

PFA Film

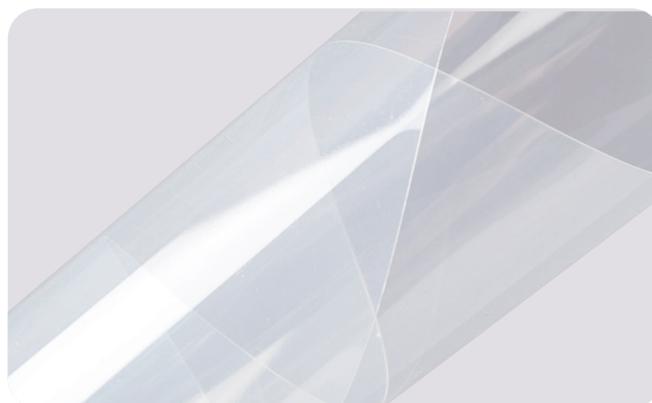
Flonfilm™ 600

FLONFILM™ 600 PFA film is manufactured from PerFluoroAlkoxy resin and offers the highest continuous use temperature (260°C/500°F) of any melt processible fluoropolymer.

PFA film exhibits many of the performance characteristics of PTFE in a clear, transparent form but can be heat sealed & thermoformed, metalized or laminated to a wide variety of materials. PFA film has a combination of excellent dielectric properties across a wide temperature and frequency range, the highest level of chemical & stress crack resistance together with excellent clarity and good weatherability.

Applications

Polyflon offers one universal grade of FLONFILM™ 600 PFA film to service applications that require high flex life and stress crack resistance such as thin film diaphragms for all kinds of chemical pumps and thermoformed flat products designed for extremely harsh environments. The combination of chemical resistance and high temperature performance over a wide frequency range make PFA film an ideal component in circuit board fabrication and flat cable insulation applications. The high temperature performance and non-wetting surface of PFA film also make it an ideal material for use as a high temperature release film for composite manufacturers.



Key features

-  Working temperature range from -254°C (-425 °F) to 260°C (500 °F)
-  High degree of transparency
-  Excellent weatherability
-  Excellent chemical resistance
-  Outstanding flex life and stress crack resistance
-  Can be easily thermoformed, welded or laminated
-  No voids or pinholes – low permeability
-  Outstanding insulator

PFA Film Typical Physical Properties*

Typical Properties	Test Method	Value	Units
General			
Specific Gravity	ASTM D-792	2.12-2.18	
Yield (1 mil)		18(90)	m ² /kg (ft ² /lb)
Water Absorption, 24 hr.		<0.01	%
Mechanical			
Tensile Strength @ Break (RT)	ASTM D-882	21(2250)	MPa (psi)
Elongation @ Break (RT)	ASTM D-882	300	%
Tensile Modulus (RT)	ASTM D-882	480(70000)	MPa (psi)
Initial Tear Strength, 2 mil	ASTM D-1004	4.9-5.3(1.1-1.2)	N(lb _f)
Propagation Tear Strength, 2 mil	ASTM D-1922	2.4-2.7 (0.55-0.60)	N(lb _f)
Fold Endurance (M.I.T)	ASTM D-2176	>600000	cycles
Electrical			
Dielectric Strength, 1 mil	ASTM D-149	185(4700)	kV/mm (V/mil)
Dielectric Constant, 1 kHz	ASTM D-150	2.1	
Dissipation Factor, 1 kHz	ASTM D-150	0.0005	
Thermal			
Melt Point	ASTM D-3418	302-310(575-590)	C (F)
Continuous Service Temperature		260 (500)	C (F)
Specific Heat		1172(.28)	J/(kg·°K) (BTU/(lb·°F))
Coefficient of Thermal Conductivity	ASTM D-2863	0.195(1.35)	W/(m·°K) BTU-in/(hr·ft ² ·°F)
Coefficient of Linear Thermal Expansion	ASTM D-696	9.9x10 ⁻⁵ (5.5x10 ⁻⁵)	Mm/(mm·°C) (in/(in·°F))
Flammability	UL-94	V-0	
Limiting Oxygen Index	ASTM D-2863	95	%
Optical			
Refractive Index	ASTM D-542	1.35	
Solar Transmission	ASTM E-424	96	%

* Represent typical performance properties and should not be used for specification purposes

Availability of PFA Film

Polyflon offers PFA film in semi-finished form on standard rolls or converted into finish cut, thermoformed or punched parts.

Thickness		Std Roll Length
mm	inches	meters
0.0127	0.0005	362
0.0254	0.001	181
0.0508	0.002	90
0.0762	0.003	60
0.127	0.005	36
0.1905	0.0075	24
0.254	0.010	18
0.3556	0.014	13
0.508	0.020	9

Standard roll width: 1220mm (48") @ 12kg.

Slit widths from 12.7mm (1/2") up to max width 1625mm (64").

Available pigmented/perforated for release applications.