

Covestro Makrolon® LQ-2847 Polycarbonate, Lens Quality Optical, Mold Release, UV Stabilized (discontinued **)

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Optical Grade

Material Notes:

Information provided by Bayer Corporation, Plastics DivisionAs of 1 September 2015, Bayer MaterialScience was separated from Bayer AG and has officially adopted its new name – Covestro. This product was discontinued prior to the separation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Covestro-Makrolon-LQ-2847-Polycarbonate-Lens-Quality-Optical-Mold-Release-UV-Stabilized-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ASTM D792
Water Absorption	0.15 %	0.15 %	24 hour immersion; ASTM D570
Water Absorption at Saturation	0.35 %	0.35 %	Equilibrium Immersion; ASTM D570
Linear Mold Shrinkage	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	ASTM D955
Melt Flow	11 g/10 min @Load 1.20 kg, Temperature 300 °C	11 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	ASTM D785
Tensile Strength, Ultimate	72.0 MPa	10400 psi	ASTM D638
Tensile Strength, Yield	63.0 MPa	9140 psi	ASTM D638
Elongation at Break	120 %	120 %	ASTM D638
Elongation at Yield	6.0 %	6.0 %	ASTM D638
Tensile Modulus	2.40 GPa	348 ksi	ASTM D638
Flexural Yield Strength	86.0 MPa	12500 psi	at 5% strain; ASTM D790
Flexural Modulus	2.28 GPa	331 ksi	ASTM D790
Izod Impact, Notched	8.50 J/cm @Thickness 3.17 mm	15.9 ft-lb/in @Thickness 0.125 in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	70.0 µm/m-°C	38.9 µin/in-°F	ASTM D696

Thermal Properties	@Temperature 20.0 °C Metric	@Temperature 68.0 °F English	Comments
Specific Heat Capacity	1.20 J/g-°C	0.287 BTU/lb-°F	ASTM D2766
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft²-°F	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	136 °C	277 °F	Unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	129 °C	264 °F	Unannealed; ASTM D648
Vicat Softening Point	157 °C	315 °F	Rate A; ASTM D1525
UL RTI, Electrical	125 °C	257 °F	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
UL RTI, Mechanical with Impact	115 °C	239 °F	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
UL RTI, Mechanical without Impact	125 °C	257 °F	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Flammability, UL94	V-2	V-2	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-2	V-2	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Oxygen Index	26 %	26 %	ASTM D2863

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D542
Haze	1.0 %	1.0 %	ASTM D1003
	@Thickness 3.17 mm	@Thickness 0.125 in	
Transmission, Visible	89 %	89 %	ASTM D1003
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ASTM D257
Surface Resistance	1.00e+15 ohm	1.00e+15 ohm	ASTM D257
Dielectric Constant	2.9	2.9	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

Electrical Properties	^{3.0} Metric	^{3.0} English	Comments
	@Frequency 60 Hz	@Frequency 60 Hz	
Dielectric Strength	30.0 kV/mm	762 kV/in	ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.00090	0.00090	ASTM D150
	@Frequency 60 Hz	@Frequency 60 Hz	
	0.010	0.010	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	30.0 - 90.0 sec	30.0 - 90.0 sec	Tungsten Electrodes; ASTM D495

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