

Technical Information



LUPOY PC 1301-12

Polycarbonate Resin

Introduction

LUPOY PC 1301-12 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

- Medium viscosity
- Good mold release

Applications

- Non food containers
- Mobile phone keypads
- Appliances
- Packaging applications

Properties ¹	Test Method	English Value	Units	SI Value	Units
Physical					
Melt Flow Rate (300 °C /1.2 kg)	ASTMD 1238	12	g/10 min	12	g/10 min
Density	ASTMD 792	1.20		1.200	kg/m ³
Mold Shrinkage	ASTMD 955	0.005~0.007	in/in	0.005~0.007	mm/mm
Water Absorption @ 24 hrs, 23°C	ASTMD 570	0.15	%	0.15	%
@ equilibrium, 50%RH, 23°C	ASTMD 570	0.32	%	0.32	%
Optical					
Refractive Index, n _D	ASTMD 542	1.586		1.586	
Light Transmittance	ASTMD 1003	89	%	89	%
Haze	ASTMD 1003	0.7~1.5	%	0.7~1.5	%
Thermal					
Deflection Temperature Under Load (DTUL) @ 4 mm @ 66 psi (0.45 MPa), annealed	ASTMD 648	290	°F	144	°C
@ 264 psi (1.8 MPa), annealed		285	°F	141	°C
@ 264 psi (1.8 MPa), unannealed		264	°F	129	°C
Vicat Softening Point, 50°C/hr, 50N Load	ASTMD 1525	300	°F	149	°C
Coefficient of Linear Thermal Expansion, @ -40 to 82°C	ASTMD 696	38 x 10 ⁻⁶	in/in/°F	68 x 10 ⁻⁶	mm/mm/°C
Mechanical					
Tensile Yield Strength ²	ASTMD 638	8,700	psi	60	MPa
Ultimate Tensile Strength	ASTMD 638	10,300	psi	71	MPa
Elongation at Yield	ASTMD 638	6	%	6	%
Elongation at Break	ASTMD 638	150	%	150	%
Tensile Modulus	ASTMD 638	350,000	psi	2,410	MPa
Flexural Strength	ASTMD 790	14,000	psi	96	MPa
Flexural Modulus	ASTMD 790	350,000	psi	2,410	MPa
Notched Izod Impact ³ @ 23 °C	ASTMD 256	17	ft-lb/in	880	J/m
Unnotched Izod Impact @ 23 °C	ASTMD 256	No break		No break	
Instrumented Dart Impact ⁴ , Total Energy @ 23 °C	ASTMD 3763	770	in-lb	87	J
Rockwell Hardness	ASTMD 785	118	R Scale	73	M Scale
Taber Abrasion Resistance ⁵ (Δ Haze)	ASTMD 1044	45	%	45	%
Ignition Resistance⁶					
UL-94 @ 0.5 mm	ASTMD635	V-2		V-2	
UL-94 @ 1.6 mm	ASTMD635	V-2		V-2	
UL-94 @ 2.5-2.7 mm	ASTMD635	V-2		V-2	
UL-94 @ 3.0 mm	ASTMD635	HB		HB	
Limiting Oxygen Index	ASTMD 2863	26	%	26	%
Ball Indentation Temperature	IEC 598-1	>125	°C	>125	°C
Average Extent of Burning	ASTMD 635	1	in	25	mm
Electrical					
GWT 2.0 mm, 5 second	IEC 695-2-1	850	°C	850	°C
Comparative Tracking Index @ 2.0 mm	IEC 112	250	V	250	V
Dielectric Strength	ASTMD 149	420	V/mil	17	KV/mm
Dielectric Constant @ 60 Hz	ASTMD 150	3		3	
Dissipation Factor @ 60 Hz	ASTMD 150	0.001		0.001	
Volume Resistivity @ 23 °C, dry	ASTMD 257	2.0 x 10 ¹⁷	Ω-cm	2.0 x 10 ¹⁷	Ω-cm

1. Typical properties; not to be constructed as specifications.

2. Tensile Test @ 23 °C; 50 mm/min.

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: E 306922.