

## Makroblend® UT305

Covestro - Polycarbonates - Polycarbonate + PET

### General Information

#### Product Description

(PC+PET)-blend, easy release, injection molding. Makroblend UT305 offers high heat resistance, good chemical resistance and flowability. Molded parts from UT305 provide a good surface appearance and exceptional dimensional stability, even in high moisture environments.

#### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Features	• Chemical Resistant	• Good Flow	• Good Surface Finish
	• Good Dimensional Stability	• Good Mold Release	• High Heat Resistance
RoHS Compliance	• RoHS Compliant		
Processing Method	• Injection Molding		

### Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.24	g/cm <sup>3</sup>	ISO 1183
Melt Volume-Flow Rate (MVR) (270°C/5.0 kg)	39	cm <sup>3</sup> /10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow : 194°F, 1 hr	0.010 to 0.10	%	
Flow : 194°F, 1 hr	0.010 to 0.10	%	
Across Flow : 518°F, 0.118 in <sup>2</sup>	0.60 to 0.80	%	
Flow : 518°F, 0.118 in <sup>2</sup>	0.60 to 0.80	%	
Water Absorption (Saturation, 73°F)	0.55	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.25	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	377000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	10000	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	10000	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	5.4	%	ISO 527-2/50
Tensile Strain (Break, 73°F)	120	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	100	%	ISO 527-2/50
Flexural Modulus <sup>3</sup> (73°F)	377000	psi	ISO 178
Flexural Stress <sup>3</sup>			ISO 178
3.5% Strain, 73°F	11600	psi	
73°F	14500	psi	
Flexural Strain at Flexural Strength <sup>4</sup> (73°F)	6.2	%	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	2.9	ft·lb/in <sup>2</sup>	
73°F	3.8	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength			
-22°F	3.8	ft·lb/in <sup>2</sup>	ISO 180/A
-22°F, Partial Break	> 86	ft·lb/in <sup>2</sup>	ISO 180/1C
73°F	3.8	ft·lb/in <sup>2</sup>	ISO 180/A



73°F, Partial Break	> 86 ft·lb/in <sup>2</sup>	ISO 180/1C
Unnotched Izod Impact Strength		ISO 180
-22°F	No Break	
73°F	No Break	
Multi-Axial Instrumented Impact Energy		ISO 6603-2
-22°F	45.7 ft·lb	
73°F	39.8 ft·lb	
Multi-Axial Instrumented Impact Peak Force		ISO 6603-2
-22°F	1300 lbf	
73°F	1030 lbf	
<b>Thermal</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Deflection Temperature Under Load (66 psi, Unannealed)	262 °F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	228 °F	ISO 75-2/A
Vicat Softening Temperature	282 °F	ISO 306/B120
CLTE - Flow (73 to 131°F)	3.9E-5 in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	3.9E-5 in/in/°F	ISO 11359-2
RTI Elec	167 °F	UL 746B
RTI Imp	167 °F	UL 746B
RTI Str	167 °F	UL 746B
<b>Flammability</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Flame Rating (0.06 in)	HB	UL 94
<b>Fill Analysis</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Melt Viscosity <sup>5</sup>	210 Pa·s	ISO 11443-A

### Processing Information

	Nominal Value	Unit
<b>Injection</b>		
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
<b>Injection Notes</b>		
Standard Melt Temperature: 270°C		
Peripheral Screw Speed: 0.05 - 0.2 m/s		
Hold Pressure (% of Injection Pressure): 50 - 75%		

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 150x105x3mm, MT 70°C

<sup>3</sup> 0.079 in/min

<sup>4</sup> 2.0 mm/min

<sup>5</sup> 1000s<sup>-1</sup>

