

Makrolon® LED2643

Polycarbonate

Covestro - Polycarbonates

Message:

MVR (300 °C/1.2 kg) 13 cm³/10 min; LED Lighting, optics and lenses; PC with highest transmission; medium viscosity; UV stabilized; injection molding - melt temperature 280 - 320 °C; available in color code 551053 only

General Information			
UL YellowCard	E41613-100527307		
Additive	UV Stabilizer		
Features	High Clarity		
	Medium Viscosity		
Uses	LEDs		
	Lenses		
	Lighting Applications		
	Optical Applications		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.20	g/cm ³	ISO 1183
Apparent Density ¹	0.66	g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	13	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	13.0	cm ³ /10min	ISO 1133
Molding Shrinkage			
Across Flow	0.60 to 0.80	%	ISO 2577
Flow	0.60 to 0.80	%	ISO 2577
Across Flow : 2.00 mm ²	0.75	%	ISO 294-4
Flow : 2.00 mm ³	0.70	%	ISO 294-4
Water Absorption			
Saturation, 23°C	0.30	%	ISO 62
Equilibrium, 23°C, 50% RH	0.12	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	115	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	2350	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield, 23°C	65.0	MPa	
Break, 23°C	70.0	MPa	

Tensile Strain			ISO 527-2/50
Yield, 23°C	6.3	%	
Break, 23°C	130	%	
Nominal Tensile Strain at Break (23°C)	> 50	%	ISO 527-2/50
Flexural Modulus ⁴ (23°C)	2350	MPa	ISO 178
Flexural Stress ⁵			ISO 178
3.5% Strain, 23°C	72.0	MPa	
23°C	96.0	MPa	
Flexural Strain at Flexural Strength (23°C) ⁶	7.0	%	ISO 178
Gas Permeation			ISO 2556
Carbon Dioxide : 23°C, 100.0 µm	3800	cm ³ /m ² /bar/24 hr	
Nitrogen : 23°C, 100.0 µm	120	cm ³ /m ² /bar/24 hr	
Oxygen : 23°C, 100.0 µm	670	cm ³ /m ² /bar/24 hr	
Burning Rate - US-FMVSS (> 1.00 mm)	passed		ISO 3795
Flash Ignition Temperature	480	°C	ASTM D1929
Self Ignition Temperature	550	°C	ASTM D1929
ISO Shortname	ISO 7391-PC,MLT,(,)-18-9		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 7391
-30°C, Complete Break	14	kJ/m ²	
23°C, Partial Break	70	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-60°C	No Break		
-30°C	No Break		
23°C	No Break		
Notched Izod Impact Strength ⁸			ISO 7391
-30°C, Complete Break	15	kJ/m ²	
23°C, Partial Break	65	kJ/m ²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-30°C	65.0	J	
23°C	60.0	J	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-30°C	6300	N	
23°C	5400	N	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	138	°C	ISO 75-2/B
1.8 MPa, Unannealed	126	°C	ISO 75-2/A
Glass Transition Temperature ⁹	146	°C	ISO 11357-2
Vicat Softening Temperature			
--	145	°C	ISO 306/B50

--	146	°C	ISO 306/B120
Ball Pressure Test (138°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow : 23 to 55°C	6.5E-5	cm/cm/°C	
Transverse : 23 to 55°C	6.5E-5	cm/cm/°C	
Thermal Conductivity ¹⁰ (23°C)	0.20	W/m/K	ISO 8302
RTI Elec (1.50 mm)	125	°C	UL 746
RTI Imp (1.50 mm)	115	°C	UL 746
RTI Str (1.50 mm)	125	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+16	ohms·cm	IEC 60093
Electric Strength (23°C, 1.00 mm)	34	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
23°C, 100 Hz	3.10		
23°C, 1 MHz	3.00		
Dissipation Factor			IEC 60250
23°C, 100 Hz	5.0E-4		
23°C, 1 MHz	9.5E-3		
Comparative Tracking Index			IEC 60112
Solution A	250	V	
Solution B	125	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
2.50 mm	HB		
0.750 mm	V-2		
Glow Wire Flammability Index			IEC 60695-2-12
0.750 mm	850	°C	
1.50 mm	850	°C	
3.00 mm	960	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.750 mm	875	°C	
1.50 mm	875	°C	
3.00 mm	875	°C	
Oxygen Index ¹¹	28	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index ¹²	1.586		ISO 489
Transmittance			ISO 13468-2
1000 µm	90.0	%	
2000 µm	90.0	%	
3000 µm	> 89.0	%	
4000 µm	> 89.0	%	

Haze (3000 μm)	< 1.0	%	ISO 14782
NOTE			
1.	Pellets		
2.	60x60x2 mm, 500 bar		
3.	60x60x2 mm, 500 bar		
4.	2.0 mm/min		
5.	2.0 mm/min		
6.	2 mm/min		
7.	Based on ISO 179-1eA, 3 mm		
8.	Based on ISO 180-A, 3 mm		
9.	10°C/min		
10.	Cross-flow		
11.	Procedure A		
12.	Method A		

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

