

Makroblend® EL703

Covestro - Polycarbonates - Polycarbonate + PET

General Information

Product Description

(PC+PET) blend; unreinforced; flame-retardant; UV-stabilized; impact modified; high flow; injection molding grade. Good impact strength, dimensional stability and chemical resistance. Uses include outdoor electrical enclosures. UL746C f1 rated.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Additive	• Flame Retardant	• Impact Modifier	• UV Stabilizer
Features	• Chemical Resistant	• Good Impact Resistance	• UV Stabilized
	• Flame Retardant	• High Flow	
	• Good Dimensional Stability	• Impact Modified	
Uses	• Electrical/Electronic Applications		
RoHS Compliance	• RoHS Compliant		
Processing Method	• Injection Molding		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.30	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (270°C/5.0 kg)	26	cm ³ /10min	ISO 1133
Molding Shrinkage ²			ISO 2577
Across Flow	0.60 to 0.80	%	
Flow	0.60 to 0.80	%	
Water Absorption (Saturation, 73°F)	0.50	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	334000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	8120	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	7980	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	4.5	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	100	%	ISO 527-2/50
Flexural Modulus ³ (73°F)	326000	psi	ISO 178
Flexural Stress ³			ISO 178
3.5% Strain, 73°F	10300	psi	
73°F	12000	psi	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	7.1	ft·lb/in ²	
73°F	24	ft·lb/in ²	
Notched Izod Impact Strength			ISO 180/A
-22°F	7.1	ft·lb/in ²	
73°F	24	ft·lb/in ²	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	246	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	205	°F	ISO 75-2/A
Vicat Softening Temperature	270	°F	ISO 306/B120
CLTE - Flow (73 to 131°F)	3.9E-5	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	4.4E-5	in/in/°F	ISO 11359-2



Thermal Conductivity ⁴ (73°F)	1.4 Btu·in/hr/ft ² /°F	ISO 8302
RTI Elec (0.06 in)	221 °F	UL 746B
RTI Imp (0.06 in)	194 °F	UL 746B
RTI Str (0.06 in)	221 °F	UL 746B
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	1.0E+16 ohms	IEC 60093
Volume Resistivity (73°F)	1.0E+16 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	3.50	
73°F, 1 MHz	3.30	
Dissipation Factor		IEC 60250
73°F, 100 Hz	3.0E-3	
73°F, 1 MHz	0.020	
Comparative Tracking Index (Solution A)	200 V	IEC 60112
Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
0.06 in	V-0	
0.12 in	• V-0 • 5VA	

Processing Information

Injection	Nominal Value Unit
Drying Temperature - Dry Air Dryer	230 °F
Drying Time - Dry Air Dryer	2.0 to 4.0 hr
Suggested Max Moisture	< 0.010 %
Suggested Shot Size	30 to 70 %
Rear Temperature	473 to 491 °F
Middle Temperature	482 to 500 °F
Front Temperature	491 to 509 °F
Nozzle Temperature	491 to 518 °F
Processing (Melt) Temp	500 to 536 °F
Mold Temperature	122 to 212 °F
Back Pressure	725 to 2180 psi
Vent Depth	9.8E-4 to 3.0E-3 in

Injection Notes

Hold Pressure (% of Injection Pressure): 50 - 75%
Peripheral Screw Speed: 0.05 - 0.2 m/s
Standard Melt Temperature: 270°C

Notes

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

² 600 bar

³ 0.079 in/min

⁴ Across Flow

