

**SolutionPartner**


# LUMIPLAS LD7701FA

Extrusion molding grade

## Description

Light diffusion

## Application

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

| Properties                                      | Test Condition  | Test Method | Unit                    | Typical Value |
|-------------------------------------------------|-----------------|-------------|-------------------------|---------------|
| <b>Physical</b>                                 |                 |             |                         |               |
| Specific Gravity                                |                 | ASTM D792   | -                       | 1.20          |
| Molding Shrinkage (Flow), 3.2mm                 |                 | ASTM D955   | %                       | 0.5~0.8       |
| Melt Flow Rate                                  | 300 °C/1.2kg    | ASTM D1238  | g/10min                 | 5             |
| <b>Mechanical</b>                               |                 |             |                         |               |
| Tensile Strength, 3.2mm                         |                 | ASTM D638   |                         |               |
| @ Yield                                         | 50mm/min        |             | kg/cm <sup>2</sup>      | 630           |
| Tensile Elongation, 3.2mm                       |                 | ASTM D638   |                         |               |
| @ Break                                         | 50mm/min        |             | %                       | >100          |
| Flexural Strength, 6.4mm                        | 15mm/min        | ASTM D790   | kg/cm <sup>2</sup>      | 950           |
| Flexural Modulus, 6.4mm                         | 15mm/min        | ASTM D790   | kg/cm <sup>2</sup>      | 23,000        |
| IZOD Impact Strength, 3.2mm (Notched)           | 23 °C<br>-30 °C | ASTM D256   | kg·cm/cm<br>kg·cm/cm    | 80            |
| Rockwell Hardness                               | R-Scale         | ASTM D785   | -                       | 118           |
| <b>Thermal</b>                                  |                 |             |                         |               |
| Heat Deflection Temperature, 6.4mm (Unannealed) | 18.6kg<br>4.6kg | ASTM D648   | °C<br>°C                | 125           |
| Coefficient of Linear Thermal Expansion         |                 | ASTM D696   | 10 <sup>-5</sup> m/m °C | 6.8           |
| Flammability                                    |                 |             |                         |               |
| 1.0mm                                           |                 | UL94        | class                   | V-0           |
| 3.0mm                                           |                 |             | class                   | V-0           |
| Relative Temperature Index                      |                 | UL 746B     |                         |               |
| Electrical                                      |                 |             | °C                      | 80            |
| Mechanical with Impact                          |                 |             | °C                      | 80            |
| Mechanical without Impact                       |                 |             | °C                      | 80            |
| <b>Optical</b>                                  |                 |             |                         |               |
| 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 moulded specimens and after 48 hours storage at 23 °C, 50% relative humidity.

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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 <sup>2</sup> | 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 Temperature   | 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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