

Covestro Makrolon® 2408 Polycarbonate

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

Material Notes:

Main characteristics:• High toughness• Good heat resistance• Glass-like transparency, optical quality• High dimensional accuracy and stability
Grade characteristics:• Medical devices - biocompatible ISO 10993-1• Low viscosityAs 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-2408-Polycarbonate.php

Physical Properties	Metric	English	Comments
Bulk Density	0.660 g/cc	0.0238 lb/in³	pellets; ISO 60
Density	1.20 g/cc	0.0434 lb/in³	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
Linear Mold Shrinkage, Flow	0.0065 cm/cm @Thickness 2.00 mm	0.0065 in/in @Thickness 0.0787 in	60x60x2 mm; 500 bar; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0065 cm/cm @Thickness 2.00 mm	0.0065 in/in @Thickness 0.0787 in	60x60x2 mm; 500 bar; ISO 294-4
Melt Flow	20 g/10 min @Load 1.20 kg, Temperature 300 °C	20 g/10 min @Load 2.65 lb, Temperature 572 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Puncture Resistance	5100 N @Temperature 23.0 °C	1150 lb (f) @Temperature 73.4 °F	ISO 6603-2
	6000 N @Temperature -30.0 °C	1350 lb (f) @Temperature -22.0 °F	ISO 6603-2
Ball Indentation Hardness	113 MPa	16400 psi	ISO 2039-1
Tensile Strength at Break	70.0 MPa	10200 psi	50 mm/min; ISO 527-1,-2
Tensile Strength, Yield	65.0 MPa	9430 psi	50 mm/min; ISO 527-1,-2
Elongation at Break	>= 50 %	>= 50 %	Nominal, 50 mm/min; ISO 527-1,-2
	120 %	120 %	50 mm/min; b.o. ISO 527-1,-2

Elongation at Yield Mechanical Properties	6.3 % Metric	6.3 % English	50 mm/min; ISO 527-1,-2 Comments
Tensile Modulus	2.35 GPa	341 ksi	1 mm/min; ISO 527-1,-2
Flexural Strength	96.0 MPa	13900 psi	2 mm/min; ISO 178
Flexural Yield Strength	72.0 MPa @Strain 3.50 %	10400 psi @Strain 3.50 %	2 mm/min; ISO 178
Flexural Modulus	2.35 GPa	341 ksi	2 mm/min; ISO 178
Izod Impact, Notched (ISO)	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
	75.0 kJ/m ² @Thickness 3.20 mm, Temperature 23.0 °C	35.7 ft-lb/in ² @Thickness 0.126 in, Temperature 73.4 °F	partial break; b.o. ISO 180-A
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179-1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179-1eU
	NB @Temperature -60.0 °C	NB @Temperature -76.0 °F	ISO 179-1eU
Charpy Impact, Notched	1.40 J/cm ² @Thickness 3.00 mm, Temperature -30.0 °C	6.66 ft-lb/in ² @Thickness 0.118 in, Temperature -22.0 °F	complete break; ISO 7391/b.o. ISO 179-1eA
	6.50 J/cm ² @Thickness 3.00 mm, Temperature 23.0 °C	30.9 ft-lb/in ² @Thickness 0.118 in, Temperature 73.4 °F	partial break; ISO 7391/b.o. ISO 179-1eA
Puncture Energy	55.0 J @Temperature 23.0 °C	40.6 ft-lb @Temperature 73.4 °F	ISO 6603-2
	65.0 J @Temperature -30.0 °C	47.9 ft-lb @Temperature -22.0 °F	ISO 6603-2
Tensile Creep Modulus, 1 hour	2200 MPa	319000 psi	ISO 899-1
Tensile Creep Modulus, 1000 hours	1900 MPa	276000 psi	ISO 899-1

Thermal Properties	Metric	English	Comments
	65.0 µm/m-°C	36.1 µin/in-°F	

CTE, linear, Parallel to Flow Thermal Properties	Metric @ Temperature 23.0 - 55.0 °C	English @ Temperature 73.4 - 131 °F	ISO 11359-1,-2 Comments
	65.0 µm/m-°C	36.1 µin/in-°F	
CTE, linear, Transverse to Flow	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	ISO 11359-1,-2
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft²-°F	cross-flow; ISO 8302
Hot Ball Pressure Test	138 °C	280 °F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	139 °C	282 °F	ISO 75-1,-2
Deflection Temperature at 1.8 MPa (264 psi)	127 °C	261 °F	ISO 75-1,-2
Vicat Softening Point	147 °C	297 °F	50°C/h; ISO 306
	@Load 5.10 kg	@Load 11.2 lb	
	148 °C	298 °F	120°C/h; ISO 306
	@Load 5.10 kg	@Load 11.2 lb	
Glass Transition Temp, Tg	147 °C	297 °F	10°C/min; ISO 11357-1,-2
Flash Point	480 °C	896 °F	ASTM D 1929
	550 °C	1020 °F	self ignition; ASTM D 1929

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	Procedure A; ISO 489
Haze	<= 0.80 %	<= 0.80 %	ISO 14782
	@Thickness 3.00 mm	@Thickness 0.118 in	
Transmission, Visible	87 %	87 %	ISO 13468-2
	@Thickness 4.00 mm	@Thickness 0.157 in	
	88 %	88 %	ISO 13468-2
	@Thickness 3.00 mm	@Thickness 0.118 in	
	89 %	89 %	ISO 13468-2
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	89 %	89 %	ISO 13468-2
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Processing Properties	Metric	English	Comments
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Melt Temperature Processing Properties	280 °C Metric	536 °F English	Injection molding; ISO 294 Comments
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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