

Makrolon® 6555

Polycarbonate

Covestro - Polycarbonates

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

MVR (300 °C/1.2 kg) 10 cm³/10 min; flame retardant; UL 94V-0/3.0 mm; medium viscosity; easy release; injection molding - melt temperature 280 - 320 °C; available in transparent, translucent and opaque colors

General

Material Status	• Commercial: Active
Literature ¹	<ul style="list-style-type: none"> • Technical Datasheet (Chinese (Traditional)) • Technical Datasheet (Chinese) • Technical Datasheet (English) • Technical Datasheet (German) • Technical Datasheet (Japanese)
UL Yellow Card ²	<ul style="list-style-type: none"> • E41613-233152 • E41613-233153
Search for UL Yellow Card	<ul style="list-style-type: none"> • Covestro - Polycarbonates • Makrolon®
Availability	<ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Additive	• Flame Retardant
Features	<ul style="list-style-type: none"> • Flame Retardant • Good Mold Release • Medium Viscosity
RoHS Compliance	• RoHS Compliant
Appearance	<ul style="list-style-type: none"> • Clear/Transparent • Colors Available • Opaque • Translucent
Processing Method	• Injection Molding
Multi-Point Data	<ul style="list-style-type: none"> • Creep Modulus vs. Time (ISO 11403-1) • Isochronous Stress vs. Strain (ISO 11403-1) • Isothermal Stress vs. Strain (ISO 11403-1) • Secant Modulus vs. Strain (ISO 11403-1) • Shear Modulus vs. Temperature (ISO 11403-1) • Specific Volume vs Temperature (ISO 11403-2) • Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density (73°F (23°C))	1.20 g/cm³	1.20 g/cm³	ISO 1183
Apparent Density ⁴	0.64 g/cm³	0.64 g/cm³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10 g/10 min	10 g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	0.610 in³/10min	10.0 cm³/10min	ISO 1133
Molding Shrinkage			
Across Flow	0.60 to 0.80 %	0.60 to 0.80 %	ISO 2577
Flow	0.60 to 0.80 %	0.60 to 0.80 %	ISO 2577
Across Flow : 0.0787 in (2.00 mm) ⁵	0.75 %	0.75 %	ISO 294-4
Flow : 0.0787 in (2.00 mm) ⁵	0.70 %	0.70 %	ISO 294-4
Water Absorption			ISO 62
Saturation, 73°F (23°C)	0.30 %	0.30 %	
Equilibrium, 73°F (23°C), 50% RH	0.12 %	0.12 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus (73°F (23°C))	348000 psi	2400 MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield, 73°F (23°C)	9570 psi	66.0 MPa	
Break, 73°F (23°C)	10200 psi	70.0 MPa	
Tensile Strain			ISO 527-2/50
Yield, 73°F (23°C)	6.2 %	6.2 %	
Break, 73°F (23°C)	130 %	130 %	
Nominal Tensile Strain at Break			ISO 527-2/50
73°F (23°C)	> 50 %	> 50 %	



Makrolon® 6555

Polycarbonate

Covestro - Polycarbonates**PROSPECTOR®**

www.ulprospector.com

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Creep Modulus			ISO 899-1
1 hr	319000 psi	2200 MPa	
1000 hr	276000 psi	1900 MPa	
Flexural Modulus ⁶ (73°F (23°C))	348000 psi	2400 MPa	ISO 178
Flexural Stress ⁶			ISO 178
3.5% Strain, 73°F (23°C)	10700 psi	74.0 MPa	
73°F (23°C)	14200 psi	98.0 MPa	
Flexural Strain at Flexural Strength ⁷			ISO 178
73°F (23°C)	7.1 %	7.1 %	
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Water Vapor Transmission Rate			ISO 15106-1
73°F (23°C), 85% RH, 3.9 mil (100 µm)	0.97 g/100 in ² /24 hr	15 g/m ² /24 hr	
Gas Permeation			ISO 2556
Carbon Dioxide : 73°F (23°C), 1.0 mil (25.4 µm)	16900 cm ³ /m ² /bar/24 hr	16900 cm ³ /m ² /bar/24 hr	
Carbon Dioxide : 73°F (23°C), 3.9 mil (100.0 µm)	4300 cm ³ /m ² /bar/24 hr	4300 cm ³ /m ² /bar/24 hr	
Nitrogen : 73°F (23°C), 1.0 mil (25.4 µm)	510 cm ³ /m ² /bar/24 hr	510 cm ³ /m ² /bar/24 hr	
Nitrogen : 73°F (23°C), 3.9 mil (100.0 µm)	130 cm ³ /m ² /bar/24 hr	130 cm ³ /m ² /bar/24 hr	
Oxygen : 73°F (23°C), 1.0 mil (25.4 µm)	2760 cm ³ /m ² /bar/24 hr	2760 cm ³ /m ² /bar/24 hr	
Oxygen : 73°F (23°C), 3.9 mil (100.0 µm)	700 cm ³ /m ² /bar/24 hr	700 cm ³ /m ² /bar/24 hr	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength ⁸			ISO 7391
-22°F (-30°C), Complete Break	6.7 ft·lb/in ²	14 kJ/m ²	
73°F (23°C), Partial Break	33 ft·lb/in ²	70 kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-76°F (-60°C)	No Break	No Break	
-22°F (-30°C)	No Break	No Break	
73°F (23°C)	No Break	No Break	
Notched Izod Impact Strength ⁹			ISO 7391
-22°F (-30°C), Complete Break	5.7 ft·lb/in ²	12 kJ/m ²	
73°F (23°C), Partial Break	31 ft·lb/in ²	65 kJ/m ²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F (-30°C)	47.9 ft·lb	65.0 J	
73°F (23°C)	44.3 ft·lb	60.0 J	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-22°F (-30°C)	1420 lbf	6300 N	
73°F (23°C)	1210 lbf	5400 N	
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Ball Indentation Hardness	16700 psi	115 MPa	ISO 2039-1
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	279 °F	137 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	257 °F	125 °C	ISO 75-2/A
Glass Transition Temperature ¹⁰	293 °F	145 °C	ISO 11357-2
Vicat Softening Temperature			
--	291 °F	144 °C	ISO 306/B50
--	293 °F	145 °C	ISO 306/B120
Ball Pressure Test (277°F (136°C))	Pass	Pass	IEC 60695-10-2
CLTE			ISO 11359-2
Flow : 73 to 131°F (23 to 55°C)	3.6E-5 in/in/°F	6.5E-5 cm/cm/°C	
Transverse : 73 to 131°F (23 to 55°C)	3.6E-5 in/in/°F	6.5E-5 cm/cm/°C	
Thermal Conductivity ¹¹ (73°F (23°C))	1.4 Btu·in/hr/ft ² °F	0.20 W/m/K	ISO 8302



Makrolon® 6555

Polycarbonate

Covestro - Polycarbonates**PROSPECTOR®**

www.ulprospector.com

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
RTI Elec (0.0591 in (1.50 mm))	257 °F	125 °C	UL 746
RTI Imp (0.0591 in (1.50 mm))	239 °F	115 °C	UL 746
RTI Str (0.0591 in (1.50 mm))	257 °F	125 °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	3.10	3.10	
73°F (23°C), 1 MHz	3.00	3.00	
Dissipation Factor			IEC 60250
73°F (23°C), 100 Hz	8.0E-4	8.0E-4	
73°F (23°C), 1 MHz	9.0E-3	9.0E-3	
Comparative Tracking Index			IEC 60112
Solution A	225 V	225 V	
Solution B	125 V	125 V	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			UL 94
0.0394 in (1.00 mm)	V-2	V-2	
0.118 in (3.00 mm)	V-0	V-0	
Glow Wire Flammability Index			IEC 60695-2-12
0.0295 in (0.750 mm)	1610 °F	875 °C	
0.0591 in (1.50 mm)	1760 °F	960 °C	
0.118 in (3.00 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.0295 in (0.750 mm)	1610 °F	875 °C	
0.0591 in (1.50 mm)	1610 °F	875 °C	
0.118 in (3.00 mm)	1610 °F	875 °C	
Oxygen Index ¹²	35 %	35 %	ISO 4589-2
Application of Flame from Small Burner - Method K and F			DIN 53438-1, -3
78.7 mil (2.00 mm)	K1, F1	K1, F1	
Burning Rate - US-FMVSS (> 39.4 mil (> 1.00 mm))	passed	passed	ISO 3795
Flash Ignition Temperature	860 °F	460 °C	ASTM D1929
Glow Wire Test			EDF HN60 E.02
59.1 mil (1.50 mm)	1382 °F	750 °C	
0.12 in (3.00 mm)	1382 °F	750 °C	
Needle Flame Test			IEC 60695-11-5
Method F : 59.1 mil (1.50 mm)	2.0 min	2.0 min	
Method F : 78.7 mil (2.00 mm)	2.0 min	2.0 min	
Method F : 0.12 in (3.00 mm)	2.0 min	2.0 min	
Method K : 59.1 mil (1.50 mm)	1.0 min	1.0 min	
Method K : 78.7 mil (2.00 mm)	2.0 min	2.0 min	
Method K : 0.12 in (3.00 mm)	2.0 min	2.0 min	
Self Ignition Temperature	986 °F	530 °C	ASTM D1929
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index ¹³	1.586	1.586	ISO 489
Transmittance			ISO 13468-2
39.4 mil (1000 µm)	89.0 %	89.0 %	
78.7 mil (2000 µm)	89.0 %	89.0 %	
118 mil (3000 µm)	88.0 %	88.0 %	
157 mil (4000 µm)	87.0 %	87.0 %	



Additional Information	Nominal Value (English)	Nominal Value (SI)	Test Method
Electrolytical Corrosion (73°F (23°C))	A1	A1	IEC 60426
ISO Shortname	ISO 7391-PC,MFR,(,)- 09-9	ISO 7391-PC,MFR,(,)- 09-9	

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 Pellets

⁵ 60x60x2 mm, 500 bar

⁶ 0.079 in/min (2.0 mm/min)

⁷ 2 mm/min

⁸ Based on ISO 179-1eA, 3 mm

⁹ Based on ISO 180-A, 3 mm

¹⁰ 10°C/min

¹¹ Cross-flow

¹² Procedure A

¹³ Method A



Makrolon® 6555

Polycarbonate

Covestro - Polycarbonates

PROSPECTOR®

www.ulprospector.com

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

