

Makrolon® DQ5122

Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description

MVR (300 °C/1.2 kg) 34 cm³/10 min; light diffusion grade; high diffusion; low viscosity; UV stabilized; easy release; injection molding - melt temperature 250 - 300 °C; available in translucent colors only

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• UV Stabilizer		
Features	• Good Mold Release	• Low Viscosity	• UV Stabilized
Uses	• Lighting Diffusers		
Appearance	• Colors Available	• Translucent	
ISO Designation	• PC		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.20	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	34	cm³/10min	ISO 1133
Molding Shrinkage ²			ISO 294-4
Across Flow : 0.0787 in	0.65	%	
Flow : 0.0787 in	0.65	%	
Water Absorption (Saturation, 73°F)	0.30	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.12	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	334000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	9430	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	8700	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 Notched Impact Strength			ISO 179/1eA
-22°F, Complete Break	5.7	ft·lb/in²	
73°F, Complete Break	5.7	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F	36.9	ft·lb	
73°F	32.5	ft·lb	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-22°F	1300	lbf	
73°F	1100	lbf	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	> 17400	psi	ISO 2039-1
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	275	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	248	°F	ISO 75-2/A



Vicat Softening Temperature	284 °F	ISO 306/B50
Flammability	Nominal Value Unit	Test Method
Flame Rating (0.030 in)	V-2	UL 94
Glow Wire Flammability Index		IEC 60695-2-12
0.030 in	1560 °F	
0.06 in	1560 °F	
0.12 in	1710 °F	
Glow Wire Ignition Temperature		IEC 60695-2-13
0.030 in	1560 °F	
0.06 in	1560 °F	
0.12 in	1560 °F	
Optical	Nominal Value Unit	Test Method
Refractive Index ³	1.584	ISO 489
Light Transmittance		ISO 13468-2
39.37 mil	87.0 %	
78.74 mil	85.0 %	
118.1 mil	81.0 %	
157.5 mil	76.0 %	
Haze		
39.37 mil	97.0 %	ISO 14782
78.74 mil	100 %	ASTM D1003
Half Power Angle		Internal Method
39.4 mil	10.0 °	
78.7 mil	19.0 °	
0.12 in	25.0 °	
0.16 in	30.0 °	

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	446 to 464 °F
Middle Temperature	482 to 500 °F
Front Temperature	500 to 518 °F
Nozzle Temperature	500 to 518 °F
Processing (Melt) Temp	482 to 572 °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: 270°C
Peripheral Screw Speed: 0.05 - 0.2 m/s
Hold Pressure (% of Injection Pressure): 50 - 75%

Notes

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

² 60x60x2mm, 500 bar

³ Method A

