

LUPOY PC 1080-70

Polycarbonate Resin

Introduction

LUPOY PC 1080-70 resin is designed for optical media discs applications. It exhibits an excellent physical property balance of heat resistance, transparency and impact strength.

Main Characteristics

- Very low viscosity
- Good mold release

Applications

- VCD, Audio-CD, DC-ROM
- DVD, DVD-R, DVD-RW
- CD-R, CD-RW, CD-RAM

Properties ¹	Test Method	English		SI	
		Value	Units	Value	Units
Physical					
Melt Flow Rate (300 °C /1.2 kg)	ASTM D 1238	70	g/10 min	70	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	1.583		1.583	
Light Transmittance	ASTM D 1003	91	%	91	%
Thermal					
Deflection Temperature Under Load (DTUL) @ 4 mm @ 66 psi (0.45 MPa), annealed @ 264 psi (1.8 MPa), unannealed	ASTM D 648	278	°F	137	°C
		256	°F	124	°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 ²	ASTM D 638	8,700	psi	60	MPa
Ultimate Tensile Strength	ASTM D 638	7,000	psi	48	MPa
Elongation at Yield	ASTM D 638	6	%	6	%
Elongation at Break	ASTM D 638	60	%	60	%
Tensile Modulus	ASTM D 638	334,000	psi	2,300	MPa
Flexural Strength	ASTM D 790	14,500	psi	100	MPa
Flexural Modulus	ASTM D 790	353,000	psi	2,500	MPa
Notched Izod Impact ³ @ 23 °C	ASTM D 256	5	ft-lb/in	270	J/m
Instrumented Dart Impact ⁴ , Total Energy @ 23 °C	ASTM D 3763	59	in-lb	520	J
Rockwell Hardness	ASTM D 785	124	R Scale	58	M Scale

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).