MARPLEX

Marplex Australia Pty Ltd

IUPILON® POLYCARBONATE
ENGINEERING THERMOPLASTIC

IUPILON® IS A REGISTRED TRADEMARK OF MITSUBISHI ENGINEERING PLASTICS CORPORATION

IUPILON® MB2106

IUPILON® MB2106 is an alloy of Polycarbonate (PC) and PolyEthyleneTerephalate (PET) which is suited to injection moulding applications. Offering an exceptional combination of toughness, heat resistance, chemical resistance, rigidity, UV resistance and and processability, typical applications include automotive exterior door handles, outside use electric pump housings, automotive bumper bars and electrical switch junction boxes.
Note: The letters “U” or “W” indicate UV stabilisation has been added [ie: Iupilon® MB2106-U].

	CONDITIONS	UNITS	TYPICAL VALUES	TESTING METHODS
1. Mechanical Properties				
Notched Izod Impact Strength	12.7 x 3.2 mm	J/m	850	ASTM D256
Falling Dart Impact	3.2 mm	J	>85	ASTM D3029
Tensile Strength	12.7 x 3.2 mm @ 20 mm/min	MPa	62	ASTM D638
Elongation to Fail	12.7 x 3.2 mm @ 20 mm/min	%	120	ASTM D638
Flexural Strength	12.7 x 6.4 mm @ 2.8 mm/min	MPa	88	ASTM D790
Flexural Modulus	12.7 x 6.4 mm @ 2.8 mm/min	MPa	2350	ASTM D790
2. Thermal Properties				
Heat Deflection Temperature	12.7 x 6.4 mm @ 1.82 MPa	ºC	131	ASTM D648
	12.7 x 6.4 mm @ 0.46 MPa	ºC	148	ASTM D648
Coefficient of Linear Thermal Expansion		cm/cm/℃	(5-6)exp-5	ASTM D696
3. Electrical Properties				
Surface Resistivity		Ohm	>exp15	ASTM D257
Dielectric Constant		MHz	2.10	ASTM D150
4. Physical Properties				
Melt Flow Rate	300ºC, 1.20 kg	g/10 min	14	ASTM D1238
Specific Gravity		-	1.22	ASTM D792
Rockwell Hardness		R	123	ASTM D785
UL Flammability	1.6 mm	Rating	HB	UL 94
Water Absorption	24 hours	%	0.20	ASTM D570
Total Light Transmittance	3.0 mm	%	-	ASTM D1003
Reinforcement Level		%	-	n/a
Mould Shrinkage	3.0 x Ø100 mm disc	%	0.8±0.3	ASTM D955

TYPICAL PROCESSING CONDITIONS

IUPILON® MB2106

The following typical guidelines are offered as initial processing conditions for IUPILON® MB2106
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 ºC
Minimum drying time at desired pellet bed temp		4 - 6 hours
Mould temperature		60 - 110 ºC
Nozzle temperature		Do not exceed stock temperature
Stock temperature		270 - 300 ºC
Cylinder temperatures	Rear	245 - 265 ºC
	Middle	260 - 280 ºC
	Front	275 - 295 ºC
Fill speed		Medium
Screw speed		40 - 60 rpm
Screw back pressure		0.1 - 0.5 MPa
Injection pressure		60 - 140 MPa
Clamp pressure		4 - 8 kN/cm²

Comment(s):

1 Cleanliness of the dryer, machine hopper and machine screw/barrel/nozzle assembly are essential for processing Iupilon® Polycarbonate/PET and producing contamination free profile, rodstock and sheeting.

2 Iupilon® Polycarbonate/PET 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.

Conversions:

1 MPa = 145 psi
= 10.2 kg/cm²
= 10 bar
ºC = 5(ºF-32)/9
1 kN/cm² = 0.65 ton/in²