

Iupilon® S-3000UR

Polycarbonate

Mitsubishi Engineering-Plastics Corp

General			
Features	- Electrically Insulating - Good Colorability - Good Dimensional Stability - Good Impact Resistance	- Good Mold Release - Good UV Resistance - Good Weather Resistance - High Clarity	- High Heat Resistance - Low Viscosity - Non-Toxic - Self Extinguishing
Uses	- Automotive Applications - Electrical/Electronic Applications	- Medical Appliances - Optical Applications	Sporting Goods
Forms	Pellets		
Processing Method	Injection Molding		

Physical	Nominal Value Unit	Test Method
Specific Gravity	1.20 g/cm ³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	16 g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	16.0 cm ³ /10min	ISO 1133
Molding Shrinkage		
Flow: 3.00 mm	0.50 to 0.80 %	ASTM D955
Across Flow: 3.00 mm	0.50 to 0.80 %	ASTM D955
Across Flow	0.50 to 0.70 %	ISO 294-4
Flow	0.50 to 0.70 %	ISO 294-4
Water Absorption		
24 hr	0.25 %	ASTM D570
23°C, 24 hr	0.24 %	ISO 62

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus	2400 MPa	ISO 527-2
Tensile Stress		
Yield	62.0 MPa	ISO 527-2
23°C	62.2 MPa	ASTM D638
Tensile Strain		
Yield	6.7 %	ISO 527-2
Break, 23°C	120 %	ASTM D638
Nominal Tensile Strain at Break	120 %	ISO 527-2
Flexural Modulus		
23°C	2300 MPa	ASTM D790
--	2300 MPa	ISO 178
Flexural Strength		
23°C	85.3 MPa	ASTM D790
--	93.0 MPa	ISO 178

Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength (23°C)	67 kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	No Break	ISO 179
Notched Izod Impact (3.20 mm)	870 J/m	ASTM D256

Hardness	Nominal Value Unit	Test Method
Rockwell Hardness		ASTM D785
M-Scale	65	
R-Scale	123	



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Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		
0.45 MPa, Unannealed	150 °C	ASTM D648
0.45 MPa, Unannealed	139 °C	ISO 75-2/B
1.8 MPa, Unannealed	136 °C	ASTM D648
1.8 MPa, Unannealed	124 °C	ISO 75-2/A
CLTE		
Flow: 20 to 80°C	0.000065 cm/cm/°C	ASTM D696
Flow	0.000065 cm/cm/°C	ISO 11359-2
Transverse	0.000066 cm/cm/°C	ISO 11359-2
Electrical	Nominal Value Unit	Test Method
Surface Resistivity		
--	1.0E+15 ohms	ASTM D257
--	6.0E+15 ohms	IEC 60093
Volume Resistivity		
--	2.1E+16 ohm·cm	ASTM D257
--	3.0E+16 ohm·cm	IEC 60093
Dielectric Strength		
--	20 kV/mm	ASTM D149
1.00 mm	31 kV/mm	IEC 60243-1
3.00 mm	18 kV/mm	IEC 60243-1
Dielectric Constant		
1 MHz	2.85	ASTM D150
100 Hz	3.10	IEC 60250
1 MHz	3.10	IEC 60250
Dissipation Factor		
1 MHz	0.0082	ASTM D150
100 Hz	0.00060	IEC 60250
1 MHz	0.0090	IEC 60250
Comparative Tracking Index	275 V	IEC 60112

Additional Information

Water Absorption, ASTM D570, 24 hr, 73°F: 0.23 - 0.26 %
Deflection Temperature Under Load, ASTM D648, 66 psi: 293 - 311°F
Deflection Temperature Under Load, ASTM D648, 264 psi: 270 - 284°F
Coefficient of Linear Thermal Expansion, ASTM D696, 68 to 176°F: 3.33 - 3.88 in³/in-°F
Tensile Strength, ASTM D638, 73°F: 8528 - 9514 psi
Tensile Elongation, ASTM D638, 73°F: 90 - 140 %
Flexural Strength, ASTM D790, 73°F: 11661 - 13082 psi
Izod Impact Strength, ASTM D256, Notched, 0.125 in: 13.9 - 18.7 ft-lb/in
Rockwell Hardness, ASTM D785, R-Scale: 122 - 124
Rockwell Hardness, ASTM D785, M-Scale: 60 - 70
Dielectric Strength, ASTM D149: 18 - 22 kV/mm
Molding Shrinkage, ISO 294-4, 3.2 mm, Flow: 0.5 to 0.7%
Molding Shrinkage, ISO 294-4, 3.2 mm, Across Flow: 0.5 to 0.7%

Injection	Nominal Value Unit
Drying Temperature	120 °C
Drying Time	4.0 to 6.0 hr
Suggested Max Regrind	30 %
Rear Temperature	260 to 270 °C
Middle Temperature	270 to 280 °C
Front Temperature	280 to 290 °C
Nozzle Temperature	280 to 300 °C
Processing (Melt) Temp	280 to 300 °C
Mold Temperature	80.0 to 100 °C
Injection Pressure	50.0 to 150 MPa
Injection Rate	Fast

