

# Makroblend® EL703

Polycarbonate + PET

Covestro - Polycarbonates

# PROSPECTOR®

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## Technical Data

### 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
Literature <sup>1</sup>	• <a href="#">Technical Datasheet (Chinese (Traditional))</a> • <a href="#">Technical Datasheet (Chinese)</a> • <a href="#">Technical Datasheet (English)</a> • <a href="#">Technical Datasheet (German)</a> • <a href="#">Technical Datasheet (Japanese)</a>
UL Yellow Card <sup>2</sup>	• <a href="#">E41613-101010260</a>
Search for UL Yellow Card	• <a href="#">Covestro - Polycarbonates</a> • <a href="#">Makroblend®</a>
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Additive	• Flame Retardant • Impact Modifier • UV Stabilizer
Features	• Chemical Resistant • Flame Retardant • Good Dimensional Stability • Good Impact Resistance • High Flow • 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))	1.30 g/cm <sup>3</sup>	1.30 g/cm <sup>3</sup>	ISO 1183
Melt Volume-Flow Rate (MVR) (270°C/5.0 kg)	1.59 in <sup>3</sup> /10min	26.0 cm <sup>3</sup> /10min	ISO 1133
Molding Shrinkage <sup>4</sup>			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 %	
Outdoor Suitability	f1	f1	UL 746C

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus (73°F (23°C))	334000 psi	2300 MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield, 73°F (23°C)	8120 psi	56.0 MPa	
Break, 73°F (23°C)	7980 psi	55.0 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 <sup>5</sup> (73°F (23°C))	326000 psi	2250 MPa	ISO 178
Flexural Stress <sup>5</sup>			ISO 178
3.5% Strain, 73°F (23°C)	10300 psi	71.0 MPa	
73°F (23°C)	12000 psi	83.0 MPa	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	7.1 ft·lb/in <sup>2</sup>	15 kJ/m <sup>2</sup>	
73°F (23°C)	24 ft·lb/in <sup>2</sup>	50 kJ/m <sup>2</sup>	
Notched Izod Impact Strength			ISO 180/A
-22°F (-30°C)	7.1 ft·lb/in <sup>2</sup>	15 kJ/m <sup>2</sup>	
73°F (23°C)	24 ft·lb/in <sup>2</sup>	50 kJ/m <sup>2</sup>	



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Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	246 °F	119 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	205 °F	96.0 °C	ISO 75-2/A
Vicat Softening Temperature	270 °F	132 °C	ISO 306/B120
CLTE			ISO 11359-2
Flow : 73 to 131°F (23 to 55°C)	3.9E-5 in/in/°F	7.0E-5 cm/cm/°C	
Transverse : 73 to 131°F (23 to 55°C)	4.4E-5 in/in/°F	8.0E-5 cm/cm/°C	
Thermal Conductivity <sup>6</sup> (73°F (23°C))	1.4 Btu·in/hr/ft <sup>2</sup> °F	0.20 W/m/K	ISO 8302
RTI Elec (0.06 in (1.5 mm))	221 °F	105 °C	UL 746
RTI Imp (0.06 in (1.5 mm))	194 °F	90.0 °C	UL 746
RTI Str (0.06 in (1.5 mm))	221 °F	105 °C	UL 746
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	3.50	3.50	
73°F (23°C), 1 MHz	3.30	3.30	
Dissipation Factor			IEC 60250
73°F (23°C), 100 Hz	3.0E-3	3.0E-3	
73°F (23°C), 1 MHz	0.020	0.020	
Comparative Tracking Index (Solution A)	200 V	200 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**

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> Typical properties: these are not to be construed as specifications.

<sup>4</sup> 600 bar

<sup>5</sup> 0.079 in/min (2.0 mm/min)

<sup>6</sup> 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

Web: <http://www.albis.com/>

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

##### Amco Polymers

Telephone: 800-262-6685

Web: <http://www.amcopolymers.com/>

Availability: North America

##### M. Holland Canada Company

Telephone: 905-665-1168

Web: <http://www.mholland.com/>

Availability: Canada

##### M. Holland Company

Telephone: 855-497-1403

Web: <http://www.mholland.com/>

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

Web: <http://polyonedistribution.com/>

Availability: Global

