

Covestro Makrolon® 1239 Polycarbonate, Blow Molding/Extrusion Grade (discontinued **)

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Extruded

Material Notes:

Pseudoplastic behavior and high viscosity extrusion and injection molding grade, BgVV- and FDA grade for food contact applications, high melt stability, better resistance to hot water, specially suitable for extrusion blow molding. Information provided by Bayer. As of 1 September 2015, Bayer MaterialScience was separated from Bayer AG and has officially adopted its new name – Covestro. This product was discontinued prior to the separation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Covestro-Makrolon-1239-Polycarbonate-Blow-MoldingExtrusion-Grade-nbspdiscontinued-.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 %	
Viscosity	800000 cP @Shear Rate 25.0 1/s, Temperature 320 °C	800000 cP @Shear Rate 25.0 1/s, Temperature 608 °F	
Linear Mold Shrinkage	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 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 R	124	124	ASTM D785
Tensile Strength, Ultimate	69.0 MPa	10000 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	85.0 MPa	12300 psi	at 5% strain; ASTM D790
Flexural Modulus	2.30 GPa	334 ksi	ASTM D790

Mechanical Properties <i>Mod Impact, Notched</i>	Metric <i>g/cm</i>	English <i>lb/in</i>	Comments <i>ASTM D256</i>
	@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	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 $\cdot^\circ\text{C}$	0.280 BTU/lb $\cdot^\circ\text{F}$	ASTM D2766
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft $^2\cdot^\circ\text{F}$	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	138 $^\circ\text{C}$	280 $^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	130 $^\circ\text{C}$	266 $^\circ\text{F}$	
Vicat Softening Point	147 $^\circ\text{C}$	297 $^\circ\text{F}$	
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 $^\circ\text{F}$	
Oxygen Index	26 %	26 %	

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	
Haze	1.0 %	1.0 %	ASTM D1003
	@Thickness 3.17 mm	@Thickness 0.125 in	
Transmission, Visible	87 %	87 %	ASTM D1003
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric	English	Comments
Surface Resistance	1.00e+15 ohm	1.00e+15 ohm	
Dielectric Constant	2.9	2.9	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	30.0 kV/mm	762 kV/in	
	@Frequency 100 Hz	@Frequency 100 Hz	
Dissipation Factor	0.0010	0.0010	
	@Frequency 100 Hz	@Frequency 100 Hz	
Arc Resistance	120 sec	120 sec	Tungsten Electrodes; ASTM D495
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Comparative Tracking Index	275 V	275 V	

Processing Properties	Metric	English	Comments
Melt Temperature	280 - 320 °C	536 - 608 °F	

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