

# Lucel® HI510

Acetal (POM) Copolymer

LG Chem Ltd.

## Message:

LUCEL HI-510 is high impact strength grade added with impact modifiers. LG chemical supplies a wide range of grades depending on the types and contents of modifiers to meet the requirement of our customers.

| General Information                    |                            |               |             |
|----------------------------------------|----------------------------|---------------|-------------|
| UL YellowCard                          | E67171-248289              | E67171-248290 |             |
| Additive                               | Impact Modifier            |               |             |
| Features                               | Fatigue Resistant          |               |             |
|                                        | Good Abrasion Resistance   |               |             |
|                                        | Good Chemical Resistance   |               |             |
|                                        | Good Creep Resistance      |               |             |
|                                        | Good Dimensional Stability |               |             |
|                                        | Good Impact Resistance     |               |             |
|                                        | Good Moldability           |               |             |
|                                        | Good Thermal Stability     |               |             |
|                                        | Impact Modified            |               |             |
| Uses                                   | Automotive Applications    |               |             |
|                                        | Gears                      |               |             |
| Forms                                  | Pellets                    |               |             |
| Processing Method                      | Injection Molding          |               |             |
| Physical                               | Nominal Value              | Unit          | Test Method |
| Specific Gravity                       | 1.38                       | g/cm³         | ASTM D792   |
| Molding Shrinkage - Flow               | 1.7 to 2.0                 | %             | ASTM D955   |
| Hardness                               | Nominal Value              | Unit          | Test Method |
| Rockwell Hardness (M-Scale)            | 75                         |               | ASTM D785   |
| Mechanical                             | Nominal Value              | Unit          | Test Method |
| Tensile Strength <sup>1</sup> (Yield)  | 54.3                       | MPa           | ASTM D638   |
| Tensile Elongation (Break)             | 90                         | %             | ASTM D638   |
| Flexural Modulus <sup>2</sup>          | 1880                       | MPa           | ASTM D790   |
| Flexural Strength <sup>3</sup> (Yield) | 65.1                       | MPa           | ASTM D790   |
| Impact                                 | Nominal Value              | Unit          | Test Method |
| Notched Izod Impact                    | 120                        | J/m           | ASTM D256   |
| Unnotched Izod Impact                  | No Break                   |               | ASTM D256   |
| Reverse Notch Izod Impact              | No Break                   |               | ASTM D256   |
| Thermal                                | Nominal Value              | Unit          | Test Method |

|                                   |               |          |             |
|-----------------------------------|---------------|----------|-------------|
| Deflection Temperature Under Load |               |          | ASTM D648   |
| 0.45 MPa, Unannealed              | 150           | °C       |             |
| 1.8 MPa, Unannealed               | 95.0          | °C       |             |
| CLTE - Flow (20 to 80°C)          | 1.0E-4        | cm/cm/°C | ASTM D696   |
| Electrical                        | Nominal Value | Unit     | Test Method |
| Surface Resistivity               | 1.0E+13       | ohms     | ASTM D257   |
| Volume Resistivity                | 1.0E+15       | ohms·cm  | ASTM D257   |
| Flammability                      | Nominal Value | Unit     | Test Method |
| Flame Rating                      | HB            |          | UL 94       |
| Injection                         | Nominal Value | Unit     |             |
| Drying Temperature                | 90.0 to 110   | °C       |             |
| Drying Time                       | 3.0 to 6.0    | hr       |             |
| Rear Temperature                  | 160 to 180    | °C       |             |
| Middle Temperature                | 180 to 200    | °C       |             |
| Front Temperature                 | 190 to 200    | °C       |             |
| Nozzle Temperature                | 190 to 200    | °C       |             |
| Processing (Melt) Temp            | 180 to 200    | °C       |             |
| Melt Temperature (Aim)            | 190           | °C       |             |
| Mold Temperature                  | 60.0 to 80.0  | °C       |             |
| Injection Pressure                | 68.6 to 118   | MPa      |             |
| Back Pressure                     | 3.92 to 7.84  | MPa      |             |
| Screw Speed                       | 50 to 100     | rpm      |             |
| NOTE                              |               |          |             |
| 1.                                | 50 mm/min     |          |             |
| 2.                                | 15 mm/min     |          |             |
| 3.                                | 15 mm/min     |          |             |

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