Ajedium™ Films -- Solef® PVDF 9009

polyvinylidene fluoride

Solef® 9009 PVDF homopolymer is a semi-crysalline fluoropolymer. Solef® film is chemically inert to most acids, aliphatic and aromatic organic compounds, chlorinated solvents and alcohols.

Solef® PVDF flim has a very high purity, abrasion resistance comparable to that of polyamides and relatively low coefficient of friction. These films can be used in a wide range of temperatures and have excellent intrinsic fire resistance.

Solef® PVDF films have demonstrated excellent weathering properties and are extremely resistant to UV radiation and common industrial and environmental pollutants.

Solef® PVDF films can be used in a wide range of applications, including release films, filters, chemical resistance lining, outdoor UV resistant needs as well as electric and electronic applications.

General		
Material Status	• Commercial: Active	
Availability	• Asia Pacific • Europe	• Latin America • North America
Features	• Homopolymer	
Appearance	• Translucent	

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.75 to 1.80		ASTM D792
Water Absorption (24 hr, 23°C)	< 0.040	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Coefficient of Friction			ASTM D1894
vs. Itself - Dynamic	0.15 to 0.35		
vs. Itself - Static	0.20 to 0.40		
Taber Abrasion Resistance			ASTM D4060
1000 Cycles, 1000 g, CS-10 Wheel	5.00 to 10.0	mg	
Tear Resistance - MD	8.9	cN	ASTM D1004

Films	Typical Value	Unit	Test method
Film Thickness - Tested			
--	25	µm	
-- [1]	50	µm	
-- [2]	130	µm	
Secant Modulus			ASTM D882
MD	2000	MPa	
TD	2100	MPa	

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Films	Typical Value	Unit	Test method
Tensile Strength			ASTM D882
MD : Yield	55.0	MPa	
TD : Yield	56.0	MPa	
MD : Break	57.0	MPa	
TD : Break	54.0	MPa	
Tensile Elongation			ASTM D882
MD : Yield	6.0	%	
TD : Yield	6.2	%	
MD : Break	200	%	
TD : Break	250	%	
Dart Drop Impact	< 360	g	ASTM D1709B
Free Shrinkage (130°C)	0.70	%	ASTM D2732
Area Factor	108	$ft^2/lb/mil$	
Tear Propagation Resistance - MD	350	gf	ASTM D1922

Thermal	Typical Value	Unit	Test method
Glass Transition Temperature	-40.0	°C	ASTM D4065
Melting Temperature	162 to 168	°C	ASTM D3418
Peak Crystallization Temperature (DSC)	133 to 140	°C	ASTM D3418
CLTE - Flow	1.4E-4	cm/cm/°C	ASTM D696
Specific Heat (100°C)	1600	J/kg/°C	ASTM C351
Thermal Conductivity	0.20	W/m/K	ASTM C177

Electrical	Typical Value	Unit	Test method
Surface Resistivity	> 1.0E+14	ohms	ASTM D257
Volume Resistivity	> 1.0E+14	ohms·cm	ASTM D257
Dielectric Strength (23°C, 1.00 mm)	20 to 25	kV/mm	ASTM D149
Dielectric Constant	7.50		ASTM D150

Flammability	Typical Value	Unit	Test method
Oxygen Index (3.00 mm)	44	%	ASTM D2863

Additional Information

Standard Thicknesses and Widths

- Widths are available from 22" (559 mm) to 56" (1422 mm).
- Products with widths <22 inches or >56 inches are available upon request.
- Tolerances for widths are +/- 4mm.
- For PVDF film, the standard thicknesses are 25 microns (1 mil) to 1016 microns (40 mil).

Surface Finishes

- Standard surface finish is P/M (polished / matte).
- Custom finishes of P/P (polished / polished) and M/M (matte / matte) are available.

Packaging

- Film is supplied in a roll form of high quality, cardboard core of 3" (76mm) or 6" (152mm).
- PVC cores are available upon request in 3" and 6" sizes.

Labeling

- Products are labeled to comply with national and international standards.
- Labels include product grade, unique batch number, roll length, roll width, product thickness, and net weight.

Notes

Typical properties: these are not to be construed as specifications.

[1] Impact properties

[2] Tear properties

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