

Covestro Makrolon® 8325 Polycarbonate

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, 20% Glass Filled

Material Notes:

High viscosity injection molding and extrusion grade with 20% standard glass fibers and easy mold release, high strength and stiffness. Information provided by Bayer. As of 1 September 2015, Bayer Material Science was separated from Bayer AG and officially adopted its new name – Covestro.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Covestro-Makrolon-8325-Polycarbonate.php

Physical Properties	Metric	English	Comments
Density	1.35 g/cc	0.0488 lb/in ³	
Water Absorption	0.29 %	0.29 %	Saturation in water
Moisture Absorption at Equilibrium	0.12 %	0.12 %	Equilibrium at 50% RH
Water Absorption at Saturation	0.29 %	0.29 %	
Linear Mold Shrinkage	0.0030 - 0.0040 cm/cm	0.0030 - 0.0040 in/in	ASTM D955
Melt Flow	3.0 g/10 min @Load 1.20 kg, Temperature 300 °C	3.0 g/10 min @Load 2.65 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	81	81	ASTM D785
Tensile Strength, Ultimate	103 MPa	14900 psi	ASTM D638
Elongation at Break	5.0 %	5.0 %	ASTM D638
Tensile Modulus	6.00 GPa	870 ksi	
Flexural Yield Strength	134 MPa	19400 psi	at 5% strain; ASTM D790
Flexural Modulus	5.50 GPa	798 ksi	ASTM D790
Izod Impact, Notched	1.60 J/cm @Thickness 3.20 mm	3.00 ft-lb/in @Thickness 0.126 in	ASTM D256
Charpy Impact Unnotched	4.00 J/cm ²	19.0 ft-lb/in ²	
Tensile Creep Modulus, 1 hour	10100 MPa	1.46e+6 psi	
Tensile Creep Modulus, 1000 hours	9600 MPa	1.39e+6 psi	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	30.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	16.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Specific Heat Capacity	1.13 $\text{J}/\text{g}\cdot^{\circ}\text{C}$	0.270 $\text{BTU}/\text{lb}\cdot^{\circ}\text{F}$	ASTM D2766
Thermal Conductivity	0.220 $\text{W}/\text{m}\cdot\text{K}$	1.53 $\text{BTU}\cdot\text{in}/\text{hr}\cdot\text{ft}^2\cdot^{\circ}\text{F}$	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	145 $^{\circ}\text{C}$	293 $^{\circ}\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	138 $^{\circ}\text{C}$	280 $^{\circ}\text{F}$	
Vicat Softening Point	149 $^{\circ}\text{C}$	300 $^{\circ}\text{F}$	
Glass Transition Temp, Tg	148 $^{\circ}\text{C}$	298 $^{\circ}\text{F}$	
UL RTI, Electrical	75.0 $^{\circ}\text{C}$	167 $^{\circ}\text{F}$	
UL RTI, Mechanical with Impact	75.0 $^{\circ}\text{C}$	167 $^{\circ}\text{F}$	
UL RTI, Mechanical without Impact	75.0 $^{\circ}\text{C}$	167 $^{\circ}\text{F}$	
Flammability, UL94	V-1	V-1	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Oxygen Index	32 %	32 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	$\geq 1.00\text{e}+15$ ohm-cm	$\geq 1.00\text{e}+15$ ohm-cm	
Surface Resistance	$1.00\text{e}+14$ ohm	$1.00\text{e}+14$ ohm	
Dielectric Constant	3.2	3.2	
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	3.2	3.2	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	30.0 kV/mm	762 kV/in	
Dissipation Factor	0.0010	0.0010	
	@Frequency 100 Hz	@Frequency 100 Hz	
Dissipation Factor	0.0090	0.0090	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	30 - 80 sec	30 - 80 sec	ASTM D495

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