

Makrolon® GF8001

Polycarbonate

Covestro - Polycarbonates

Message:

MVR (300 °C/1.2 kg) 16 cm³/10 min; 20 % glass fiber reinforced; low viscosity; easy release; injection molding - melt temperature 310 - 330 °C; available in opaque colors only; housing parts

General Information			
UL YellowCard	E41613-101329227		
Filler / Reinforcement	Glass Fiber,20% Filler by Weight		
Features	Good Mold Release		
	Low Viscosity		
Uses	Housings		
RoHS Compliance	RoHS Compliant		
Appearance	Colors Available		
	Opaque		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.34	g/cm ³	ISO 1183
Apparent Density ¹	0.64	g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	19	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	16.0	cm ³ /10min	ISO 1133
Molding Shrinkage			
Across Flow	0.30 to 0.50	%	ISO 2577
Flow	0.30 to 0.50	%	ISO 2577
Across Flow : 2.00 mm ²	0.45	%	ISO 294-4
Flow : 2.00 mm ³	0.25	%	ISO 294-4
Water Absorption			
Saturation, 23°C	0.28	%	ISO 62
Equilibrium, 23°C, 50% RH	0.10	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	6000	MPa	ISO 527-2/1
Tensile Stress (Break, 23°C)	105	MPa	ISO 527-2/5
Tensile Strain (Break, 23°C)	3.0	%	ISO 527-2/5
Flexural Modulus ⁴ (23°C)	5800	MPa	ISO 178
Flexural Stress ⁵			ISO 178
3.5% Strain,23°C	160	MPa	
23°C	160	MPa	

Flexural Strain at Flexural Strength ⁶ (23°C)	3.5	%	ISO 178
ISO Shortname	ISO 7391-PC,MR,(,,)-18-3,GF20		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷ (23°C, Complete Break)	8.0	kJ/m ²	ISO 7391
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C, Complete Break	45	kJ/m ²	
23°C, Complete Break	50	kJ/m ²	
Multi-Axial Instrumented Impact Energy (23°C)	2.70	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force (23°C)	700	N	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	141	°C	ISO 75-2/B
1.8 MPa, Unannealed	137	°C	ISO 75-2/A
Vicat Softening Temperature	144	°C	ISO 306/B50
CLTE			ISO 11359-2
Flow : 23 to 55°C	2.6E-5	cm/cm/°C	
Transverse : 23 to 55°C	6.3E-5	cm/cm/°C	
Thermal Conductivity ⁸ (23°C)	0.23	W/m/K	ISO 8302
RTI Elec (1.50 mm)	80.0	°C	UL 746
RTI Imp (1.50 mm)	80.0	°C	UL 746
RTI Str (1.50 mm)	80.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+16	ohms·cm	IEC 60093
Electric Strength (23°C, 1.00 mm)	36	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
23°C, 100 Hz	3.30		
23°C, 1 MHz	3.30		
Dissipation Factor			IEC 60250
23°C, 100 Hz	1.0E-3		
23°C, 1 MHz	9.0E-3		
Comparative Tracking Index			IEC 60112
Solution A	175	V	
Solution B	125	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	HB		
1.00 mm, BK	V-2		
Glow Wire Flammability Index			IEC 60695-2-12
1.50 mm	960	°C	

3.00 mm	960	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
1.50 mm	850	°C	
3.00 mm	850	°C	
Oxygen Index ⁹	32	%	ISO 4589-2

NOTE

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|----|----------------------------|
| 1. | Pellets |
| 2. | 60x60x2 mm, 500 bar |
| 3. | 60x60x2 mm, 500 bar |
| 4. | 2.0 mm/min |
| 5. | 2.0 mm/min |
| 6. | 2 mm/min |
| 7. | Based on ISO 179-1eA, 3 mm |
| 8. | Cross-flow |
| 9. | Procedure A |

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