



## ZELUX® M POLYCARBONATE

Zelux M polycarbonate is an engineering plastic with excellent dimensional stability and good strength and stiffness over a wide range of service temperatures. Zelux is often used for structural applications when clarity and impact strength are essential including lenses, manifolds, site glasses, and machine guards. Zelux is used for a wide variety of electrical applications since it has low moisture absorption, good insulating properties, and an excellent flammability rating. Zelux is easy to fabricate, paint, and glue. Extruded Zelux M is made from FDA compliant resin. Compression molded Zelux M sheet is formulated with UV stabilizers to enhance its resistance to yellowing and property loss when exposed to UV radiation.

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

### Applications Include:

- Viewing windows
- Impact shields
- Fluid handling components
- Manifolds
- Housings and covers

### Advantages of Zelux M:

- Excellent impact resistance
- Excellent dimensional stability
- Low moisture absorption
- Easy to machine
- Good strength and stiffness over a wide range of service temperatures
- Good electrical insulating properties
- Easy to fabricate, paint and glue
- Excellent flammability rating

### Manufacturing Capabilities:

- Rod:** 1/8" to 15" dia.
- Sheet:** 3/8" to 6" thick

### Colors/Grades:

- Zelux M - stress relieved machine grade (natural and black)
- Glass-filled (10%, 20%, 30% and 40% (black)

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	Zelux M (extruded rod)	Zelux M (compression molded sheet)
<b>Mechanical</b>				
Flexural Modulus	psi	ASTM D790	338,000	328,000
Flexural Strength @yield	psi	ASTM D790	14,100	13,100
Hardness Rockwell M Rockwell R	M Scale R Scale	ASTM D785	70 118	77 —
Izod Impact Strength Notched	ft•lbs/in	ASTM D256	17.0	17.0
Tensile Elongation @break @yield	% %	ASTM D638 ASTM D638	140 7.0	140 6
Tensile Strength @break @yield	psi psi	ASTM D638 ASTM D638	9,860 8,990	11,600 8,990
<b>Thermal</b>				
Coefficient of Thermal Expansion	in/in/°F	ASTM D696	3.8x10 <sup>-5</sup>	3.8x10 <sup>-5</sup>
Flammability Rating @11.5mm	—	UL94	V-0	V-0
Heat Deflection Temperature @66 psi @264 psi	°F °F	ASTM D648 ASTM D648	275 255	288 268
Thermal Conductivity	(BTU•in)/(hr•ft <sup>2</sup> •°F)	ASTM C177	1.3	—
<b>Electrical</b>				
Dielectric Constant @60Hz @1MHz	— —	ASTM D150 ASTM D150	3.17 2.96	2.95 2.90
Dielectric Strength	V/mil	ASTM D149	380	760
Volume Resistivity	ohm•cm	ASTM D257	>1.0x10 <sup>17</sup>	>1.0x10 <sup>17</sup>
<b>Optical</b>				
Haze	%	ASTM D1003	1.0	0.5-2.0
<b>Other</b>				
Specific Gravity	—	ASTM D792	1.20	1.20
Water Absorption @24 hours @Equilibrium	% %	ASTM D570 ASTM D570	0.15 0.35	0.2 —