



THERMALUX® FILM – POLYSULFONE

Thermalux is a tough, rigid, high-strength, amorphous thermoplastic that maintains its properties over a wide temperature range. It has good electrical properties, clarity and toughness, plus exceptional steam resistance and thermoformability. It is used widely in food service, electronics, medical devices, chemical process equipment and in the automotive industry.

The following physical property information is based on typical values of the base Udel® P-1700 resin as well as test results obtained from actual film testing.

Applications Include:

- Flex circuits
- Hot melt adhesives
- Thermoformed food trays
- High temperature labels
- Medical device windows
- Hydraulic piston components

Advantages of Thermalux Film:

- Exceptional electrical properties over varying conditions
- Excellent mechanical properties
- Good chemical resistance
- Hydrolytically stable
- Transparency
- Resin FDA compliant

Manufacturing Capabilities:

- **Film:**
.001" to .010" thick up to 27" wide
.011" to .029" thick 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.

Property	Units	Test Standard	Result
Mechanical			
Tensile Strength @yield	psi	ASTM D882	10,600
Tensile Elongation @break	%	ASTM D882	110
Tensile Modulus	psi	ASTM D882	360,000
Flexural Modulus	psi	ASTM D790	390,000
Tear Strength - prop.	g/mil	ASTM D1004	16
Thermal			
Continuous Use Temperature—UL	°F	—	302
Heat Deflection Temperature @264 psi	°F	ASTM D648	345
Melt Temperature—DSC	°F	—	—
Glass Transition Temperature	°F	ASTM D3418	374
Flammability			
UL Rating—UL94	—	—	HB
LOI	%	ASTM D2863	30
NBS Smoke	Dmax	ASTM E662	—
Electrical			
Surface Resistivity	Ohms	ASTM D257	3.0x10 ¹⁶
Dielectric Strength @.004"	V/mil	ASTM D149	2,400
Dielectric Constant	1 KHz	ASTM D150	3.14
Dissipation Factor	1 KHz	ASTM D150	1.3 x 10 ⁻³
Other			
Specific Gravity	—	ASTM D792	1.24
Water Absorption @24 hours	%	ASTM D570	0.3
Refractive Index	—	—	1.633
Haze	%	ASTM D1003	0.6
Area Factor	in ² /lb/mil	—	22,360