

Technical Information



LUPOY PC 1200HP-15

Polycarbonate Resin

Introduction

LUPOY PC 1200HP-15 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

- FDA¹
- Medium viscosity
- Toys
- Bottle and caps
- Ultra-clean
- No mold release agent
- No UV absorbers
- Packaging applications
- Food utensils

Applications

Properties ²	Test Method	Value	English Units	Value	SI Units
Physical					
Melt Flow Rate (300 °C /1.2 kg)	ASTMD 1238	15	g/10 min	15	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	ASTMD 648	289	°F	143	°C
@ 66 psi (0.45 MPa), annealed		284	°F	140	°C
@ 264 psi (1.8 MPa), annealed		260	°F	127	°C
@ 264 psi (1.8 MPa), unannealed					
Vicat Softening Point, 50°C/hr, 50N Load	ASTMD 1525	298	°F	148	°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 ³	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	340,000	psi	2,340	MPa
Flexural Strength	ASTMD 790	14,000	psi	96	MPa
Flexural Modulus	ASTMD 790	350,000	psi	2,410	MPa
Notched Izod Impact ⁴ @ 23 °C	ASTMD 256	16	ft-lb/in	850	J/m
Unnotched Izod Impact @ 23 °C	ASTMD 256	No break		No break	
Instrumented Dart Impact ⁵ , Total Energy @ 23 °C	ASTMD 3763	770	in-lb	87	J
Rockwell Hardness	ASTMD 785	118	R Scale	72	M Scale
Taber Abrasion Resistance ⁶ (Δ Haze)	ASTMD 1044	45	%	45	%
Ignition Resistance⁷					
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

- When used unmodified for the manufacture of food contact articles LUPOY 1200-15 Polycarbonate resins comply with the U.S. Food, Drug, and Cosmetic Act and Food Additive Regulations 21 CFR 177.1580 and E.U. Food Contact Regulations. The uses cited above are subject to GMP (Good Manufacturing Practices) and any limitations that are part of the regulations. The regulations should be consulted for complete details.
- Typical properties; not to be construed as specifications.
- Tensile Test @ 23 °C; 50 mm/min.
- 0.125 in; 10 mil notch (3.2 mm; 0.25 mm notch).
- 0.125 in; 8000 ipm (3.2 mm; 203 m/min).
- 1,000 g; CS-10 F wheel; 500 cycles.
- 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