Makroblend EL 703

Impact modified grades / Flame retardant

UV-stabilized, impact-modified polycarbonate/PET polyester blend with UL94 V-0 rating at 1.5 mm thickness, UL94 V-0/5VA rating at 3.0 mm thickness, and UL 746C approval

ISO Shortname

Property	Test Condition	Unit	Standard	Value
Rheological properties				
Spiral flow length	0.100 in, 525 °F melt temperature	in	Bayer test	30
Mold shrinkage, flow/cross to flow		in/in	ASTM D 955	0.006-0.008
Melt flow rate	265 °C; 5 kg	g/(10 min)	ASTM D 1238	20 - 30
Mechanical properties (23 °C/50 % r.h.)				
Tensile stress at yield		lb/in²	ASTM D 638	8000
Tensile elongation at yield		%	ASTM D 638	5.0
Tensile elongation at break		%	ASTM D 638	110
Tensile stress at break		lb/in²	ASTM D 638	7400
Izod notched impact strength	73 °F, 0.125 in	ft·lb/in	ASTM D 256	14
Izod notched impact strength	-20 °F; 0.125 in	ft·lb/in	ASTM D 256	3
Izod notched impact strength	-40 °F; 0.125 in	ft·lb/in	ASTM D 256	2
Izod notched impact strength	73 °F; 0.250 in	ft·lb/in	ASTM D 256	5.0
Flexural modulus		lb/in²	ASTM D 790	350000
Flexural stress at 5 % strain		lb/in²	ASTM D 790	13000
Instrumented impact, Total energy	73 °F; 0.125 in; 0.5-in dart; 3-in clamp; 7.6 mph	ft·lb	ASTM D 3763	37
Instrumented impact, Total energy	-20 °F; 0.125 in; 0.5-in dart; 3-in clamp; 15 mph	ft·lb	ASTM D 3763	36
Instrumented impact, Total energy	-40 °F; 0.125 in; 0.5-in dart; 3-in clamp; 7.6 mph	ft·lb	ASTM D 3763	33
Rockwell hardness		R Scale	ASTM D 785	117
Thermal properties				
Deflection temperature under load, Unannealed	264 psi; 0.250 in	°F	ASTM D 648	212
Deflection temperature under load, Unannealed	66 psi; 0.250 in	°F	ASTM D 648	246
Coefficient of linear thermal expansion, flow/cross-flow		in/in/°F	ASTM D 696	3.6E-05
UL94 Flame Class	Thickness tested: 1.5 mm	Class	UL 94	V-0
UL94 Flame Class	Thickness tested: 3.0 mm	Class	UL 94	V-0/5VA
Relative temperature index, mechanical with impact	Thickness tested: 1.5 mm	°C	UL 746 B	90
Relative temperature index, electrical	Thickness tested: 1.5 mm	°C	UL 746 B	105
Relative temperature index, mechanical without impact	Thickness tested: 1.5 mm	°C	UL 746 B	105
Electrical properties (23 °C/50 % r.h.)				
Dissipation factor, Tinfoil electrodes	60 Hz	-	ASTM D 150	0.0019
Dissipation factor, Tinfoil electrodes	1 MHz	-	ASTM D 150	0.0122
Volume resistivity, Tinfoil electrodes		Ohm·m	ASTM D 257	4.6 E15
Dielectric strength	Short time under oil at 73 °F	V/mil	ASTM D 149	>708
Dielectric constant, Tinfoil electrodes	60 Hz	-	ASTM D 150	3.93
Dielectric constant, Tinfoil electrodes	1 MHz	-	ASTM D 150	3.31
Surface resistivity		Ohm	ASTM D 257	2.9E16
Other properties (23 °C)				
Water absorption	73 °F; immersion to saturation	%	ASTM D 570	0.34
Water absorption	73 °F; immersion 24 h	%	ASTM D 570	0.16
Specific volume		in³/lb	ASTM D 792	21.5
Density		lb/in³	ASTM D 792	0.047