

# Lucel® GC210

Acetal (POM) Copolymer

LG Chem Ltd.

## Message:

Description

High Rigidity

Application

Casings of Pump and Pivot Bearings

| General Information                              |                                  |               |             |
|--------------------------------------------------|----------------------------------|---------------|-------------|
| UL YellowCard                                    | E67171-248285                    | E67171-248286 |             |
| Filler / Reinforcement                           | Glass Fiber,10% Filler by Weight |               |             |
| Features                                         | High Rigidity                    |               |             |
| Uses                                             | Bearings                         |               |             |
|                                                  | Pump Parts                       |               |             |
| UL File Number                                   | E67171                           |               |             |
| Forms                                            | Pellets                          |               |             |
| Processing Method                                | Injection Molding                |               |             |
| Physical                                         | Nominal Value                    | Unit          | Test Method |
| Specific Gravity                                 | 1.48                             | g/cm³         | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)        | 15                               | g/10 min      | ASTM D1238  |
| Molding Shrinkage - Flow (3.20 mm)               | 0.60 to 1.1                      | %             | ASTM D955   |
| Hardness                                         | Nominal Value                    | Unit          | Test Method |
| Rockwell Hardness (R-Scale)                      | 83                               |               | ASTM D785   |
| Mechanical                                       | Nominal Value                    | Unit          | Test Method |
| Tensile Strength <sup>1</sup> (Yield, 3.20 mm)   | 98.7                             | MPa           | ASTM D638   |
| Tensile Elongation <sup>2</sup> (Break, 3.20 mm) | 5.0                              | %             | ASTM D638   |
| Flexural Modulus <sup>3</sup> (3.20 mm)          | 4940                             | MPa           | ASTM D790   |
| Flexural Strength <sup>4</sup> (Yield, 3.20 mm)  | 128                              | MPa           | ASTM D790   |
| Impact                                           | Nominal Value                    | Unit          | Test Method |
| Notched Izod Impact (23°C, 6.40 mm)              | 50                               | J/m           | ASTM D256   |
| Thermal                                          | Nominal Value                    | Unit          | Test Method |
| Deflection Temperature Under Load                |                                  |               | ASTM D648   |
| 0.45 MPa, Unannealed, 6.40 mm                    | 165                              | °C            |             |
| 1.8 MPa, Unannealed, 6.40 mm                     | 160                              | °C            |             |
| RTI Elec (0.750 mm)                              | 50.0                             | °C            | UL 746      |
| RTI Imp (0.750 mm)                               | 50.0                             | °C            | UL 746      |
| RTI Str (0.750 mm)                               | 50.0                             | °C            | UL 746      |
| Electrical                                       | Nominal Value                    | Unit          | Test Method |

|                        |               |         |             |
|------------------------|---------------|---------|-------------|
| Surface Resistivity    | 1.0E+14       | ohms    | ASTM D257   |
| Volume Resistivity     | 1.0E+16       | ohms·cm | ASTM D257   |
| Flammability           | Nominal Value | Unit    | Test Method |
| Flame Rating           |               |         | UL 94       |
| 0.750 mm, ALL          | HB            |         |             |
| 1.50 mm                | HB            |         |             |
| 3.00 mm                | HB            |         |             |
| Injection              | Nominal Value | Unit    |             |
| Drying Temperature     | 90.0 to 110   | °C      |             |
| Drying Time            | 3.0 to 6.0    | hr      |             |
| Suggested Max Moisture | < 0.10        | %       |             |
| Rear Temperature       | 180 to 200    | °C      |             |
| Middle Temperature     | 190 to 210    | °C      |             |
| Front Temperature      | 200 to 220    | °C      |             |
| Nozzle Temperature     | 200 to 220    | °C      |             |
| Processing (Melt) Temp | 210 to 220    | °C      |             |
| Mold Temperature       | 60.0 to 100   | °C      |             |
| Back Pressure          | 0.00 to 3.92  | MPa     |             |
| Screw Speed            | 40 to 75      | rpm     |             |
| NOTE                   |               |         |             |
| 1.                     | 5.0 mm/min    |         |             |
| 2.                     | 5.0 mm/min    |         |             |
| 3.                     | 1.3 mm/min    |         |             |
| 4.                     | 1.3 mm/min    |         |             |

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