

Makrolon® FR6002

 Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description

MVR (300°C/1.2 kg) 18 cm³/10 min; flame retardant; low viscosity; easy release; injection molding - melt temperature 280°C

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Additive	• Flame Retardant		
Features	• Flame Retardant	• Good Mold Release	• Low Viscosity
RoHS Compliance	• RoHS Compliant		
Processing Method	• Injection Molding		
ISO Designation	• ISO 7391-PC,MFR,(,)-18-9		

 Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.20	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	18	cm³/10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow	0.50 to 0.70	%	
Flow	0.50 to 0.70	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	341000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	9280	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	9430	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	6.0	%	ISO 527-2/50
Tensile Strain (Break, 73°F)	120	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	> 50	%	ISO 527-2/50
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength ² (73°F, Partial Break)	7.1	ft·lb/in²	ISO 180/A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	279	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	255	°F	ISO 75-2/A
Vicat Softening Temperature	289	°F	ISO 306/B50
RTI Elec (0.06 in)	248	°F	UL 746B
RTI Imp (0.06 in)	230	°F	UL 746B
RTI Str (0.06 in)	248	°F	UL 746B
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	4.2E+16	ohms	IEC 60093
Volume Resistivity (73°F)	1.5E+17	ohms·cm	IEC 60093
Electric Strength (73°F, 0.0394 in)	860	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
73°F, 100 Hz	3.00		
73°F, 1 MHz	2.90		
Dissipation Factor			IEC 60250
73°F, 100 Hz	8.0E-4		



73°F, 1 MHz	8.8E-3	
Comparative Tracking Index		IEC 60112
Solution A	250 V	
Solution B	125 V	
Flammability	Nominal Value	Unit
Flame Rating		UL 94
0.030 in, WT, GY, BK	V-0	
0.06 in, WT, GY, BK	V-0	
0.12 in, WT, GY, BK	V-0	
Glow Wire Flammability Index		IEC 60695-2-12
0.030 in	1760 °F	
0.06 in	1760 °F	
0.12 in	1760 °F	
Glow Wire Ignition Temperature		IEC 60695-2-13
0.030 in	1560 °F	
0.06 in	1560 °F	
0.12 in	1710 °F	
Oxygen Index ³	> 32 %	ISO 4589-2

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

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

Notes

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

² 3 mm

³ Procedure A

