

## Data Sheet

# IUPILON E-2000U (UV Stabilized)

### Description

IUPILON E-2000U is an unreinforced, medium-high viscosity, weather-resistant, extrusion and injection molding purpose Polycarbonate developed for applications requiring good mechanical strength and excellent processability.

### Properties

IUPILON E-2000U offers excellent mechanical and electrical properties in a wide temperature range. It also exhibits high fluidity and easy mold releasability, which enables fast cycle molding. It also shows excellent weather-resistance, which is essential to the application used outdoors.

<u>Property</u>	<u>Test Method</u>	<u>Unit</u>	<u>Value</u>
Specific Gravity	D-792		1.2
Tensile Strength	D-638	MPa	59-69
Tensile Elongation	D-638	MPa	90-140
Flexural Strength	D-790	MPa	80-90
Flexural Modulus	D-790	GPa	2.3
Notched Izod Impact(1/8 inch, notched)	D-256	J/m	740-1000
Heat Deflection Temperature 455MPa 1820MPa	D-648	C	136-142 130-136
Dielectric Constant @1MHz	D-150	pF/m	25
Dissipation Factor @1MHz	D-150		0.008
Dielectric Strength	D-149	MV/m	18-22
Volume Resistance	D-257	$\Omega$ cm	$2 \times 10^{16}$
Flammability(1/16 inch)	UL94		HB
Mold Shrinkage 3mm Thickness 100mm $\phi$ disk	M.D. T.D.	%	0.5-0.8 0.5-0.8
Coefficient of Linear Thermal Expansion(68-176 ° F)	D-696	$1^{-5}K^{-1}$	6-7
Rockwell Hardness	D-785		R122-124
MI Value (300°C x 1.2 kg)	ISO	g/10 min	3-5

These values are for natural color only. Colorants or other additives may alter some or all of these properties. The data listed here fall within the normal range of product properties, but they should not be used to establish specification limits nor used alone as the basis of design.

# IUPILON E-2000U

## Applications

IUPILON E-2000U was developed for applications requiring high impact strength, durability and good weather resistance with an excellent balance of strength, stiffness, dimensional stability and moldability. It is especially suitable for such application as outdoor lighting covers, sporting goods and greenhouse windows.

## Processing Guidelines

### **Drying of Resin**

Polycarbonate suffers a loss in mechanical properties during processing from even a small amount of moisture, so that it is absolutely necessary to remove moisture from pellets before molding. The following time and temperature are recommended.

120C (248F)                      4 - 6 hr.

### **Melt Temperature**

IUPILON E-2000U is processed in the temperature range of 280-300C (536-572 F) for most applications.

### **Typical Temperature Profile**

Rear Zone	260 - 270 C	500 - 518 F
Center Zone	270 - 280 C	518 - 536 F
Front Zone	280 - 290 C	536 - 554 F
Nozzle	280 - 300 C	536 - 572 F

### **Mold Temperature**

IUPILON E-2000U can be processed over a wide range of mold temperatures, however, a mold surface temperature of 80-100C (140-212F) is recommended.

### **Pressures**

Injection and packing pressures are generally within the limits of 500 - 1500 MPa. To decrease residual stress of molded parts, lower injection pressure is recommended in most cases. Injection pressure controls the filling of the part and should be applied for 90% of ram travel. Packing pressure affects the final dimensions and can be effectively used in controlling sink marks and warpage caused by differential shrinkage. It should be applied and maintained until the gate area is completely frozen off.

### **Fill Rate**

First fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing. The fast fill enables the potential mechanical defect at weld lines minimum.

### **Regrind**

Recommended regrind levels are no more than 20 - 30%. Higher levels may affect part performance.

DISCLAIMER Although all statements, information, and data given herein are believed to be accurate, they are presented without guarantee, warranty, or responsibility of any kind, expressed or implied, and risks and liability for results obtained by use of the product are assumed by the user. Statements or suggestions concerning possible use of this product are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent.

MEP America, Inc.  
420 Lexington Avenue, Suite 219  
New York, NY 10170  
Telephone: 212-687-6100  
Fax: 212-687-6110