LUPOY PC 1303EP-22

Polycarbonate Resin

Introduction

LUPOY PC 1303EP-22 resin is designed for extrusion and injection molding products. It exhibits an excellent physical property balance of heat resistance, transparency and impact strength.

Main Characteristics

- UV stabilizer[1]
- Low viscosity
- Good mold release

Applications

- Appliances
- Outdoor appliances
- Automotive headlamps
- Mobile phone keypads

Properties[2]	Test Method	English Value	English Units	SI Value	SI Units
Physical					
Melt Flow Rate (300 °C /1.2 kg)	ASTM D 1238	22	g/10 min	22	g/10 min
Density	ASTM D 792	1.20		1,200	kg/m^3
Mold Shrinkage	ASTM D 955	0.005~0.007	in/in	0.005~0.007	mm/mm
Water Absorption @ 24 hrs, 23°C	ASTM D 570	0.15	%	0.15	%
@ equilibrium, 50%RH, 23°C	ASTM D 570	0.32	%	0.32	%
Optical					
Refractive Index, n_D	ASTM D 542	1.586		1.586	
Light Transmittance	ASTM D 1003	89	%	89	%
Haze	ASTM D 1003	0.7~1.5	%	0.7~1.5	%
Thermal					
Deflection Temperature Under Load (DTUL) @ 4 mm	ASTM D 648				
@ 66 psi (0.45 MPa), annealed		288	°F	142	°C
@ 264 psi (1.8 MPa), annealed		282	°F	139	°C
@ 264 psi (1.8 MPa), unannealed		258	°F	126	°C
Vicat Softening Point, 50°C /hr, 50N Load	ASTM D 1525	297	°F	147	°C
Coefficient of Linear Thermal Expansion, @ -40 to 82°C	ASTM D 696	38 x 10^{-6}	in/in/°F	68 x 10^{-6}	mm/mm/°C
Mechanical					
Tensile Yield Strength	ASTM D 638	8,700	psi	60	MPa
Ultimate Tensile Strength	ASTM D 638	9,500	psi	66	MPa
Elongation at Yield	ASTM D 638	6	%	6	%
Elongation at Break	ASTM D 638	120	%	120	%
Tensile Modulus	ASTM D 638	340,000	psi	2,340	MPa
Flexural Strength	ASTM D 790	14,000	psi	96	MPa
Flexural Modulus	ASTM D 790	350,000	psi	2,410	MPa
Notched Izod Impact[3] @ 23 °C	ASTM D 256	14	ft-lb/in	750	J/m
Unnotched Izod Impact @ 23 °C	ASTM D 256	No break		No break	
Instrumented Dart Impact[4], Total Energy @ 23 °C	ASTM D 3763	640	in-lb	72	J
Rockwell Hardness	ASTM D 785	118	R Scale	72	M Scale
Taber Abrasion Resistance[5] (Δ Haze)	ASTM D 1044	45	%	45	%
Ignition Resistance[6]					
Limiting Oxygen Index	ASTM D 2863	26	%	26	%
Ball Indentation Temperature	IEC 598-1	>125	°C	>125	°C
Average Extent of Burning	ASTM D 635	1	in	25	mm
Electrical					
GWT 2.0 mm, 5 second	IEC 695-2-1	850	°C	850	°C
Compression Tracking Index @ 2.0 mm	IEC 112	250	V	250	V
Dielectric Strength	ASTM D 149	420	V/mil	17	KV/mm
Dielectric Constant @ 60 Hz	ASTM D 150	3		3	
Dissipation Factor @ 60 Hz	ASTM D 150	0.001		0.001	
Volume Resistivity @ 23 °C, dry	ASTM D 257	2.0 x 10^{17}	Ω-cm	2.0 x 10^{17}	Ω-cm

1. The addition of an UV stabilizer to a resin does not completely eliminate the effects of UV exposure but to slow down the rate at which the effects occur. These effects may include color shift, decreased mechanical properties, and/or optical properties. Actual results may very depending on application and other factors such as resin color, transparency and additives. Therefore, actual end-use testing is recommended.
2. Typical properties; not to be constructed as specifications.
3. 0.125 in; 10 mil notch (3.2 mm; 0.25 mm notch).
4. 0.125 in; 8000 ipm (3.2 mm; 203 m/min).
5. 1,000 g; CS-10 F wheel; 500 cycles.
6. These numerical flame spread ratings are small-scale test values and are not intended to reflect hazards presented by these or any other materials under actual fire conditions. UL 94 file: E67171.