

# SUMIKASUPER® LCP E6109F

Liquid Crystal Polymer  
Sumitomo Chemical Co., Ltd.

Message:

SUMIKASUPER LCP is a thermotropic liquid crystalline polyester, showing the highest heat resistance among engineering plastics.  
SUMIKASUPER LCP E6109F is a sliding grade that contains an inorganic filler and fluororesin.

| General Information           |                                    |                   |                 |
|-------------------------------|------------------------------------|-------------------|-----------------|
| UL YellowCard                 | E54705-100988628                   | E249884-100962033 |                 |
| Filler / Reinforcement        | Metal                              |                   |                 |
| Features                      | Good Adhesion                      |                   |                 |
|                               | Good Chemical Resistance           |                   |                 |
|                               | Good Dimensional Stability         |                   |                 |
|                               | Good Heat Aging Resistance         |                   |                 |
|                               | Good Moldability                   |                   |                 |
|                               | Good Wear Resistance               |                   |                 |
|                               | High Heat Resistance               |                   |                 |
|                               | High Rigidity                      |                   |                 |
|                               | High Temperature Strength          |                   |                 |
|                               | Low Viscosity                      |                   |                 |
| Weldable                      |                                    |                   |                 |
| Uses                          | Appliances                         |                   |                 |
|                               | Automotive Applications            |                   |                 |
|                               | Bobbins                            |                   |                 |
|                               | Electrical/Electronic Applications |                   |                 |
|                               | Engineering Parts                  |                   |                 |
|                               | Food Containers                    |                   |                 |
| Forms                         | Pellets                            |                   |                 |
| Processing Method             | Injection Molding                  |                   |                 |
| Physical                      | Nominal Value                      | Unit              | Test Method     |
| Specific Gravity              | 1.80                               | g/cm <sup>3</sup> | ASTM D792       |
| Molding Shrinkage             |                                    |                   | Internal Method |
| Flow                          | 0.25                               | %                 |                 |
| Across Flow                   | 1.2                                | %                 |                 |
| Water Absorption (Saturation) | 0.020                              | %                 | ASTM D570       |
| Hardness                      | Nominal Value                      | Unit              | Test Method     |
| Rockwell Hardness (R-Scale)   | 91                                 |                   | ASTM D785       |
| Mechanical                    | Nominal Value                      | Unit              | Test Method     |

|                                                         |                      |             |                    |
|---------------------------------------------------------|----------------------|-------------|--------------------|
| Tensile Strength (Yield)                                | 126                  | MPa         | ASTM D638          |
| Tensile Elongation (Break)                              | 5.5                  | %           | ASTM D638          |
| Flexural Modulus (23°C)                                 | 11500                | MPa         | ASTM D790          |
| Flexural Strength (Yield, 23°C)                         | 112                  | MPa         | ASTM D790          |
| <b>Impact</b>                                           | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Unnotched Izod Impact (6.40 mm)                         | 380                  | J/m         | ASTM D256          |
| <b>Thermal</b>                                          | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Deflection Temperature Under Load (1.8 MPa, Unannealed) | 270                  | °C          | ASTM D648          |
| CLTE                                                    |                      |             | Internal Method    |
| Flow : 150°C                                            | 1.4E-5               | cm/cm/°C    |                    |
| Transverse : 150°C                                      | 7.8E-5               | cm/cm/°C    |                    |
| <b>Electrical</b>                                       | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Volume Resistivity                                      | 1.0E+15              | ohms·cm     | ASTM D257          |
| <b>Flammability</b>                                     | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Flame Rating (0.810 mm, BK)                             | V-0                  |             | UL 94              |
| <b>Additional Information</b>                           | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Soldering Resistance                                    | 300                  | °C          | Internal Method    |
| <b>Injection</b>                                        | <b>Nominal Value</b> | <b>Unit</b> |                    |
| Drying Temperature                                      | 120 to 150           | °C          |                    |
| Drying Time                                             | 3.0                  | hr          |                    |
| Suggested Max Regrind                                   | 30                   | %           |                    |
| Rear Temperature                                        | 300 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                                        | 70.0 to 160          | °C          |                    |
| Injection Pressure                                      | 78.0 to 157          | MPa         |                    |
| Injection Rate                                          | Moderate-Fast        |             |                    |
| Holding Pressure                                        | 20.0 to 39.0         | MPa         |                    |
| Back Pressure                                           | 0.980 to 4.90        | MPa         |                    |
| Screw Speed                                             | 50 to 100            | rpm         |                    |

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