

Technical Information



LUPOY PC 1302LT-12

Polycarbonate Resin

Introduction

LUPOY PC 1302LT-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
- No mold release agent

Applications

- Luminaires
- Outdoor appliances
- UV absorber
- Lens

Properties ²	Test Method	Value	English Units	Value	SI Units
Physical					
Melt Flow Rate (300 °C /1.2 kg)	ASTM D 1238	12	g/10 min	12	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	≥ 90	%	≥ 90	%
Haze	ASTM D 1003	0.7~1.5	%	0.7~1.5	%
Thermal					
Deflection Temperature Under Load (DTUL) @ 4 mm @ 66 psi (0.45 MPa), annealed	ASTM D 648	290	°F	143	°C
@ 264 psi (1.8 MPa), annealed		285	°F	141	°C
@ 264 psi (1.8 MPa), unannealed		261	°F	127	°C
Vicat Softening Point, 50°C /hr, 50N Load	ASTM D 1525	299	°F	148	°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	10,300	psi	71	MPa
Elongation at Yield	ASTM D 638	6	%	6	%
Elongation at Break	ASTM D 638	150	%	150	%
Tensile Modulus	ASTM D 638	350,000	psi	2,380	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	16.5	ft-lb/in	880	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	770	in-lb	87	J
Rockwell Hardness	ASTM D 785	118	R Scale	73	M Scale
Taber Abrasion Resistance ⁵ (Δ Haze)	ASTM D 1044	45	%	45	%

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

3. 0.125 in; 10 mil notch (3.2 mm; 0.25 mm notch).

5. 1,000 g; CS-10 F wheel; 500 cycles.

2. Tensile Test @ 23 °C; 50 mm/min.

4. 0.125 in; 8000 ipm (3.2 mm; 203 m/min).