

# SUMIKASUPER® LCP E6008

Liquid Crystal Polymer  
Sumitomo Chemical Co., Ltd.

Message:

SUMIKASUPER LCP is a thermotropic liquid crystalline polyester, showing the highest heat resistance among engineering plastics.

| General Information           |                                    |                   |                 |
|-------------------------------|------------------------------------|-------------------|-----------------|
| UL YellowCard                 | E54705-100988623                   | E249884-100962028 |                 |
| Filler / Reinforcement        | Glass Fiber                        |                   |                 |
| Features                      | Good Adhesion                      |                   |                 |
|                               | Good Chemical Resistance           |                   |                 |
|                               | Good Dimensional Stability         |                   |                 |
|                               | Good Flow                          |                   |                 |
|                               | Good Heat Aging Resistance         |                   |                 |
|                               | Good Moldability                   |                   |                 |
|                               | High Heat Resistance               |                   |                 |
|                               | High Temperature Strength          |                   |                 |
|                               | Low Viscosity                      |                   |                 |
|                               | Weldable                           |                   |                 |
| Uses                          | Appliances                         |                   |                 |
|                               | Automotive Applications            |                   |                 |
|                               | Bobbins                            |                   |                 |
|                               | Connectors                         |                   |                 |
|                               | Electrical/Electronic Applications |                   |                 |
|                               | Engineering Parts                  |                   |                 |
|                               | Food Containers                    |                   |                 |
| Forms                         | Pellets                            |                   |                 |
| Processing Method             | Injection Molding                  |                   |                 |
| Physical                      | Nominal Value                      | Unit              | Test Method     |
| Specific Gravity              | 1.70                               | g/cm <sup>3</sup> | ASTM D792       |
| Molding Shrinkage             |                                    |                   | Internal Method |
| Flow                          | 0.18                               | %                 |                 |
| Across Flow                   | 1.2                                | %                 |                 |
| Water Absorption (Saturation) | 0.020                              | %                 | ASTM D570       |
| Hardness                      | Nominal Value                      | Unit              | Test Method     |
| Rockwell Hardness (R-Scale)   | 103                                |                   | ASTM D785       |
| Mechanical                    | Nominal Value                      | Unit              | Test Method     |
| Tensile Strength (Yield)      | 147                                | MPa               | ASTM D638       |

|                                                         |               |           |                 |
|---------------------------------------------------------|---------------|-----------|-----------------|
| Tensile Elongation (Break)                              | 5.2           | %         | ASTM D638       |
| Flexural Modulus                                        |               |           | ASTM D790       |
| 23°C                                                    | 12300         | MPa       |                 |
| 200°C                                                   | 4900          | MPa       |                 |
| Flexural Strength                                       |               |           | ASTM D790       |
| Yield, 23°C                                             | 143           | MPa       |                 |
| Yield, 200°C                                            | 33.0          | MPa       |                 |
| Shear Strength                                          | 51.0          | MPa       | ASTM D732       |
| Poisson's Ratio                                         | 0.46          |           | ASTM E132       |
| Impact                                                  | Nominal Value | Unit      | Test Method     |
| Notched Izod Impact (6.40 mm)                           | 110           | J/m       | ASTM D256       |
| Unnotched Izod Impact (6.40 mm)                         | 410           | J/m       | ASTM D256       |
| Thermal                                                 | Nominal Value | Unit      | Test Method     |
| Deflection Temperature Under Load (1.8 MPa, Unannealed) | 279           | °C        | ASTM D648       |
| CLTE                                                    |               |           | Internal Method |
| Flow : 150°C                                            | 1.3E-5        | cm/cm/°C  |                 |
| Transverse : 150°C                                      | 5.6E-5        | cm/cm/°C  |                 |
| Thermal Conductivity                                    | 0.52          | W/m/K     | JIS R2618       |
| RTI Elec (3.20 mm)                                      | 220           | °C        | UL 746          |
| RTI Imp (3.20 mm)                                       | 200           | °C        | UL 746          |
| RTI Str (3.20 mm)                                       | 240           | °C        | UL 746          |
| Electrical                                              | Nominal Value | Unit      | Test Method     |
| Volume Resistivity                                      | 1.0E+15       | ohms · cm | ASTM D257       |
| Dielectric Constant                                     |               |           | ASTM D150       |
| 1 kHz                                                   | 4.40          |           |                 |
| 1 MHz                                                   | 3.90          |           |                 |
| Dissipation Factor                                      |               |           | ASTM D150       |
| 1 kHz                                                   | 0.022         |           |                 |
| 1 MHz                                                   | 0.032         |           |                 |
| Arc Resistance                                          | 130           | sec       | ASTM D495       |
| Comparative Tracking Index                              | 125           | V         | IEC 60112       |
| Flammability                                            | Nominal Value | Unit      | Test Method     |
| Flame Rating (0.300 mm, ALL)                            | V-0           |           | UL 94           |
| Oxygen Index                                            | 48            | %         | JIS K7201       |
| Additional Information                                  | Nominal Value | Unit      | Test Method     |
| Soldering Resistance                                    | 300           | °C        | Internal Method |
| Injection                                               | Nominal Value | Unit      |                 |
| Drying Temperature                                      | 130           | °C        |                 |
| Drying Time                                             | 2.0 to 4.0    | hr        |                 |
| Suggested Max Regrind                                   | 30            | %         |                 |
| Rear Temperature                                        | 280 to 320    | °C        |                 |

|                        |               |     |
|------------------------|---------------|-----|
| Middle Temperature     | 320 to 350    | °C  |
| Front Temperature      | 340 to 370    | °C  |
| Nozzle Temperature     | 340 to 370    | °C  |
| Processing (Melt) Temp | 350           | °C  |
| Mold Temperature       | 40.0 to 160   | °C  |
| Injection Pressure     | 80.0 to 160   | MPa |
| Injection Rate         | Moderate-Fast |     |
| Holding Pressure       | 20.0 to 40.0  | MPa |
| Back Pressure          | 1.00 to 5.00  | MPa |
| Screw Speed            | 50 to 100     | rpm |

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