

Covestro Makrolon® 2458 Polycarbonate, Injection Grade

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Unreinforced, Flame Retardant

Material Notes:

Very easy flowing BgVV- and FDA injection molding grade with easy mold release, for food contact applications, better resistance to hot water. Information provided by Bayer. As of 1 September 2015, Bayer MaterialScience 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-2458-Polycarbonate-Injection-Grade.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	
Water Absorption	0.35 %	0.35 %	Saturation in water
Moisture Absorption at Equilibrium	0.15 %	0.15 %	Equilibrium at 50% RH
Water Absorption at Saturation	0.35 %	0.35 %	
Linear Mold Shrinkage	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	ASTM D955
Melt Flow	19 g/10 min @Load 1.20 kg, Temperature 300 °C	19 g/10 min @Load 2.65 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	75	75	ASTM D785
Hardness, Rockwell R	118	118	ASTM D785
Tensile Strength, Ultimate	69.0 MPa	10000 psi	ASTM D638
Tensile Strength, Yield	63.0 MPa	9140 psi	
Elongation at Break	120 %	120 %	ASTM D638
Elongation at Yield	6.0 %	6.0 %	
Tensile Modulus	2.30 GPa	334 ksi	
Flexural Yield Strength	83.0 MPa	12000 psi	at 5% strain; ASTM D790
Flexural Modulus	2.30 GPa	334 ksi	ASTM D790
Izod Impact, Notched	7.50 J/cm @Thickness 3.20 mm	14.1 ft-lb/in @Thickness 0.126 in	ASTM D256
Charpy Impact Unnotched	NB	NB	

Mechanical Properties	Metric	English	Comments
Tensile Creep Modulus, 1000 hours	1900 MPa	276000 psi	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
CTE, linear, Transverse to Flow	70.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Specific Heat Capacity	1.17 J/g- $^{\circ}\text{C}$	0.280 BTU/lb- $^{\circ}\text{F}$	ASTM D2766
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft ² - $^{\circ}\text{F}$	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	137 $^{\circ}\text{C}$	279 $^{\circ}\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	124 $^{\circ}\text{C}$	255 $^{\circ}\text{F}$	
Vicat Softening Point	144 $^{\circ}\text{C}$	291 $^{\circ}\text{F}$	
Glass Transition Temp, Tg	148 $^{\circ}\text{C}$	298 $^{\circ}\text{F}$	
UL RTI, Electrical	125 $^{\circ}\text{C}$	257 $^{\circ}\text{F}$	
UL RTI, Mechanical with Impact	115 $^{\circ}\text{C}$	239 $^{\circ}\text{F}$	
UL RTI, Mechanical without Impact	125 $^{\circ}\text{C}$	257 $^{\circ}\text{F}$	
Flammability, UL94	V-2	V-2	
	@Thickness 2.60 mm	@Thickness 0.102 in	
	V-2	V-2	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Oxygen Index	26 %	26 %	

Optical Properties	Metric	English	Comments
Refractive Index	1.584	1.584	
Haze	1.0 %	1.0 %	ASTM D1003
	@Thickness 3.20 mm	@Thickness 0.126 in	
Transmission, Visible	88 %	88 %	ASTM D1003
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	$\geq 1.00 \times 10^{15}$ ohm-cm	$\geq 1.00 \times 10^{15}$ ohm-cm	
Surface Resistance	1.00×10^{15} ohm	1.00×10^{15} ohm	
Dielectric Constant	2.9	2.9	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
	3.0	3.0	
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	30.0 kV/mm	762 kV/in	
Dissipation Factor	0.0010	0.0010	
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.010	0.010	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	120 sec	120 sec	Tungsten Electrodes; ASTM D495
Comparative Tracking Index	275 V	275 V	
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	UL Rating PLC 2 (30-60 sec)
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Amp Arc Ignition, HAI	60 - 120 arcs	60 - 120 arcs	UL Rating PLC 1 (60-120 arcs)
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Voltage Arc-Tracking Rate, HVTR	≤ 10.0 mm/min	≤ 0.394 in/min	UL Rating PLC 0 (<10 mm/min.)
	@Thickness 3.00 mm	@Thickness 0.118 in	

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