

Makrolon® AL2447 MAS181

 Covestro - Polycarbonates - *Polycarbonate*
General Information
Product Description

MVR (300°C/1.2 kg) 19 cm³/10 min; Automotive lighting; low viscosity; UV stabilized; easy release; improved static behavior; injection molding - melt temperature 280 - 320°C; available in clear transparent colors; headlamp lenses for automotive forward lighting

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe • North America • Asia Pacific • Latin America
Additive	• UV Stabilizer
Features	• Good Mold Release • Low Viscosity • UV Stabilized
Uses	• Automotive Applications • Automotive Lighting • Lenses
RoHS Compliance	• RoHS Compliant
Appearance	• Clear/Transparent • Colors Available
Processing Method	• Injection Molding
ISO Designation	• PC

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.20	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	19	cm ³ /10min	ISO 1133
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	348000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	9570	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	9430	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	6.0	%	ISO 527-2/50
Tensile Strain (Break, 73°F)	120	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	> 50	%	ISO 527-2/50
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength ² (73°F)	No Break		ISO 179/1eU
Notched Izod Impact Strength ² (73°F, Partial Break)	31	ft·lb/in ²	ISO 180/A
Multi-Axial Instrumented Impact Energy (73°F)	40.6	ft·lb	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force (73°F)	1150	lbf	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	280	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	257	°F	ISO 75-2/A
Vicat Softening Temperature	291	°F	ISO 306/B50
CLTE - Flow (73 to 131°F)	3.6E-5	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	3.6E-5	in/in/°F	ISO 11359-2
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.030 in)	V-2		UL 94
Oxygen Index ³	28	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Light Transmittance (118.1 mil)	88.0	%	ISO 13468-2

Processing Information

Injection	Nominal Value	Unit
Drying Temperature - Dry Air Dryer	248	°F
Drying Time - Dry Air Dryer	2.0 to 3.0	hr



Suggested Max Moisture	< 0.020 %
Suggested Shot Size	30 to 70 %
Rear Temperature	482 to 500 °F
Middle Temperature	518 to 536 °F
Front Temperature	536 to 554 °F
Nozzle Temperature	554 to 572 °F
Processing (Melt) Temp	536 to 608 °F
Mold Temperature	176 to 248 °F
Back Pressure	725 to 2180 psi
Vent Depth	9.8E-4 to 3.0E-3 in

Injection Notes

Standard Melt Temperature: 300°C
Hold Pressure (% of Injection Pressure): 50 - 75%
Peripheral Screw Speed: 0.05 - 0.2 m/s

Notes

¹ Typical properties: these are not to be construed as specifications.

² 3.0 mm

³ Procedure A

