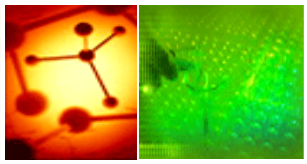
Product Information

LUPOY GN-5001SF



LG Chem

LUPOY GN-5001SF

LUPOY is the trade name of LG Chemical's polycarbonate(PC) and styrenic resin alloy, used to manufacture housing of electronic equipment, automotive part, frames, and etc. There are varying grades in LUPOY resins including general purpose grade, flame retardant grade, and filler reinforced grade.

LUPOY GN-5001SF is a flame-retardant polycarbonate/ABS alloys which do not contain any halogenated materials. LUPOY GN-5001SF comply with the TCO'99 and Blue Angel environmental directives. It can be applicable to housing of electrics, electronics machines.

The most desirable characteristics of LUPOY GN grades are as follows :

- **Good Impact Strength**
- **Excellent Processibility**
- **Excellent Weather Resistance**
- **Good Thermal Stability.**

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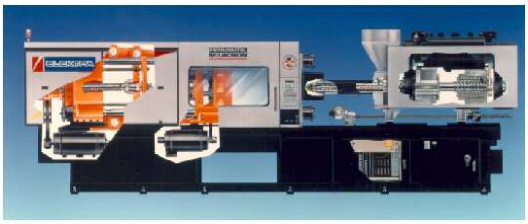
Data Sheet

Property	Units	LUPOY GN-5001SF	Test Method (ASTM)
Physical			
Specific Gravity	-	**1.18**	D792
Mold Shrinkage	%	**0.4~0.6**	D955
Melt Index @ 250℃, 2.16kg	g/10min	**23**	D1238
Mechanical			
Tensile Strength at Yield	kg/㎠ (Mpa)	**600 (59)**	D638
Tensile Elongation	%	**> 60**	D638
Flexural Strength	kg/㎠ (Mpa)	**890 (87)**	D790
Flexural Modulus	kg/㎠ (Mpa)	**25,000 (2,450)**	D790
Izod Impact, Notched	kg.cm/cm(J/m)	**30 (294)**	D256
Thermal			
HDT, 4.6kgf	℃ (°F)	**90 (194)**	D648
Flammability			
UL Rating		**V-0 @ 1.5mm** **5VB @ 2.0mm**	

* Mechanical properties are measured at 23℃, 50% RH.



Drying

If the resin has an excessively high moisture content, this can result in surface defects , i.e.silver streaks, and impaired properties of molded parts. To ensure optimum part performance and prevent surface defects, LUPOY resins must be dried prior to processing,and moisture level maintained less than 0.05%. A dehumidifying hopper dryer is highly recommended.

	Processing Conditions
Barrel	
Rear	200~230 (390~445)
Middle	210~240 (410~465)
Front	220~250 (430~480)
Nozzle	220~250 (430~480)
Melt	230~260 (445~500)
Mold	50~80 (125~175)
Drying	60~80 (140~175)
Screw speed	40~70 rpm

* Temperature: ℃ (˚F)

Injection Speed/Pressure

Injection speed and pressure depend on the type of materials and the nature of the molded part. When molten polymer is injected into the mold cavity, process control can be divided into two processes, i.e. injection speed and holding pressure.

In injection speed control process, desired set-point value of injection speed is determined. Injection pressure should be high enough to ensure that the injection speed does not drop below the required set-point value. Injection pressure varies with the material type, i.e. the flowability of a material.

In general, high injection speed is preferred. In order to avoid surface defects close to the gate, it is recommended to reduce the speed at the start of the injection process. In many cases, surface defects such as flow marks, jetting, streaks, and weld lines are closely related to injection speed. Therefore, optimum velocity profile should be determined through empirical attempts.

By reducing the speed prior to holding pressure stage, it is possible to level out the pressure profile and help prevent a back flow of the melt. It is important to switch to holding pressure stage at the right moment in order to prevent over-packing in the mold.

Holding Time/Pressure

Volume shrinkage takes place when the molded part cools in the mold. Holding pressure serves to offset the volume shrinkage. Holding pressure should be maintained until the gate has “frozen”. The required holding pressure time can be determined by checking the weight of the molded part.

Chemical Resistance

Chemical resistance of certain material is dependent on the environmental conditions where the material is actually used. Therefore, it should be understood that the various usage parameters involved in and actual applications, e.g., chemical exposure duration, chemical type, loading, service temperature, stress, outdoor exposure, etc., may alter the performance significantly. Another important factor affecting the chemical resistance is the type of thermoplastic resin. Amorphous polymers tend to be more susceptible to chemical attack than crystalline polymers.
LUPOY resins are generally stable to water, weak acid and mineral oil.
Mechanical properties and surface appearance, however,can be deteriorated if a molded part is exposed to hot water, strong acid, alkalis, Ketones and aromatic hydrocarbons, etc.

Chemical Resistance of LUPOY Resins

Chemical	Effects
Acids	·Stable under common conditions of concentration and temperature.
Alcohols	·Stable at low concentration ·Unstable at high concentration and elevated temperature.
Alkalis	·Stable at low concentration ·Unstable at high concentration and elevated temperature.
Detergents and Cleaner	·Stable except strong alkaline materials
Aromatic Hydrocarbons	·Solvents ·Should not be used.
Ketons, Toluene, Xylene	·Cause severe damage
Silicon oil	· Stable