SolutionPartner

LG Chem

LUMIPLAS LD7700

Injection & Extrusion molding grade

Description

Light diffusion

Application

(LED) Lamp cover, Signboard
Lighting decoration of electronic device

Properties	Test Condition	Test Method	Unit	Typical Value
Physical				
Specific Gravity		ASTM D792	-	1.20
Molding Shrinkage (Flow), 3.2mm		ASTM D955	%	0.5~0.8
Melt Flow Rate	300℃/1.2kg	ASTM D1238	g/10min	11
Mechanical				
Tensile Strength, 3.2mm		ASTM D638		
@ Yield	50mm/min		kg/cm^2	630
Tensile Elongation, 3.2mm		ASTM D638		
@ Break	50mm/min		%	>100
Flexural Strength, 6.4mm	15mm/min	ASTM D790	kg/cm^2	950
Flexural Modulus, 6.4mm	15mm/min	ASTM D790	kg/cm^2	23,000
IZOD Impact Strength, 3.2mm		ASTM D256		
(Notched)	23℃		kg·cm/cm	80
	-30℃		kg·cm/cm	
Rockwell Hardness	R-Scale	ASTM D785	-	118
Thermal				
Heat Deflection Temperature, 6.4mm		ASTM D648		
(Unannealed)	18.6kg		℃	130
	4.6kg		℃	
Coefficient of Linear Thermal Expansion		ASTM D696	10^{-5} m/m℃	6.8
Flammability		UL94		
0.8mm			class	V-2
1.6mm			class	V-2
Relative Temperature Index		UL 746B		
Electrical			℃	80
Mechanical with Impact			℃	80
Mechanical without Impact			℃	80
Optical				
Transparency (@1mm)		JIS K7361	%	70

Note) Typical values are only for material selection purpose, and variation within normal tolerances are for various colors.
Values given should not be interpreted as specification and not be used for part or tool design.
All properties, except melt flow rate are measured on injection molulded specimens and after 48 hours storage at 23℃, 50% relative humidty.

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Processing Guide (Injection Molding)

Processing Parameters		Unit	Value
Drying Temperature		℃	100 ~ 120
Drying Time		hrs	3 ~ 4
Maximum Moisture Content		%	0.02
Melt Temperature		℃	300 ~ 320
Cylinder Temperature	Rear	℃	260 ~ 280
	Middle	℃	280 ~ 300
	Front	℃	290 ~ 310
Nozzle Temperature		℃	290 ~ 310
Mold Temperature		℃	80 ~120
Back Pressure		kg/cm^2	10 ~ 40
Screw Speed		rpm	40 ~ 70

Note) Back Pressure & Screw Speed are only mentioned as general guidelines.
These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.

Processing Guide (Extrusion Molding)

Processing Parameters		Unit	Value
Drying Temperature		℃	100 ~ 120
Drying Time		hrs	3 ~ 4
Maximum Moisture Content		%	0.02
Melt Temperature		℃	300 ~ 320
Barrel Temperature	Zone 1	℃	260 ~ 280
	Zone 2	℃	270 ~ 300
	Zone 3	℃	270 ~ 300
	Zone 4	℃	270 ~ 300
Adapter Temperature		℃	280 ~ 300
Die Temperature		℃	260 ~ 295
Roll Stack Tempeature	Top	℃	120 ~ 150
	Middle	℃	120 ~ 150
	Bottom	℃	120 ~ 150

Note) Recommend initial lower temperatures settings to avoid material degradation/hang-up in die & purge material from extruder prior to shutdown.

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