

Polyethersulfone (PES) films Data Sheet

Polyethersulfone (PES) is an amorphous thermoplastic material that combines excellent thermal stability, high strength and toughness, excellent hydrolytic stability, transparency, and good resistance to environmental stress cracking.

Polyethersulfone exhibits as well good chemical resistance together with a high heat deflection temperature of 399°F (204°C). It also shows excellent electrical properties, retained even in a high-temperature range.

Moreover, the coefficient of linear expansion remains constant at temperatures of up to nearly 200°C, making films suitable for applications where very low shrink at high temperatures are needed.

This material is also inherently flame retardant for use in electronic components and testing devices.

PES films are widely used in different applications including electrical/electronic, Automotive fuel systems, thermoformable composites and flexible printed circuits.

MANUFACTURING

PES films are extruded by Ajedium in a wide range of thicknesses, widths and lengths.

For further information on Polyethersulfone films produced by Ajedium Films, a division of Solvay Solexis, Inc. contact your Solvay Solexis representative or go to www.ajedium.com.

AJEDIUM PES FILM

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PES FILMS TYPICAL PROPERTIES*

	Test Method	Typical Values			
		SI Units		US Customary Units	
Physical and Thermal Properties					
Glass Transition Temperature	ASTM D-3418	220 °C		428 °F	
Water Absorption @ 50°C (122°F), 75%RH, 24 hrs	ASTM D-570	0.5 %		0.5 %	
Yield	internal	737 m ² /kg/μm		20,408 in ² /lb/mil	
Mechanical Properties					
		MD	TD	MD	TD
Stress at Yield @ 23 °C (73 °F)	ASTM D-882	71 MPa	72 MPa	10,300 psi	10,400 psi
Elongation at Yield @ 23 °C (73 °F)	ASTM D-882	7.7 %	7.5 %	7.7 %	7.5 %
Stress at Break @ 23 °C (73 °F)	ASTM D-882	66 MPa	65.5 MPa	9,600 psi	9,500 psi
Elongation at Break @ 23 °C (73 °F)	ASTM D-882	133 %	139 %	133%	139%
Modulus @ 23 °C (73 °F)	ASTM D-882	2,096 MPa	2,089 MPa	304 kpsi	303 kpsi
Dart impact	ASTM D-1709	385 g		0.85 lb	
Tear Propagation	ASTM D-1922	30 gforce	29 gforce	0.066 lbf	0.064 lbf
Tear Resistance	ASTM D-1004	1,680 gforce	1,780 gforce	3.71 lbf	3.92 lbf
Electrical Properties					
Dielectric Strength	ASTM D-149			4,670 V/mil	

* Reported values were measured on a 50μm thick film

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