

Makroblend® UT6005

Polycarbonate + PBT

Covestro - Polycarbonates

PROSPECTOR®

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Technical Data

Product Description

(PC+PBT)-blend, impact modified, easy release, injection molding grade. Makroblend DP UT6005* offers an exceptional low-temperature impact strength, good flowability and excellent chemical resistance.

General

Material Status	• Commercial: Active
Literature ¹	• Technical Datasheet (Chinese (Traditional)) • Technical Datasheet (Chinese) • Technical Datasheet (English) • Technical Datasheet (German) • Technical Datasheet (Japanese)
Search for UL Yellow Card	• Covestro - Polycarbonates • Makroblend®
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Additive	• Impact Modifier
Features	• Chemical Resistant • Good Flow • Good Mold Release • Impact Modified • Low Temperature Impact Resistance
RoHS Compliance	• RoHS Compliant
Processing Method	• Injection Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density (73°F (23°C))	1.20 g/cm ³	1.20 g/cm ³	ISO 1183
Apparent Density	0.65 g/cm ³	0.65 g/cm ³	ISO 60
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	1.10 in ³ /10min	18.0 cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow ³	0.70 to 0.90 %	0.70 to 0.90 %	
Across Flow : 194°F (90°C), 1 hr	0.10 to 0.20 %	0.10 to 0.20 %	
Flow ³	0.70 to 0.90 %	0.70 to 0.90 %	
Flow : 194°F (90°C), 1 hr	0.10 to 0.20 %	0.10 to 0.20 %	
Water Absorption			ISO 62
Saturation, 73°F (23°C)	0.50 %	0.50 %	
Equilibrium, 73°F (23°C), 50% RH	0.20 %	0.20 %	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus (73°F (23°C))	319000 psi	2200 MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield, 73°F (23°C)	8700 psi	60.0 MPa	
Break, 73°F (23°C)	7250 psi	50.0 MPa	
Tensile Strain (Yield, 73°F (23°C))	5.0 %	5.0 %	ISO 527-2/50
Nominal Tensile Strain at Break			ISO 527-2/50
73°F (23°C)	> 50 %	> 50 %	
Flexural Modulus ⁴ (73°F (23°C))	312000 psi	2150 MPa	ISO 178
Flexural Stress ⁴			ISO 178
3.5% Strain, 73°F (23°C)	10200 psi	70.0 MPa	
73°F (23°C)	11600 psi	80.0 MPa	
Flexural Strain at Flexural Strength ⁵			ISO 178
73°F (23°C)	6.0 %	6.0 %	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	19 ft·lb/in ²	40 kJ/m ²	
73°F (23°C)	29 ft·lb/in ²	60 kJ/m ²	



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Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Unnotched Impact Strength -22°F (-30°C) 73°F (23°C)	No Break No Break	No Break No Break	ISO 179/1eU
Notched Izod Impact Strength -40°F (-40°C) -22°F (-30°C) -4°F (-20°C) 73°F (23°C)	9.5 ft·lb/in ² 17 ft·lb/in ² 21 ft·lb/in ² 24 ft·lb/in ²	20 kJ/m ² 35 kJ/m ² 45 kJ/m ² 50 kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength -22°F (-30°C) 73°F (23°C)	No Break No Break	No Break No Break	ISO 180
Multi-Axial Instrumented Impact Energy -22°F (-30°C) 73°F (23°C)	42.8 ft·lb 34.7 ft·lb	58.0 J 47.0 J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force -22°F (-30°C) 73°F (23°C)	1120 lbf 854 lbf	5000 N 3800 N	ISO 6603-2
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Ball Indentation Hardness	15700 psi	108 MPa	ISO 2039-1
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature 66 psi (0.45 MPa), Unannealed 264 psi (1.8 MPa), Unannealed	230 °F 185 °F	110 °C 85.0 °C	ISO 75-2/B ISO 75-2/A
Vicat Softening Temperature	259 °F	126 °C	ISO 306/B120
CLTE Flow : 73 to 131°F (23 to 55°C) Transverse : 73 to 131°F (23 to 55°C)	5.0E-5 in/in/°F 5.0E-5 in/in/°F	9.0E-5 cm/cm/°C 9.0E-5 cm/cm/°C	ISO 11359-2
Thermal Conductivity ⁶ (73°F (23°C))	1.4 Btu·in/hr/ft ² /°F	0.20 W/m/K	ISO 8302
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	> 1.0E+17 ohms	> 1.0E+17 ohms	IEC 60093
Volume Resistivity (73°F (23°C))	> 1.0E+17 ohms·cm	> 1.0E+17 ohms·cm	IEC 60093
Electric Strength 73°F (23°C), 0.0394 in (1.00 mm)	760 V/mil	30 kV/mm	IEC 60243-1
Relative Permittivity 73°F (23°C), 100 Hz 73°F (23°C), 1 MHz	3.20 3.00	3.20 3.00	IEC 60250
Dissipation Factor 73°F (23°C), 100 Hz 73°F (23°C), 1 MHz	7.0E-4 4.5E-3	7.0E-4 4.5E-3	IEC 60250
Comparative Tracking Index Solution A Solution B	600 V 125 V	600 V 125 V	IEC 60112
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating (0.06 in (1.6 mm), Bayer Test)	HB	HB	UL 94
Glow Wire Flammability Index 0.08 in (2.0 mm)	1380 °F	750 °C	IEC 60695-2-12
Oxygen Index ⁷	21 %	21 %	ISO 4589-2



Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² Typical properties: these are not to be construed as specifications.

³ 600 bar

⁴ 0.079 in/min (2.0 mm/min)

⁵ 2 mm/min

⁶ Cross-flow

⁷ Procedure A



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Where to Buy

Supplier

Covestro - Polycarbonates

Leverkusen, Germany

Telephone: +49-214-6009-2000

Web: <http://www.plastics.covestro.com/>

Distributor

ALBIS Plastic

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