

IUPILON® POLYCARBONATE

ENGINEERING THERMOPLASTIC

IUPILON® IS A REGISTERED TRADEMARK OF MITSUBISHI ENGINEERING PLASTICS CORPORATION

IUPILON® E1600MU

IUPILON® E1600MU is an ultra high viscosity, branched polycarbonate grade specifically designed for multi-wall sheet and profile extrusion applications. E1600MU offers an excellent balance of transparency, toughness, UV stability, flame retardency and processability.

	<u>CONDITIONS</u>	<u>UNITS</u>	<u>TYPICAL VALUES</u>	<u>TESTING METHODS</u>
<u>1. Mechanical Properties</u>				
Notched Izod Impact Strength	12.7 x 3.2 mm	J/m	800	ASTM D256
Falling Dart Impact	3.2 mm	J	85	ASTM D3029
Tensile Strength	12.7 x 3.2 mm @ 20 mm/min	MPa	65	ASTM D638
Elongation to Fail	12.7 x 3.2 mm @ 20 mm/min	%	140	ASTM D638
Flexural Strength	12.7 x 6.4 mm @ 2.8 mm/min	MPa	93	ASTM D790
Flexural Modulus	12.7 x 6.4 mm @ 2.8 mm/min	MPa	2300	ASTM D790
<u>2. Thermal Properties</u>				
Heat Deflection Temperature	12.7 x 6.4 mm @ 1.82 MPa	°C	135	ASTM D648
	12.7 x 6.4 mm @ 0.46 MPa	°C	150	ASTM D648
<u>4. Physical Properties</u>				
Melt Flow Rate	300°C, 1.20 kg	g/10 min	5.0	ASTM D1238
Specific Gravity		-	1.2	ASTM D792
Rockwell Hardness		R	123	ASTM D785
UL Flammability	1.6 mm	Rating	V-2	UL 94



TYPICAL PROCESSING CONDITIONS

IUPILON® E1600MU

The following typical guidelines are offered as initial processing conditions for **IUPILON® E1600MU**. In practice, processing parameters may need to be varied to give commercially acceptable performance in conjunction with optimum physical properties. For specific technical advice on part design or processing conditions, contact the Marplex Technical Service Department.

Temperature of pellet bed in dehumidifying drier	120 - 125 °C
Minimum drying time at desired pellet bed temp	4 - 6 hours
Cylinder temperatures	Zone 1 (Feed) 240 - 250 °C
	Zone 2 245 - 270 °C
	Zone 3 250 - 270 °C
	Zone 4 260 - 275 °C
	Zone 5 250 - 270 °C
Die Temperature Settings Adjust die temperature profile to ensure an even flow rate across the profile width	240 - 270 °C
Required stock temperature	260 - 280 °C
Back pressure	10 - 25 MPa
Screw cooling	Desirable for extre stock temperature control
Calibrator (with air) Temperatures	80 - 90 °C

Comment(s):

- 1 Cleanliness of the dryer, machine hopper and machine screw/barrel/nozzle assembly are essential for processing Iupilon® Polycarbonate and producing contamination free profile, rodstock and sheeting.
- 2 Iupilon® Polycarbonate is not compatible with other polymers.
- 3 It is suggested that the pre-drying, die head, roller and material temperatures are manually confirmed using a hand held temperature measuring device.
- 4 Excessive heat can discolour light colours of Iupilon® Polycarbonate.

Conversions: 1 MPa = 145 psi
= 10.2 kg/cm²
= 10 bar
°C = 5(°F-32)/9
1 kN/cm² = 0.65 ton/in²

