

# Lumiplas® LD7600

Polycarbonate

LG Chem Ltd.

## Message:

Description

Light diffusion

Application

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

| General Information |                                    |
|---------------------|------------------------------------|
| Features            | Good Light Diffusion               |
| Uses                | Lighting Applications              |
|                     | Electrical/Electronic Applications |
|                     | Illumination diffuser              |
|                     | Lighting device                    |
| Processing Method   | Extrusion                          |
|                     | Injection molding                  |

| Physical                                                         | Nominal Value | Unit              | Test Method |
|------------------------------------------------------------------|---------------|-------------------|-------------|
| Specific Gravity                                                 | 1.20          | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)                         | 11            | g/10 min          | ASTM D1238  |
| Molding Shrinkage - Flow (3.20 mm)                               | 0.50 - 0.80   | %                 | ASTM D955   |
| Hardness                                                         | Nominal Value | Unit              | Test Method |
| Rockwell Hardness (R-Scale)                                      | 118           |                   | ASTM D785   |
| Mechanical                                                       | Nominal Value | Unit              | Test Method |
| Tensile Strength <sup>1</sup> (Break, 3.20 mm)                   | 61.8          | MPa               | ASTM D638   |
| Tensile Elongation <sup>2</sup> (Break, 3.20 mm)                 | > 100         | %                 | ASTM D638   |
| Flexural Modulus <sup>3</sup> (6.40 mm)                          | 2260          | MPa               | ASTM D790   |
| Flexural Strength <sup>4</sup> (Yield, 6.40 mm)                  | 93.2          | MPa               | ASTM D790   |
| Impact                                                           | Nominal Value | Unit              | Test Method |
| Notched Izod Impact (23°C, 3.20 mm)                              | 780           | J/m               | ASTM D256   |
| Thermal                                                          | Nominal Value | Unit              | Test Method |
| Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.40 mm) | 130           | °C                | ASTM D648   |
| CLTE - Flow                                                      | 6.8E-5        | cm/cm/°C          | ASTM D696   |
| RTI Elec                                                         | 80.0          | °C                | UL 746      |
| RTI Imp                                                          | 80.0          | °C                | UL 746      |
| RTI                                                              | 80.0          | °C                | UL 746      |
| Flammability                                                     | Nominal Value |                   | Test Method |
| Flame Rating                                                     |               |                   | UL 94       |

|                                                                                                                                                            |               |       |             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------|-------------|
| 0.800 mm                                                                                                                                                   | V-2           | UL 94 |             |
| 1.60 mm                                                                                                                                                    | V-2           | UL 94 |             |
| Additional Information                                                                                                                                     | Nominal Value | Unit  | Test Method |
| Transparency (1.00 mm)                                                                                                                                     | 60            | %     | JIS K7361   |
| Minimum Moisture Content                                                                                                                                   | 0.020         | %     |             |
| Injection                                                                                                                                                  | Nominal Value | Unit  |             |
| Drying Temperature                                                                                                                                         | 100 - 200     | °C    |             |
| Drying Time                                                                                                                                                | 3.0 - 4.0     | hr    |             |
| Rear Temperature                                                                                                                                           | 260 - 280     | °C    |             |
| Middle Temperature                                                                                                                                         | 280 - 300     | °C    |             |
| Front Temperature                                                                                                                                          | 290 - 310     | °C    |             |
| Nozzle Temperature                                                                                                                                         | 290 - 310     | °C    |             |
| Processing (Melt) Temp                                                                                                                                     | 300 - 320     | °C    |             |
| Mold Temperature                                                                                                                                           | 80.0 - 120    | °C    |             |
| Back Pressure                                                                                                                                              | 0.981 - 3.92  | MPa   |             |
| Screw Speed                                                                                                                                                | 40 - 70       | rpm   |             |
| Extrusion                                                                                                                                                  | Nominal Value | Unit  |             |
| Drying Temperature                                                                                                                                         | 100 - 120     | °C    |             |
| Drying Time                                                                                                                                                | 3.0 - 4.0     | hr    |             |
| Cylinder Zone 1 Temp.                                                                                                                                      | 260 - 280     | °C    |             |
| Cylinder Zone 2 Temp.                                                                                                                                      | 270 - 300     | °C    |             |
| Cylinder Zone 3 Temp.                                                                                                                                      | 270 - 300     | °C    |             |
| Cylinder Zone 4 Temp.                                                                                                                                      | 270 - 300     | °C    |             |
| Adapter Temperature                                                                                                                                        | 280 - 300     | °C    |             |
| Melt Temperature                                                                                                                                           | 300 - 320     | °C    |             |
| Die Temperature                                                                                                                                            | 260 - 295     | °C    |             |
| Extrusion instructions                                                                                                                                     |               |       |             |
| Minimum Moisture Content: 0.02%Roll Stack Temperature - Top: 120-150°CRoll Stack Temperature - Middle: 120-150°CRoll Stack Temperature - Bottom: 120-150°C |               |       |             |
| NOTE                                                                                                                                                       |               |       |             |
| 1.                                                                                                                                                         | 50 mm/min     |       |             |
| 2.                                                                                                                                                         | 50 mm/min     |       |             |
| 3.                                                                                                                                                         | 15 mm/min     |       |             |
| 4.                                                                                                                                                         | 15 mm/min     |       |             |

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**Susheng Import & Export Trading Co.,Ltd.**

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: [sales@su-jiao.com](mailto:sales@su-jiao.com)

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

