

Makroblend EL 700

Impact modified grades / Flame retardant

Impact-modified polycarbonate/PET polyester blend with an UL94 V-0 rating at 1.5 mm thickness and UL94 V-0/5VA at 3.0 mm thickness

ISO Shortname

Property	Test Condition	Unit	Standard	Value
Rheological properties				
Spiral flow length	0.100 in, 525 °F melt temperature	in	Bayer test	19
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	10 - 20
Mechanical properties (23 °C/50 % r.h.)				
Tensile stress at yield		lb/in ²	ASTM D 638	8400
Tensile elongation at yield		%	ASTM D 638	5.0
Tensile elongation at break		%	ASTM D 638	120
Tensile stress at break		lb/in ²	ASTM D 638	8000
Izod notched impact strength	73 °F, 0.125 in	ft-lb/in	ASTM D 256	15
Izod notched impact strength	-20 °F; 0.125 in	ft-lb/in	ASTM D 256	5
Izod notched impact strength	-40 °F; 0.125 in	ft-lb/in	ASTM D 256	4
Izod notched impact strength	73 °F; 0.250 in	ft-lb/in	ASTM D 256	10
Flexural modulus		lb/in ²	ASTM D 790	340000
Flexural stress at 5 % strain		lb/in ²	ASTM D 790	12000
Instrumented impact, Total energy	73 °F; 0.125 in; 0.5-in dart; 3-in clamp; 7.6 mph	ft-lb	ASTM D 3763	40
Instrumented impact, Total energy	-20 °F; 0.125 in; 0.5-in dart; 3-in clamp; 15 mph	ft-lb	ASTM D 3763	37
Instrumented impact, Total energy	-40 °F; 0.125 in; 0.5-in dart; 3-in clamp; 7.6 mph	ft-lb	ASTM D 3763	35
Rockwell hardness		R Scale	ASTM D 785	120
Thermal properties				
Deflection temperature under load, Unannealed	264 psi; 0.250 in	°F	ASTM D 648	222
Deflection temperature under load, Unannealed	66 psi; 0.250 in	°F	ASTM D 648	255
Coefficient of linear thermal expansion, flow/cross-flow		in/in/°F	ASTM D 696	3.7E-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	75
Relative temperature index, electrical	Thickness tested: 1.5 mm	°C	UL 746 B	75
Relative temperature index, mechanical without impact	Thickness tested: 1.5 mm	°C	UL 746 B	75
Electrical properties (23 °C/50 % r.h.)				
Dissipation factor, Tinfoil electrodes	60 Hz	-	ASTM D 150	0.0009
Dissipation factor, Tinfoil electrodes	1 MHz	-	ASTM D 150	0.0080
Volume resistivity, Tinfoil electrodes		Ohm·m	ASTM D 257	1.7 E16
Dielectric strength	Short time under oil at 73 °F	V/mil	ASTM D 149	>734
Dielectric constant, Tinfoil electrodes	60 Hz	-	ASTM D 150	3.08
Dielectric constant, Tinfoil electrodes	1 MHz	-	ASTM D 150	3.08
Surface resistivity		Ohm	ASTM D 257	1.8 E+16
Other properties (23 °C)				
Water absorption	73 °F; immersion to saturation	%	ASTM D 570	0.28
Water absorption	73 °F; immersion 24 h	%	ASTM D 570	0.09
Specific volume		in ³ /lb	ASTM D 792	21.6
Density		lb/in ³	ASTM D 792	0.046

