

Makrolon® FR6065

Covestro - Polycarbonates - Polycarbonate

General Information

Product Description

 MVR (300 °C/1.2 kg) 16 cm³/10 min; low viscosity; flame retardant; impact modified; easy release; injection molding; electrical/electronic; housings- and operating parts

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Additive	• Flame Retardant		
	• Impact Modifier		
Features	• Flame Retardant		
	• Good Mold Release		
	• Impact Modified		
	• Low Viscosity		
Uses	• Electrical/Electronic Applications		
	• Housings		
Processing Method	• Injection Molding		

 Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.20	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	16	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow	0.60 to 0.80	%	
Flow	0.60 to 0.80	%	
Water Absorption (Saturation, 73°F)	0.36	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.12	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	348000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	8850	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	7980	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	6.0	%	ISO 527-2/50
Tensile Strain (Break, 73°F)	80	%	ISO 527-2/50
Flexural Modulus ² (73°F)	363000	psi	ISO 178
Flexural Stress ² (73°F)	14200	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength ³			ISO 179/1eU
-22°F, Complete Break	14	ft·lb/in ²	
73°F, Partial Break	31	ft·lb/in ²	
Notched Izod Impact Strength ³			ISO 180/A
-22°F, Complete Break	11	ft·lb/in ²	
73°F, Partial Break	30	ft·lb/in ²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F	42.8	ft·lb	
73°F	38.4	ft·lb	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-22°F	1370	lbf	
73°F	1120	lbf	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	270	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	246	°F	ISO 75-2/A



Vicat Softening Temperature		
--	284 °F	ISO 306/B120
--	280 °F	ISO 306/B50
CLTE - Flow (73 to 131°F)	4.1E-5 in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	4.1E-5 in/in/°F	ISO 11359-2
Flammability	Nominal Value Unit	Test Method
Flame Rating (0.06 in)	V-0	UL 94
Glow Wire Flammability Index		IEC 60695-2-12
0.04 in	1760 °F	
0.06 in	1760 °F	

Processing Information

Injection	Nominal Value Unit
Drying Temperature - Dry Air Dryer	248 °F
Drying Time - Dry Air Dryer	2.0 to 3.0 hr
Suggested Max Moisture	< 0.020 %
Suggested Shot Size	30 to 70 %
Rear Temperature	482 to 500 °F
Middle Temperature	518 to 536 °F
Front Temperature	536 to 554 °F
Nozzle Temperature	554 to 572 °F
Processing (Melt) Temp	536 to 608 °F
Mold Temperature	176 to 248 °F
Back Pressure	725 to 2180 psi
Vent Depth	9.8E-4 to 3.0E-3 in

Injection Notes

Peripheral Screw Speed: 0.05-0.2 m/s
 Hold Pressure (% of Injection Pressure): 50 - 75%
 Standard Melt Temperature: 300°C

Notes

¹ Typical properties: these are not to be construed as specifications.

² 0.079 in/min

³ 3.0 mm

