

Makroblend® EC5005 HT

Polycarbonate + PBT

Covestro - Polycarbonates

Message:

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

General Information			
Additive	Impact modifier		
	Flame retardancy		
Features	Impact modification		
	Flame retardancy		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.32	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	22.0	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 2577
Transverse flow ¹	0.60 - 0.80	%	ISO 2577
Lateral flow: 90°C, 1 hour	0.10 - 0.20	%	ISO 2577
Flow ²	0.60 - 0.80	%	ISO 2577
Traffic: 90°C, 1 hour	0.10 - 0.20	%	ISO 2577
Water Absorption			ISO 62
Saturated, 23°C	0.36	%	ISO 62
Equilibrium, 23°C, 50% RH	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	3600	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/5
Yield, 23°C	65.0	MPa	ISO 527-2/5
Fracture, 23°C	48.0	MPa	ISO 527-2/5
Tensile Strain			
Yield, 23°C	3.6	%	ISO 527-2/5
Fracture, 23°C	12	%	ISO 527-2/50
Nominal Tensile Strain at Break (23°C)	8.0	%	ISO 527-2/50
Flexural Modulus ³ (23°C)	3600	MPa	ISO 178
Flexural Stress ⁴ (3.5% Strain,23°C)	100	MPa	ISO 178
Flexural Strain at Flexural Strength ⁵ (23°C)	4.7	%	ISO 178
Combustion rate-US-FMVSS (> 1.00 mm)	passed		ISO 3795

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	4.0	kJ/m ²	ISO 179/1eA
23°C	5.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	85	kJ/m ²	ISO 179/1eU
23°C	85	kJ/m ²	ISO 179/1eU
Notched Izod Impact			
-30°C	50	kJ/m ²	ISO 180/1C
-20°C	5.0	kJ/m ²	ISO 180/A
23°C	5.0	kJ/m ²	ISO 180/A
23°C	55	kJ/m ²	ISO 180/1C
Multi-Axial Instrumented Impact Energy (23°C)	25.0	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force (23°C)	3600	N	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	110	°C	ISO 75-2/B
1.8 MPa, not annealed	91.0	°C	ISO 75-2/A
Vicat Softening Temperature	130	°C	ISO 306/B120
Linear thermal expansion coefficient			ISO 11359-2
Flow: 23 to 55°C	5.0E-5	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	5.0E-5	cm/cm/°C	ISO 11359-2
RTI Elec	100	°C	UL 746
RTI Imp	100	°C	UL 746
RTI	100	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+17	ohms	IEC 60093
Volume Resistivity (23°C)	> 1.0E+16	ohms·cm	IEC 60093
Dielectric Strength (23°C, 1.00 mm)	32	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
23°C, 100 Hz	3.30		IEC 60250
23°C, 1 MHz	3.20		IEC 60250
Dissipation Factor			IEC 60250
23°C, 100 Hz	1.3E-3		IEC 60250
23°C, 1 MHz	0.014		IEC 60250
Comparative Tracking Index (Solution A)	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.75 mm	V-0		UL 94
3.0 mm	5VA		UL 94
Glow Wire Flammability Index (1.5 mm)	960	°C	IEC 60695-2-12

Glow Wire Ignition Temperature (1.5 mm)	700	°C	IEC 60695-2-13
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (260°C, 1000 sec ⁻¹)	340	Pa·s	ISO 11443-A
NOTE			
1.	600 bar		
2.	600 bar		
3.	2.0 mm/min		
4.	2.0 mm/min		
5.	2 mm/min		

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