

Polysulfone (PSU) films Data Sheet

Polysulfones (PSU) are tough, rigid, high-strength thermoplastics that are suitable for continuous use up to 300°F (149°C).

The resins are resistant to oxidation and hydrolysis and withstand prolonged exposure to high temperatures and repeated sterilization. Polysulfones are highly resistant to mineral acids, alkali and salt solutions.

Their resistance to detergents and hydrocarbon oils is good, but they will be attacked by polar solvents such as ketones, chlorinated hydrocarbons, and aromatic hydrocarbons.

PSU's are also highly resistant to degradation by gamma or electron beam radiation. Electrical properties of polysulfones are stable over a wide temperature range and after immersion in water or exposure to high humidity.

Applications of PSU films are mainly in electronics, CPI and automotive.

MANUFACTURING

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

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

AJEDIUM PSU FILM

Ajedium Films, division of Solvay Solexis, Inc.
 100 Interchange Blvd. Newark, DE 19711
 Tel: +1-302-452-6609
 Fax: +1-302-452-6610
 Email: kathleen.cerchio@solvay.com

PSU FILMS TYPICAL PROPERTIES*

	Test Method	Typical Values	
		SI Units	US Customary Units
Physical and Thermal Properties			
Glass Transition Temperature	ASTM D-3418	190 °C	374 °F
Water Absorption @ 50°C (122°F), 75%RH, 24 hrs	ASTM D-570	0.3 %	0.3 %
Yield	internal	753 m ² /kg/μm	20,833 in ² /lb/mil
Mechanical Properties		MD TD	MD TD
Stress at Yield @ 23 °C (73 °F)	ASTM D-882	68 MPa 63 MPa	9,900 psi 9,200 psi
Elongation at Yield @ 23 °C (73 °F)	ASTM D-882	5 % 5 %	5 % 5 %
Stress at Break @ 23 °C (73 °F)	ASTM D-882	59 MPa 57 MPa	8,500 psi 8,200 psi
Elongation at Break @ 23 °C (73 °F)	ASTM D-882	55 % 35 %	55% 35%
Modulus @ 23 °C (73 °F)	ASTM D-882	2310 MPa 2340 MPa	335 kpsi 340 kpsi
Dart impact	ASTM D-1709	399 g	0.88 lb
Tear Propagation	ASTM D-1922	12 gforce 12 gforce	0.026 lf 0.026 lbf
Tear Resistance	ASTM D-1004	960 gforce 970 gforce	2.13 lbf 2.14 lbf
Electrical Properties			
Dielectric Strength	ASTM D-149		3,200 V/mil

* Reported values were measured on a 30μm thick film

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