

Makrolon® 9125

 Covestro - Polycarbonates - *Polycarbonate*
General Information
Product Description

 MVR (300°C/1.2 kg) 8.0 cm³/10 min; 20 % glass fiber reinforced; flame retardant; UL 94V-0/1.5 mm; medium viscosity; easy release; injection molding - melt temperature 310 - 330°C; available in opaque colors only

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe • North America • Asia Pacific • Latin America
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight
Additive	• Flame Retardant
Features	• Flame Retardant • Good Mold Release • Medium Viscosity
RoHS Compliance	• RoHS Compliant
Appearance	• Colors Available • Opaque
Processing Method	• Injection Molding
ISO Designation	• ISO 7391-PC,MFR,(,)-09-3,GF20

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.34	g/cm ³	ISO 1183
Apparent (Bulk) Density ²	0.64	g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	8.0	cm ³ /10min	ISO 1133
Molding Shrinkage			
Across Flow	0.30 to 0.50	%	ISO 2577
Flow	0.30 to 0.50	%	ISO 2577
Across Flow : 536°F, 0.0787 in ³	0.45	%	ISO 294-4
Flow : 0.0787 in ³	0.35	%	ISO 294-4
Water Absorption (Saturation, 73°F)	0.24	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.10	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	841000	psi	ISO 527-1/1
Tensile Stress (Break, 73°F)	12300	psi	ISO 527-2/5
Tensile Strain (Break, 73°F)	2.5	%	ISO 527-2/5
Tensile Creep Modulus (1 hr)	827000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	754000	psi	ISO 899-1
Flexural Modulus ⁴ (73°F)	812000	psi	ISO 178
Flexural Stress ⁴ (73°F)	20300	psi	ISO 178
Flexural Strain at Flexural Strength ⁵ (73°F)	3.0	%	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁶ (73°F, Complete Break)	3.8	ft·lb/in ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F, Complete Break	21	ft·lb/in ²	
73°F, Complete Break	19	ft·lb/in ²	
Notched Izod Impact Strength ⁶ (73°F, Complete Break)	3.8	ft·lb/in ²	ISO 180/A
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F	3.69	ft·lb	
73°F	3.69	ft·lb	



Multi-Axial Instrumented Impact Peak Force		ISO 6603-2
-22°F	180 lbf	
73°F	180 lbf	
Hardness	Nominal Value Unit	Test Method
Ball Indentation Hardness	21500 psi	ISO 2039-1
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	288 °F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	280 °F	ISO 75-2/A
Vicat Softening Temperature		
--	295 °F	ISO 306/B120
--	293 °F	ISO 306/B50
Ball Pressure Test (277°F)	Pass	IEC 60695-10-2
CLTE - Flow (73 to 131°F)	1.7E-5 in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	3.6E-5 in/in/°F	ISO 11359-2
Thermal Conductivity ⁷ (73°F)	1.6 Btu·in/hr/ft ² /°F	ISO 8302
RTI Elec (0.06 in)	266 °F	UL 746B
RTI Imp (0.06 in)	257 °F	UL 746B
RTI Str (0.06 in)	257 °F	UL 746B
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	1.0E+16 ohms	IEC 60093
Volume Resistivity (73°F)	1.0E+16 ohms·cm	IEC 60093
Electric Strength (73°F, 0.0394 in)	910 V/mil	IEC 60243-1
Relative Permittivity		IEC 60250
73°F, 100 Hz	3.30	
73°F, 1 MHz	3.30	
Dissipation Factor		IEC 60250
73°F, 100 Hz	1.0E-3	
73°F, 1 MHz	9.0E-3	
Comparative Tracking Index		IEC 60112
Solution A	175 V	
Solution B	125 V	
Electrolytic Corrosion (73°F)	A1	IEC 60426
Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
0.014 in	V-2	
0.06 in	V-0	
Glow Wire Flammability Index		IEC 60695-2-12
0.06 in	1760 °F	
0.12 in	1760 °F	
Glow Wire Ignition Temperature		IEC 60695-2-13
0.06 in	1560 °F	
0.12 in	1560 °F	
Oxygen Index ⁸	35 %	ISO 4589-2
Application of Flame from Small Burner		
78.7 mil ⁹	K1, F1	DIN 53438-1, -3
78.7 mil	B2	DIN 4102
Burning Rate ¹⁰ (> 39.4 mil)	passed	ISO 3795
Flash Ignition Temperature	878 °F	ASTM D1929
Needle Flame Test		IEC 60695-11-5
59.1 mil ¹¹	60 sec	
59.1 mil ¹²	120 sec	
78.7 mil ¹¹	120 sec	
78.7 mil ¹²	120 sec	
0.12 in ¹¹	120 sec	
0.12 in ¹²	120 sec	
Temperature	1022 °F	ASTM D1929

Processing Information

Temperature - Dry Air Dryer

Nominal Value

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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

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

Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² Pellets
- ³ 60x60x2mm, 500 bar
- ⁴ 0.079 in/min
- ⁵ 2.0 mm/min
- ⁶ 3 mm
- ⁷ Across Flow
- ⁸ Procedure A
- ⁹ Method K and F
- ¹⁰ US-FMVSS
- ¹¹ Method K
- ¹² Method F

