

LUPOY PC 1621-02

Polycarbonate Resin

Introduction

LUPOY PC 1621-02 resin is designed for large injection stretch blow molding and extrusion blow molding parts. It exhibits an excellent physical property balance of heat resistance, transparency and impact strength.

Main Characteristics

- FDA compliance¹
- Good mold release
- 19L (5 gal) big water bottles
- Excellent impact resistance
- High viscosity

Applications

Properties ²	Test Method ²	English		SI	
		Value	Units	Value	Units
Physical					
Melt Flow Rate (300 °C /1.2 kg)	ASTM D 1238	2.5	g/10 min	2.5	g/10 min
Density	ISO R1183	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 @ 64 psi (0.45 MPa), annealed (0.157 in; 4mm)	ISO 75	288	°F	142	°C
@ 264 psi (1.8 MPa), annealed (0.157 in; 4mm)		279	°F	137	°C
@ 264 psi (1.8 MPa), unannealed (0.157 in; 3.2mm)		262	°F	128	°C
Vicat Softening Point, 50°C/hr, 50N Load, unannealed	ISO 306B	295	°F	146	°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	ISO R527	9,100	psi	63	MPa
Ultimate Tensile Strength	ISO R527	8,700	psi	60	MPa
Elongation at Yield	ISO R527	6	%	6	%
Elongation at Break	ISO R527	90	%	90	%
Tensile Modulus	ISO R527	330,000	psi	2,275	MPa
Flexural Strength	ISO 178	13,900	psi	96	MPa
Flexural Modulus	ISO 178	348,870	psi	2,406	MPa
Notched Izod Impact ³ @ 23 °C	ISO R180	17	ft-lb/in	927	J/m
Unnotched Izod Impact @ 23 °C	ISO R180	No break		No break	
Charpy Impact Strength (notched)	ISO 178	-	-	45	kJ/m ²
Ignition Resistance⁴					
UL-94 @ 1.6 mm	-	-		-	
UL-94 @ 3.2 mm	-	-		-	

1. When used unmodified for the manufacture of food contact articles LUPOY 1621-2 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.

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

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

4. These numerical flame spread rating are small-scale test values and are not intended to reflect hazards presented by these or any other materials under actual fire conditions.