

Makroblend® EL700

Covestro - Polycarbonates - *Polycarbonate + PET*

General Information

Product Description

(PC+PET) blend; unreinforced; flame-retardant; impact modified; injection molding grade. Good impact strength, dimensional stability and chemical resistance. Uses include indoor electrical enclosures.

General

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

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.28	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (270°C/5.0 kg)	15	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)	341000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	8410	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	8270	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)	334000	psi	ISO 178
Flexural Stress ³			ISO 178
3.5% Strain, 73°F	10400	psi	
73°F	12500	psi	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	14	ft·lb/in ²	
73°F	31	ft·lb/in ²	
Notched Izod Impact Strength			ISO 180/A
-22°F	14	ft·lb/in ²	
73°F	29	ft·lb/in ²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F	36.9	ft·lb	
73°F	33.2	ft·lb	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-22°F	1170	lbf	
73°F	922	lbf	
Thermal	Nominal Value	Unit	Test Method



Deflection Temperature Under Load (66 psi, Unannealed)	253 °F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	212 °F	ISO 75-2/A
Vicat Softening Temperature	277 °F	ISO 306/B120
CLTE - Flow (73 to 131°F)	4.4E-5 in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	5.0E-5 in/in/°F	ISO 11359-2
Thermal Conductivity ⁴ (73°F)	1.4 Btu·in/hr/ft ² /°F	ISO 8302

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	3.10		
73°F, 1 MHz	3.00		
Dissipation Factor			IEC 60250
73°F, 100 Hz	2.0E-3		
73°F, 1 MHz	0.013		
Comparative Tracking Index (Solution A)	225	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
Peripheral Screw Speed: 0.05 - 0.2 m/s
Hold Pressure (% of Injection Pressure): 50 - 75%
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

