

Covestro Makrolon® 6485 Polycarbonate, Injection Grade

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

Material Notes:

Medium viscosity, flame retardant injection molding grade with easy mold release, not available in transparent colors. 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-6485-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	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	ASTM D955
Melt Flow	9.5 g/10 min	9.5 g/10 min	
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	70	70	ASTM D785
Tensile Strength, Ultimate	72.0 MPa	10400 psi	ASTM D638
Tensile Strength, Yield	63.0 MPa	9140 psi	
Elongation at Break	110 %	110 %	ASTM D638
Elongation at Yield	6.0 %	6.0 %	
Tensile Modulus	2.40 GPa	348 ksi	
Flexural Yield Strength	91.0 MPa	13200 psi	at 5% strain; ASTM D790
Flexural Modulus	2.30 GPa	334 ksi	ASTM D790
Izod Impact, Notched	6.40 J/cm	12.0 ft-lb/in	ASTM D256
	@Thickness 3.20 mm	@Thickness 0.126 in	
Charpy Impact Unnotched	NB	NB	
Tensile Creep Modulus, 1 hour	2200 MPa	319000 psi	
Tensile Creep Modulus, 1000 hours			

Mechanical Properties	1900 MPa Metric	276000 psi English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 20.0 $^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 68.0 $^\circ\text{F}$	
CTE, linear, Transverse to Flow	70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 20.0 $^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @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)	136 $^\circ\text{C}$	277 $^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	128 $^\circ\text{C}$	262 $^\circ\text{F}$	
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	110 $^\circ\text{C}$	230 $^\circ\text{F}$	
UL RTI, Mechanical without Impact	125 $^\circ\text{C}$	257 $^\circ\text{F}$	
Flammability, UL94	V-1 @Thickness 0.750 mm	V-1 @Thickness 0.0295 in	
	V-0 @Thickness 1.60 mm	V-0 @Thickness 0.0630 in	
Oxygen Index	35 %	35 %	

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	$1.00\text{e}+15$ ohm	$1.00\text{e}+15$ ohm	
Dielectric Constant	3.0 @Frequency 100 Hz	3.0 @Frequency 100 Hz	
	3.0 @Frequency $1\text{e}+6$ Hz	3.0 @Frequency $1\text{e}+6$ Hz	
Dielectric Strength	30.0 kV/mm	762 kV/in	

Electrical Properties	Metric	English	Comments
Dielectric Factor	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0090	0.0090	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	115 sec	115 sec	Tungsten Electrodes; ASTM D495
Comparative Tracking Index	275 V	275 V	
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	UL Rating PLC 1 (60-120 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	80.0 - 150 mm/min	3.15 - 5.91 in/min	UL Rating PLC 3 (80-150 mm/min.)
	@Thickness 3.00 mm	@Thickness 0.118 in	

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