

Covestro Makrolon® FR6901 Polycarbonate

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

Material Notes:

Main characteristics:• High toughness• Good heat resistance• Glass-like transparency, optical quality• High dimensional accuracy and stability
Grade characteristics:• Flame retardant• High reflectance• Low viscosity, easy release• UV stabilized
Formerly Makrolon DP1-1890As 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-FR6901-Polycarbonate.php

Physical Properties	Metric	English	Comments
Density	1.31 g/cc	0.0473 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	0.12 %	0.12 %	ISO 62, 50% RH
Water Absorption at Saturation	0.30 %	0.30 %	ISO 62
Melt Flow	18.5 g/10 min @Load 1.20 kg, Temperature 300 °C	18.5 g/10 min @Load 2.65 lb, Temperature 572 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Elongation at Break	>= 50 %	>= 50 %	Nominal, 50 mm/min; ISO 527-1,-2
Tensile Modulus	2.40 GPa	348 ksi	1 mm/min; ISO 527-1,-2
Izod Impact, Notched (ISO)	12.0 kJ/m ² @Thickness 3.20 mm, Temperature 23.0 °C	5.71 ft-lb/in ² @Thickness 0.126 in, Temperature 73.4 °F	complete break; b.o. ISO 180-A
	12.0 kJ/m ² @Thickness 3.20 mm, Temperature -30.0 °C	5.71 ft-lb/in ² @Thickness 0.126 in, Temperature -22.0 °F	complete break; b.o. ISO 180-A
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179-1eU

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	60.0 µm/m-°C @Temperature 23.0 - 55.0 °C	33.3 µin/in-°F @Temperature 73.4 - 131 °F	ISO 11359-1,-2
CTE, linear, Transverse to Flow	60.0 µm/m-°C @Temperature 23.0 -	33.3 µin/in-°F @Temperature 73.4 -	ISO 11359-1,-2

Thermal Properties	55.0 °C Metric	131 °F English	Comments
Vicat Softening Point	143 °C @Load 5.10 kg	289 °F @Load 11.2 lb	50°C/h; ISO 306
UL RTI, Electrical	80.0 °C	176 °F	UL 746B
UL RTI, Mechanical with Impact	80.0 °C	176 °F	UL 746B
UL RTI, Mechanical without Impact	80.0 °C	176 °F	UL 746B
Flammability, UL94	V-1 @Thickness 1.20 mm	V-1 @Thickness 0.0472 in	
	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	
	V-0 @Thickness 3.00 mm	V-0 @Thickness 0.118 in	
Flash Point	480 °C	896 °F	ASTM D 1929
	550 °C	1020 °F	self ignition; ASTM D 1929
Oxygen Index	36 %	36 %	Method A; ISO 4589-2
Glow Wire Test	960 °C @Thickness 1.50 mm	1760 °F @Thickness 0.0591 in	GWFI; IEC 60695-2-12
	960 °C @Thickness 3.00 mm	1760 °F @Thickness 0.118 in	GWFI; IEC 60695-2-12

Optical Properties	Metric	English	Comments
Reflection Coefficient, Visible (0-1)	0.93	0.93	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	IEC 60093
Surface Resistance	1.00e+16 ohm	1.00e+16 ohm	IEC 60093
Dielectric Constant	3.0 @Frequency 1.00e+6 Hz	3.0 @Frequency 1.00e+6 Hz	IEC 60250
	3.1 @Frequency 100 Hz	3.1 @Frequency 100 Hz	IEC 60250

Electrical Properties	34.0 kV/mm Metric	864 kV/in English	Comments
	@Thickness 1.00 mm	@Thickness 0.0394 in	
Dissipation Factor	0.00080	0.00080	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0090	0.0090	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Processing Properties	Metric	English	Comments
Melt Temperature	280 °C	536 °F	Injection molding; ISO 294
Mold Temperature	80.0 °C	176 °F	Injection molding; ISO 294
Injection Velocity	200 mm/sec	7.87 in/sec	ISO 294

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