



## PES Film (polyethersulfone)

PES film possesses a combination of properties such as high resistance to heat and combustibility, low smoke emission and transparency. These coupled with light weight, high tear initiation and propagation strength, dimensional stability, chemical resistance and thermoformability make the film particularly useful in electrical, aerospace, automotive, and mass transit industries. The following physical property information is based on typical values of the base Ultrason® E resin as well as test results obtained from actual film testing.

**Applications Include:**

- Liquid crystal displays
- Radomes
- Magnet wire insulation
- Hot melt adhesives
- Flex circuitry
- High temperature labels

**Advantages of PES Film:**

- High heat deflection and continuous use temperature
- Exceptional tensile and flexural strength
- High dielectric strength
- Exceptional mechanical properties
- Dimensionally stable at varying temperatures
- Transparency
- Hydrolytically stable

**Manufacturing Capabilities:**

Thicknesses and Widths:  
 .001" to .010" up to 27" wide  
 .011" to .029" up to 26" wide

**Finishes:**

all thicknesses available  
 polished one side, matte the other (P/ M)

\*In addition to our standard capabilities, Westlake also has the ability to process custom resins in various sizes and colors with some exceptions.

	Units	ASTM Test	Result
<b>Mechanical</b>			
Tensile Strength @yield	psi	D882	10,500
Elongation @break	%	D882	52
Tensile Modulus	psi	D882	—
Flexural Modulus	psi	D790	370,000
Tear Strength - prop.	g/mil	D1004	96
<b>Thermal</b>			
Continuous Use Temp.—UL	°F	—	356
Heat Deflection Temperature @264 psi	°F	D648	383
Melt Temp.—DSC	°F	—	—
Glass Transition Temp.	°F	D3418	437
<b>Flammability</b>			
UL Rating—UL94	—	—	—
L.O.I.	%	D2863	38
NBS Smoke	Dmax	E662	—
<b>Electrical</b>			
Surface Resistivity	Ohms	D257	>10 <sup>14</sup>
Dielectric Strength @.004"	V/mil	D149	4,600
Dielectric Constant	1 KHz	D150	3.5
Dissipation Factor	1 KHz	D150	0.011
<b>Other</b>			
Specific Gravity	—	D792	1.37
Water Absorption	%/24 hr.	D570	0.7
Refractive Index	—	—	1.65
Haze	%	D1003	—
Area Factor	in <sup>2</sup> /lb/mil	—	20,000