

Technical Information



LUPOY NF 1005F03R

Polycarbonate Resin

Introduction

LUPOY NF 1005F03R, eco-friendly UL94 V0/1.5 mm, is designed for extrusion products. It combines an excellent physical property balance of heat resistance, transparency and impact strength and exhibits excellent processing characteristics.

Main Characteristics

- Good mold release
- High viscosity

- Non chlorine, bromine, nor phosphate additives
- Complying with global environmental standards
- Extrusion application
- Information Technology Equipment

Applications

Last updated : 2012/10/18

Properties ¹	Test Method	Value	English Units	Value	SI Units
Physical					
Melt Flow Rate (300 °C /1.2 kg)	ASTM D 1238	3	g/10 min	3	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	87	%	87	%
Haze	ASTM D 1003	Max 3.0	%	Max 3.0	%
Thermal					
Deflection Temperature Under Load (DTUL) @ 4 mm	ASTM D 648	281	°F	138	°C
@ 66 psi (0.45 MPa), unannealed		260	°F	126	°C
@ 264 psi (1.8 MPa), unannealed					
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	9,000	psi	62	MPa
Ultimate Tensile Strength	ASTM D 638	9,600	psi	66	MPa
Elongation at Yield	ASTM D 638	6	%	6	%
Elongation at Break	ASTM D 638	120	%	120	%
Tensile Modulus	ASTM D 638	320,000	psi	2,200	MPa
Flexural Strength	ASTM D 790	13,000	psi	90	MPa
Flexural Modulus	ASTM D 790	320,000	psi	2,200	MPa
Notched Izod Impact ³ @ 23 °C	ASTM D 256	17	ft-lb/in	930	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	790	in-lb	89	J
Rockwell Hardness	ASTM D 785	118	R Scale	73	M Scale
Taber Abrasion Resistance ⁵ (Δ Haze)	ASTM D 1044	45	%	45	%
Ignition Resistance⁶					
UL-94 @ 1.5 mm	ASTM D635	V-0		V-0	
UL-94 @ 2.0 mm	ASTM D635	V-0		V-0	
UL-94 @ 3.0 mm	ASTM D635	V-0		V-0	
5Va @ 3.0 mm	LG Method ⁷	5Va		5Va	
Limiting Oxygen Index	ASTM D 2863	35	%	35	%
Ball Indentation Temperature	IEC 598-1	>125	°C	>125	°C
Electrical					
Glow Wire Flammability index 960°C passes at	IEC 60695-2-12	0.0394	in	1.0	mm
Glow Wire Ignitability Temperature, 1.0mm	IEC 60695-2-13	1,560	°F	850	°C
Comparative Tracking Index @ 2.0 mm	IEC 112	250	V	250	V
Dielectric Strength	ASTM D 149	420	V/mil	17	KV/mm
Dielectric Constant @ 60 Hz	ASTM D 150	3		3	
Dissipation Factor @ 60 Hz	ASTM D 150	0.001		0.001	
Volume Resistivity @ 23 °C, dry	ASTM D 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: E67171.

7. 5Va test was conducted by LG techcenter according to standard method of UL.