	-0.20 to 0.0	%	
Flow, 150°C	0.0	%	

Flow, 220°C	0.50 to 1.0	%	
Water Absorption (Saturation, 23°C)	0.50	%	ISO 62
Films	Nominal Value	Unit	Test Method
Tensile Stress			ISO 527-3/100
Yield, 50 µm	85.0	MPa	
Yield, 75 µm	90.0	MPa	
Yield, 100 µm	90.0	MPa	
Yield, 130 µm	90.0	MPa	
50 µm	130	MPa	
75 µm	115	MPa	
100 µm	110	MPa	
130 µm	105	MPa	
Tensile Elongation			ISO 527-3/100
Break, 50 µm	110	%	
Break, 75 µm	> 150	%	
Break, 100 µm	> 150	%	
Break, 130 µm	> 150	%	
Oxygen Transmission Rate (23°C, 50% RH, 25 µm)	390	cm ³ /m ² /24 hr	ISO 15105-2
Water Vapor Transmission Rate (38°C, 90% RH, 25 µm)	360	g/m ² /24 hr	ASTM F1249
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature			
--	335	°C	ISO 306/A
--	305	°C	ISO 306/B
Melting Temperature ¹	340	°C	DSC
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms · cm	IEC 60093
Electric Strength			IEC 60243-1
0.0250 mm ²	250	kV/mm	
0.0500 mm ³	360	kV/mm	
0.0500 mm ⁴	190	kV/mm	
0.0750 mm ⁵	320	kV/mm	
0.0750 mm ⁶	170	kV/mm	
0.100 mm ⁷	270	kV/mm	
0.125 mm ⁸	120	kV/mm	
0.190 mm ⁹	100	kV/mm	
Relative Permittivity			IEC 60250
50 Hz	2.80		
1 kHz	2.90		
1 MHz	2.80		
Dissipation Factor			IEC 60250

1 kHz	3.0E-3		
1 MHz	5.0E-3		
Comparative Tracking Index			IEC 60112
--	200	V	
Solution A ¹⁰	175	V	
Surface Resistance	1.0E+14	ohms	IEC 60093
Volume Resistance	1.0E+14	ohms	IEC 60093
Breakdown Voltage			EN 60243-1
25.0 µm ¹¹	6300	V	
50.0 µm ¹²	10000	V	
50.0 µm ¹³	18000	V	
75.0 µm ¹⁴	13000	V	
75.0 µm ¹⁵	24000	V	
100.0 µm ¹⁶	27000	V	
125.0 µm ¹⁷	16000	V	
190.0 µm ¹⁸	20000	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.0500 mm	VTM-1		
	VTM-1		
0.125 mm	VTM-0		
Oxygen Index ¹⁹	38	%	ISO 4589-2
NOTE			
1.	2nd Heating		
2.	1/4" electrode AC 60Hz		
3.	DC		
4.	1/4" electrode AC 60Hz		
5.	DC		
6.	1/4" electrode AC 60Hz		
7.	DC		
8.	1/4" electrode AC 60Hz		
9.	1/4" electrode AC 60Hz		
10.	100 drops value		
11.	1/4" electrode AC 60Hz		
12.	1/4" electrode AC 60Hz		
13.	DC		
14.	1/4" electrode AC 60Hz		
15.	DC		
16.	DC		
17.	1/4" electrode AC 60Hz		

18.	1/4" electrode AC 60Hz
19.	3.2 mm

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