

Makroblend® EC5005 HT

Polycarbonate + PBT

Covestro - Polycarbonates

PROSPECTOR®

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Technical Data

Product Description

(PC+PBT)-Blend; impact modified; injection molding; flame-retardant; relative temperature index =100°C.

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	• Flame Retardant • Impact Modifier
Features	• Flame Retardant • Impact Modified
RoHS Compliance	• RoHS Compliant
Processing Method	• Injection Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density (73°F (23°C))	1.32 g/cm ³	1.32 g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	1.34 in ³ /10min	22.0 cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow ³	0.60 to 0.80 %	0.60 to 0.80 %	
Across Flow : 194°F (90°C), 1 hr	0.10 to 0.20 %	0.10 to 0.20 %	
Flow ³	0.60 to 0.80 %	0.60 to 0.80 %	
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)	0.36 %	0.36 %	
Equilibrium, 73°F (23°C), 50% RH	0.15 %	0.15 %	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus (73°F (23°C))	522000 psi	3600 MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/5
Yield, 73°F (23°C)	9430 psi	65.0 MPa	
Break, 73°F (23°C)	6960 psi	48.0 MPa	
Tensile Strain			
Yield, 73°F (23°C)	3.6 %	3.6 %	ISO 527-2/5
Break, 73°F (23°C)	12 %	12 %	ISO 527-2/50
Nominal Tensile Strain at Break			ISO 527-2/50
73°F (23°C)	8.0 %	8.0 %	
Flexural Modulus ⁴ (73°F (23°C))	522000 psi	3600 MPa	ISO 178
Flexural Stress ⁴ (3.5% Strain, 73°F (23°C))	14500 psi	100 MPa	ISO 178
Flexural Strain at Flexural Strength ⁵			ISO 178
73°F (23°C)	4.7 %	4.7 %	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	1.9 ft·lb/in ²	4.0 kJ/m ²	
73°F (23°C)	2.4 ft·lb/in ²	5.0 kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	40 ft·lb/in ²	85 kJ/m ²	
73°F (23°C)	40 ft·lb/in ²	85 kJ/m ²	



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Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact Strength			
-22°F (-30°C)	24 ft·lb/in ²	50 kJ/m ²	ISO 180/1C
-4°F (-20°C)	2.4 ft·lb/in ²	5.0 kJ/m ²	ISO 180/A
73°F (23°C)	2.4 ft·lb/in ²	5.0 kJ/m ²	ISO 180/A
73°F (23°C)	26 ft·lb/in ²	55 kJ/m ²	ISO 180/1C
Multi-Axial Instrumented Impact Energy			ISO 6603-2
73°F (23°C)	18.4 ft·lb	25.0 J	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
73°F (23°C)	809 lbf	3600 N	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	230 °F	110 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	196 °F	91.0 °C	ISO 75-2/A
Vicat Softening Temperature	266 °F	130 °C	ISO 306/B120
CLTE			ISO 11359-2
Flow : 73 to 131°F (23 to 55°C)	2.8E-5 in/in/°F	5.0E-5 cm/cm/°C	
Transverse : 73 to 131°F (23 to 55°C)	2.8E-5 in/in/°F	5.0E-5 cm/cm/°C	
RTI Elec	212 °F	100 °C	UL 746
RTI Imp	212 °F	100 °C	UL 746
RTI Str	212 °F	100 °C	UL 746
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+16 ohms·cm	> 1.0E+16 ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
73°F (23°C), 0.0394 in (1.00 mm)	810 V/mil	32 kV/mm	
Relative Permittivity			IEC 60250
73°F (23°C), 100 Hz	3.30	3.30	
73°F (23°C), 1 MHz	3.20	3.20	
Dissipation Factor			IEC 60250
73°F (23°C), 100 Hz	1.3E-3	1.3E-3	
73°F (23°C), 1 MHz	0.014	0.014	
Comparative Tracking Index (Solution A)	600 V	600 V	IEC 60112
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			UL 94
0.030 in (0.75 mm)	V-0	V-0	
0.12 in (3.0 mm)	5VA	5VA	
Glow Wire Flammability Index			IEC 60695-2-12
0.06 in (1.5 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.06 in (1.5 mm)	1290 °F	700 °C	
Burning Rate - US-FMVSS (> 39.4 mil (> 1.00 mm))	passed	passed	ISO 3795
Fill Analysis	Nominal Value (English)	Nominal Value (SI)	Test Method
Melt Viscosity (500°F (260°C), 1000 sec ⁻¹)	340 Pa·s	340 Pa·s	ISO 11443-A

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



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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

ALBIS Plastic is a global distribution and compounding company. Contact ALBIS Plastic for availability of individual products per country.

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Availability: Global

