

# Zelux® W

Polycarbonate  
Westlake Plastics Company

## Message:

Zelux 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.

### Applications Include:

- Site glasses
- Viewing windows
- Impact shields
- Fluid handling components
- Manifolds
- Scientific and analytical instrument components

### Electrical components

### Housings and covers

### Advantages of Zelux®

- Optical clarity (window grade)
- 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

General Information	
UL YellowCard	E240206-230530
Features	Electrically Insulating
	Flame Retardant
	Good Dimensional Stability
	Good Stiffness
	Good Strength
	High Impact Resistance
	Low Moisture Absorption
	Machinable
	Medium Clarity
	Paintable
Uses	Electrical Parts
	Electrical/Electronic Applications
	Housings
	Lenses
	Optical Applications
	Protective Coverings
	Structural Parts

Appearance	Clear/Transparent		
Forms	Film		
	Rod		
	Sheet		

  

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm <sup>3</sup>	ASTM D792
Water Absorption			ASTM D570
24 hr	0.15	%	
Equilibrium	0.35	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70 to 78		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D638
Yield	57.9	MPa	
Break	65.5	MPa	
Tensile Elongation			ASTM D638
Yield	7.0	%	
Break	110	%	
Flexural Modulus	2340	MPa	ASTM D790
Flexural Strength (Yield)	93.1	MPa	ASTM D790
Compressive Strength	86.2	MPa	ASTM D695
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (3.18 mm)	No Break		ASTM D256
Notched Izod Impact	850	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	138	°C	
1.8 MPa, Unannealed	135	°C	
CLTE - Flow	6.8E-5	cm/cm/°C	ASTM D696
Thermal Conductivity	0.19	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+17	ohms · cm	ASTM D257
Dielectric Strength	15	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	2.90		
1 MHz	2.90		
Flammability	Nominal Value	Unit	Test Method

Flame Rating (11.5 mm)	V-0		UL 94
Optical	Nominal Value	Unit	Test Method
Haze	0.50 to 2.0	%	ASTM D1003

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