

Makroblend® UT3907

Covestro - Polycarbonates - Polycarbonate + PBT

General Information
Product Description

(PC+PBT)-blend, high flow, impact modified, easy release, UV-stabilized, injection molding grade. Makroblend DP UT3907* offers superior flowability, good impact strength and excellent chemical resistance.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Additive	• Impact Modifier		
	• UV Stabilizer		
Features	• Chemical Resistant	• Good Impact Resistance	• Impact Modified
	• Good Flow	• High Flow	• UV Stabilized
RoHS Compliance	• RoHS Compliant		
Processing Method	• Injection Molding		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.20	g/cm ³	ISO 1183
Apparent (Bulk) Density	0.65	g/cm ³	ISO 60
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	44	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow ²	0.70 to 0.90	%	
Across Flow : 194°F, 1 hr	0.10 to 0.20	%	
Flow ²	0.70 to 0.90	%	
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)	319000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	8700	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	7250	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	5.0	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	> 100	%	ISO 527-2/50
Flexural Modulus ³ (73°F)	312000	psi	ISO 178
Flexural Stress ³			ISO 178
3.5% Strain, 73°F	10200	psi	
73°F	11600	psi	
Flexural Strain at Flexural Strength ⁴ (73°F)	6.0	%	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	12	ft·lb/in ²	
73°F	26	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength			ISO 180/A
-40°F	9.5	ft·lb/in ²	
-22°F	12	ft·lb/in ²	
-4°F	17	ft·lb/in ²	



73°F	19 ft·lb/in ²	
Unnotched Izod Impact Strength		ISO 180
-22°F	No Break	
73°F	No Break	
Multi-Axial Instrumented Impact Energy		ISO 6603-2
-22°F	40.6 ft·lb	
73°F	33.2 ft·lb	
Multi-Axial Instrumented Impact Peak Force		ISO 6603-2
-22°F	1080 lbf	
73°F	809 lbf	
Hardness	Nominal Value Unit	Test Method
Ball Indentation Hardness	15500 psi	ISO 2039-1
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	217 °F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	176 °F	ISO 75-2/A
Vicat Softening Temperature	252 °F	ISO 306/B120
CLTE - Flow (73 to 131°F)	5.0E-5 in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	5.0E-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
Electric Strength (73°F, 0.0394 in)	760 V/mil	IEC 60243-1
Relative Permittivity		IEC 60250
73°F, 100 Hz	3.20	
73°F, 1 MHz	3.00	
Dissipation Factor		IEC 60250
73°F, 100 Hz	6.0E-4	
73°F, 1 MHz	4.5E-3	
Comparative Tracking Index		IEC 60112
Solution A	600 V	
Solution B	125 V	
Flammability	Nominal Value Unit	Test Method
Flame Rating (0.06 in, Internal Test)	HB	UL 94
Glow Wire Flammability Index (0.08 in)	1380 °F	IEC 60695-2-12
Oxygen Index ⁶	21 %	ISO 4589-2

Processing Information

	Nominal Value Unit
Injection	
Drying Temperature - Dry Air Dryer	221 °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	
Hold Pressure (% of Injection Pressure):	50 - 75%
Standard Melt Temperature:	260°C
Peripheral Screw Speed:	0.1-0.2 m/s

