

Makroblend® UT250 HR

Covestro - Polycarbonates - Polycarbonate + PET

General Information

Product Description

(PC+PET)-blend, impact modified, improved hydrolysis resistance compared to standard Makroblend UT grades, injection molding grade. Good low-temperature impact strength, flowability, and chemical resistance. Applications include lead-acid battery housings.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Additive	• Impact Modifier		
Features	• Chemical Resistant	• Hydrolysis Resistant	• Low Temperature Impact Resistance
	• Good Flow	• Impact Modified	
Uses	• Battery Cases		
RoHS Compliance	• RoHS Compliant		
Processing Method	• Injection Molding		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.22	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR)	22	cm ³ /10min	ISO 1133
Molding Shrinkage ²			ISO 2577
Across Flow	0.60 to 0.80	%	
Flow	0.60 to 0.80	%	
Water Absorption (Saturation, 73°F)	0.50	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.16	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	319000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	7980	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	8270	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	4.9	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	110	%	ISO 527-2/50
Flexural Modulus ³ (73°F)	319000	psi	ISO 178
Flexural Stress ³			ISO 178
3.5% Strain, 73°F	9860	psi	
73°F	11900	psi	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	17	ft·lb/in ²	
73°F	31	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength			
-22°F ⁴	19	ft·lb/in ²	ISO 7391
-22°F	No Break		ISO 180/1C
73°F ⁴	29	ft·lb/in ²	ISO 7391
73°F	No Break		ISO 180/1C
Multi-Axial Instrumented Impact Energy			ISO 6603-2



-22°F	34.7 ft·lb	
73°F	33.2 ft·lb	
Multi-Axial Instrumented Impact Peak Force		ISO 6603-2
-22°F	1190 lbf	
73°F	967 lbf	
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	253 °F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	216 °F	ISO 75-2/A
Vicat Softening Temperature	279 °F	ISO 306/B120
CLTE - Flow (73 to 131°F)	4.2E-5 in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	4.2E-5 in/in/°F	ISO 11359-2
Thermal Conductivity ⁵ (73°F)	1.4 Btu·in/hr/ft ² /°F	ISO 8302
Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
0.030 in, Internal Test	HB	
0.06 in, Internal Test	HB	
Additional Information	Nominal Value Unit	Test Method
Drying Temperature	230 °F	ISO 294
Drying Time	4.0 hr	ISO 294
Residual Humidity	< 0.010 %	ISO 294

Processing Information

	Nominal Value Unit
Injection	
Drying Temperature - Dry Air Dryer	230 °F
Drying Time - Dry Air Dryer	2.0 to 4.0 hr
Suggested Max Moisture	< 0.010 %
Suggested Shot Size	30 to 70 %
Rear Temperature	473 to 491 °F
Middle Temperature	482 to 500 °F
Front Temperature	491 to 509 °F
Nozzle Temperature	491 to 518 °F
Processing (Melt) Temp	500 to 536 °F
Mold Temperature	122 to 212 °F
Back Pressure	725 to 2180 psi
Vent Depth	9.8E-4 to 3.0E-3 in

Injection Notes

Standard Melt Temperature: 270°C
Peripheral Screw Speed: 0.05 - 0.2 m/s
Hold Pressure (% of Injection Pressure): 50 - 75%

Notes

¹ Typical properties: these are not to be construed as specifications.

² 600 bar

³ 0.079 in/min

⁴ Notch A

⁵ Across Flow

