

Makroblend® EL700

Polycarbonate + PET

Covestro - Polycarbonates

PROSPECTOR®

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Technical Data

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
Literature ¹	• Technical Datasheet (Chinese (Traditional)) • Technical Datasheet (Chinese) • Technical Datasheet (English) • Technical Datasheet (German) • Technical Datasheet (Japanese)
UL Yellow Card ²	• E41613-101010259
Search for UL Yellow Card	• Covestro - Polycarbonates • Makroblend®
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Additive	• Flame Retardant • Impact Modifier
Features	• Chemical Resistant • Flame Retardant • Good Dimensional Stability • Good Impact Resistance • Impact Modified
Uses	• Electrical/Electronic Applications
RoHS Compliance	• RoHS Compliant
Processing Method	• Injection Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density (73°F (23°C))	1.28 g/cm ³	1.28 g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (270°C/5.0 kg)	0.915 in ³ /10min	15.0 cm ³ /10min	ISO 1133
Molding Shrinkage ⁴			ISO 2577
Across Flow	0.60 to 0.80 %	0.60 to 0.80 %	
Flow	0.60 to 0.80 %	0.60 to 0.80 %	
Water Absorption			ISO 62
Saturation, 73°F (23°C)	0.50 %	0.50 %	
Equilibrium, 73°F (23°C), 50% RH	0.20 %	0.20 %	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus (73°F (23°C))	341000 psi	2350 MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield, 73°F (23°C)	8410 psi	58.0 MPa	
Break, 73°F (23°C)	8270 psi	57.0 MPa	
Tensile Strain (Yield, 73°F (23°C))	4.5 %	4.5 %	ISO 527-2/50
Nominal Tensile Strain at Break			ISO 527-2/50
73°F (23°C)	100 %	100 %	
Flexural Modulus ⁵ (73°F (23°C))	334000 psi	2300 MPa	ISO 178
Flexural Stress ⁵			ISO 178
3.5% Strain, 73°F (23°C)	10400 psi	72.0 MPa	
73°F (23°C)	12500 psi	86.0 MPa	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	14 ft·lb/in ²	30 kJ/m ²	
73°F (23°C)	31 ft·lb/in ²	65 kJ/m ²	
Notched Izod Impact Strength			ISO 180/A
-22°F (-30°C)	14 ft·lb/in ²	30 kJ/m ²	
73°F (23°C)	29 ft·lb/in ²	60 kJ/m ²	



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Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F (-30°C)	36.9 ft·lb	50.0 J	
73°F (23°C)	33.2 ft·lb	45.0 J	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-22°F (-30°C)	1170 lbf	5200 N	
73°F (23°C)	922 lbf	4100 N	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	253 °F	123 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	212 °F	100 °C	ISO 75-2/A
Vicat Softening Temperature	277 °F	136 °C	ISO 306/B120
CLTE			ISO 11359-2
Flow : 73 to 131°F (23 to 55°C)	4.4E-5 in/in/°F	8.0E-5 cm/cm/°C	
Transverse : 73 to 131°F (23 to 55°C)	5.0E-5 in/in/°F	9.0E-5 cm/cm/°C	
Thermal Conductivity ⁶ (73°F (23°C))	1.4 Btu·in/hr/ft ² /°F	0.20 W/m/K	ISO 8302
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	1.0E+16 ohms	1.0E+16 ohms	IEC 60093
Volume Resistivity (73°F (23°C))	1.0E+16 ohms·cm	1.0E+16 ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
73°F (23°C), 0.0394 in (1.00 mm)	860 V/mil	34 kV/mm	
Relative Permittivity			IEC 60250
73°F (23°C), 100 Hz	3.10	3.10	
73°F (23°C), 1 MHz	3.00	3.00	
Dissipation Factor			IEC 60250
73°F (23°C), 100 Hz	2.0E-3	2.0E-3	
73°F (23°C), 1 MHz	0.013	0.013	
Comparative Tracking Index (Solution A)	225 V	225 V	IEC 60112
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			UL 94
0.06 in (1.5 mm)	V-0	V-0	
0.12 in (3.0 mm)	V-0	V-0	
	5VA	5VA	

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ 600 bar

⁵ 0.079 in/min (2.0 mm/min)

⁶ Cross-flow



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Where to Buy

Supplier

Covestro - Polycarbonates

Leverkusen, Germany

Telephone: +49-214-6009-2000

Web: <http://www.plastics.covestro.com/>

Distributor

ALBIS Plastic

ALBIS Plastic is a global distribution and compounding company. Contact ALBIS Plastic for availability of individual products per country.

Telephone: +49-40-78105-0

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Availability: Algeria, Austria, Belgium, China, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hong Kong, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Morocco, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Spain, Sweden, Switzerland, Tunisia, Turkey, United Kingdom

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M. Holland Company

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Availability: Mexico, United States

PolyOne Distribution

PolyOne Distribution is a global distribution company. Contact PolyOne Distribution for availability of individual products by country.

Telephone: 800-894-4266

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Availability: Global

