

Makroblend® S7916

Covestro - Polycarbonates - *Polycarbonate + PBT*

General Information

Product Description

(PBT+PC)-blend, impact modified, Injection molding grade, excellent chemical resistance, high toughness at low temperatures, ideal for painted applications, unreinforced

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Additive	• Impact Modifier
Features	• Chemical Resistant • Impact Modified • Low Temperature Toughness • Paintable
RoHS Compliance	• RoHS Compliant
Processing Method	• Injection Molding
ISO Designation	• PBT+PC-I

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.20	g/cm ³	ISO 1183
Apparent (Bulk) Density	0.70	g/cm ³	ISO 60
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	13	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow ²	1.2 to 1.6	%	
Across Flow : 194°F, 1 hr	0.10 to 0.20	%	
Flow ²	1.2 to 1.6	%	
Flow : 194°F, 1 hr	0.10 to 0.20	%	
Water Absorption (Saturation, 73°F)	0.50	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	261000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	5800	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	5080	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	4.0	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	> 50	%	ISO 527-2/50
Tensile Creep Modulus (1 hr)	218000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	174000	psi	ISO 899-1
Flexural Modulus ³ (73°F)	247000	psi	ISO 178
Flexural Stress ³			ISO 178
3.5% Strain, 73°F	7830	psi	
73°F	9140	psi	
Flexural Strain at Flexural Strength ⁴ (73°F)	5.0	%	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	33	ft·lb/in ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength			ISO 180/A
-22°F	22	ft·lb/in ²	



73°F		31 ft·lb/in ²	
Unnotched Izod Impact Strength			ISO 180
-22°F		No Break	
73°F		No Break	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	12300	psi	ISO 2039-1
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	194	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	140	°F	ISO 75-2/A
Vicat Softening Temperature	241	°F	ISO 306/B120
CLTE - Flow (73 to 131°F)	6.1E-5	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	6.1E-5	in/in/°F	ISO 11359-2
Thermal Conductivity ⁵ (73°F)	1.4	Btu·in/hr/ft ² /°F	ISO 8302
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+17	ohms	IEC 60093
Volume Resistivity (73°F)	> 1.0E+17	ohms·cm	IEC 60093
Relative Permittivity			IEC 60250
73°F, 100 Hz	3.10		
73°F, 1 MHz	2.90		
Dissipation Factor			IEC 60250
73°F, 100 Hz	2.3E-3		
73°F, 1 MHz	0.014		
Comparative Tracking Index			IEC 60112
Solution A	600	V	
Solution B	400	V	
Electrolytic Corrosion (73°F)	A1		IEC 60426
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.031 in	HB		
0.06 in	HB		
Glow Wire Flammability Index (0.08 in)	1200	°F	IEC 60695-2-12
Oxygen Index ⁶	20	%	ISO 4589-2
Burning Rate ⁷ (> 39.4 mil)	passed		ISO 3795
Additional Information	Nominal Value	Unit	Test Method
Gottfert Melt Viscosity ⁸ (500°F)	640	Pa·s	Internal Method

Processing Information

Injection	Nominal Value	Unit
Drying Temperature - Dry Air Dryer	230	°F
Drying Time - Dry Air Dryer	2.0 to 4.0	hr
Suggested Max Moisture	< 0.020	%
Suggested Shot Size	30 to 70	%
Rear Temperature	446 to 464	°F
Middle Temperature	464 to 482	°F
Front Temperature	482 to 500	°F
Nozzle Temperature	500 to 518	°F
Processing (Melt) Temp	482 to 518	°F
Mold Temperature	140 to 176	°F
Back Pressure	725 to 1450	psi
Vent Depth	9.8E-4 to 3.0E-3	in

Injection Notes

Peripheral Screw Speed: 0.1-0.2 m/s
Hold Pressure (% of Injection Pressure): 50 - 75%
Standard Melt Temperature: 260°C

