



## PES POLYETHERSULFONE

High resistance to heat and combustibility, low smoke emission and transparency are the combination of properties possessed by stock shapes extruded from PES. These coupled with light weight, good impact resistance, dimensional stability and chemical resistance make stock shapes extruded from PES resin useful in the electrical/electronics, aerospace/aircraft, automotive and mass transit industries. PES stock shapes are also applicable for heat and fire safety, food service and hospital and health care applications.

The following physical property information is based on typical values of the base polyethersulfone resin.

### Applications Include:

- Printed circuits
- High intensity light bases
- Safety face shields
- Machine guards
- Connectors

### Advantages of PES:

- Low smoke generation
- Excellent electrical properties at elevated temperatures
- Transparency
- Excellent chemical resistance
- Easily machined
- High dielectric strength

### Manufacturing Capabilities:

- **Rod:** 1/4" to 6" dia.
- **Sheet:** .035" to 1/4" thick
- **Slab:** 3/8" to 4" thick
- **Film:** .002" to .029" thick

### Colors/Grades:

- Transparent

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
<b>Mechanical</b>			
Tensile Strength @yield	psi	ASTM D638	12,000
Tensile Modulus	psi	ASTM D638	385,000
Tensile Elongation @yield	%	ASTM D638	6.5
Tensile Elongation @break	%	ASTM D638	25-75
Flexural Strength @yield	psi	ASTM D790	16,100
Flexural Modulus	psi	ASTM D790	420,000
Compressive Strength @yield	psi	ASTM D695	14,500
Compressive Modulus	psi	ASTM D695	388,000
Izod Impact Strength			
Un-Notched	ft•lbs/in	ASTM D256	No Break
Notched @73°	ft•lbs/in	ASTM D256	1.6
Hardness	R Scale	ASTM D785	R127
<b>Thermal</b>			
Heat Deflection Temperature			
@66psi	°F	ASTM D648	417
@264psi	°F	ASTM D648	399
Coefficient of Thermal Expansion	in/in/°F	ASTM D696	2.7x10 <sup>-5</sup>
Flammability Rating @.031"	—	UL94	V-0
Thermal Conductivity	(BTU•in)/(hr•ft <sup>2</sup> •°F)	ASTM E1530	1.66
Limiting Oxygen Index	%	ASTM D2863	39.3
<b>Electrical</b>			
Dielectric Strength	V/mil	ASTM D149	380
Dielectric Constant @1kHz	—	ASTM D150	3.50 2.7x10 <sup>-5</sup>
Dissipation Factor @1kHz	—	ASTM D150	0.0022
Volume Resistivity	ohm•cm	ASTM D257	1.7x10 <sup>15</sup>
<b>Other</b>			
Specific Gravity	—	ASTM D792	1.37
Water Absorption @24 hours	%	ASTM D570	0.50