Mitsubishi Engineering-Plastics Corp.

Iupilon™ FPR3500

Mitsubishi Engineering-Plastics Corp - Polycarbonate

General Information				
Product Description				
Flame Retardant / Phosphoric acid, Opaque, High Flowability				
General				
Additive	• Flame Retardant			
Features	• Flame Retardant	• High Flow		
Uses	• Battery Cases	• Electrical/Electronic Applications	• General Purpose	
Appearance	• Opaque			

ASTM & ISO Properties [1]			
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.19	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	18	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	17	cm³/10min	ISO 1133
Molding Shrinkage			Internal Method
Across Flow	0.30 to 0.50	%	
Flow	0.30 to 0.50	%	
Water Absorption (Saturation, 23°C)	0.24	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2500	MPa	ISO 527-1/1
Tensile Stress (Yield)	63.0	MPa	ISO 527-2/50
Tensile Strain			ISO 527-2/50
Yield	4.4	%	
Break	81	%	
Flexural Modulus [2]	2700	MPa	ISO 178
Flexural Stress [2]	98.0	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	50	kJ/m²	ISO 179
Charpy Unnotched Impact Strength (23°C)	No Break		ISO 179
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed	107	°C	ISO 75-2/B
1.8 MPa, Unannealed	97.0	°C	ISO 75-2/A
CLTE			ISO 11359-2
Flow	6.6E-5	cm/cm/°C	
Transverse	6.7E-5	cm/cm/°C	

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Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	4.0E+15	ohms	IEC 60093
Volume Resistivity	2.0E+14	ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
1.00 mm	31	kV/mm	
3.00 mm	18	kV/mm	
Dielectric Constant			IEC 60250
1 MHz	3.10		
100 MHz	3.10		
Dissipation Factor			IEC 60250
1 MHz	7.1E-3		
100 MHz	3.4E-3		
Comparative Tracking Index (CTI)	PLC 2		UL 746A

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.38 mm	V-2		
0.75 mm	V-0		
2.0 mm	5VB		

Processing Information

Injection	Nominal Value	Unit
Drying Temperature - Hot Air Dryer	80 to 90	°C
Drying Time - Hot Air Dryer	4.0 to 8.0	hr
Rear Temperature	250 to 300	°C
Middle Temperature	250 to 300	°C
Front Temperature	250 to 300	°C
Nozzle Temperature	250 to 300	°C
Mold Temperature	60 to 90	°C