

# LUPOX GP1000A

Injection Molding, PBT

## Description

General Purpose

## Application

Automotive(Head Lamp Bezel)

| Properties                                      | Test Condition | Test Method | Unit               | Typical Value |
|---|----------------|-------------|--------------------|---------------|
| <b>Physical</b>                                 |                |             |                    |               |
| Specific Gravity                                |                | ASTM D792   | -                  | 1.30          |
| Molding Shrinkage (Flow), 3.2mm                 |                | ASTM D955   | %                  | 1.8           |
| Melt Flow Rate                                  | 250°C/2.16kg   | ASTM D1238  | g/10min            | -             |
| <b>Mechanical</b>                               |                |             |                    |               |
| Tensile Strength, 3.2mm                         |                | ASTM D638   |                    |               |
| @ Yield   | 50mm/min       |             | kg/cm <sup>2</sup> | 600           |
| Tensile Elongation, 3.2mm                       |                | ASTM D638   |                    |               |
| @ Yield   | 50mm/min       |             | %                  | -             |
| @ Break   | 50mm/min       |             | %                  | 50            |
| Flexural Strength, 3.2mm                        | 2.8mm/min      | ASTM D790   | kg/cm <sup>2</sup> | 910           |
| Flexural Modulus, 3.2mm                         | 2.8mm/min      | ASTM D790   | kg/cm <sup>2</sup> | 26,800        |
| IZOD Impact Strength, 3.2mm (Notched)           | 23°C           | ASTM D256   | kg·cm/cm           | 3.7           |
| <b>Thermal</b>                                  |                |             |                    |               |
| Melt Temperature @ Break                        |                | ASTM D3418  | °C                 | 225           |
| Heat Deflection Temperature, 6.4mm (Unannealed) | 18.6kg         | ASTM D648   | °C                 | 61            |
|   | 4.6kg          |             | °C                 | 170           |
| Flammability                                    |                | UL94        |                    |               |
| 0.71mm  |                |             | class              | HB            |
| 1.5mm   |                |             | class              | HB            |
| 3.3mm   |                |             | class              | HB            |
| Relative Temperature Index                      |                | UL 746B     |                    |               |
| Electrical                                      |                |             | °C                 | 140           |
| Mechanical with Impact                          |                |             | °C                 | 130           |
| Mechanical without Impact                       |                |             | °C                 | 140           |
| <b>Electrical</b>                               |                |             |                    |               |
| Comparative Tracking Index(CTI)                 | Solution A     | IEC 60112   | Volts              | 600           |
| Surface Resistivity                             |                | IEC 60093   | Ohm                | -             |
| Volume Resistivity                              | 23°C           | ASTM D257   | Ohm·cm             | 1.0E+17       |
| Arc Resistance                                  | 23°C           | ASTM D495   | sec                | -             |
| Dielectric Strength, 1mm                        | 23°C           | ASTM D149   | kV/mm              | 23            |

Note) 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       |        | °C                 | 100 ~ 120 |
| Drying Time              |        | hrs                | 3 ~ 5     |
| Minimum Moisture Content |        | %                  | 0.02      |
| Melt Temperature         |        | °C                 | 225       |
| Cylinder Temperature     | Rear   | °C                 | 245 ~ 255 |
|                          | Middle | °C                 | 245 ~ 260 |
|                          | Front  | °C                 | 245 ~ 260 |
| Nozzle Temperature       |        | °C                 | 250 ~ 265 |
| Mold Temperature         |        | °C                 | 40 ~ 80   |
| Back Pressure            |        | kg/cm <sup>2</sup> | -         |
| Screw Speed              |        | rpm                | -         |

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.

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