

LG Chemical LUCEL N127-02 General Purpose POM, Unreinforced, Externally Lubricated, High Flow

Category: Polymer, Thermoplastic, Acetal (POM), Acetal Copolymer, Unreinforced

Material Notes:

LUCEL semi-crystalline acetal copolymer resins are produced by gas phase polymerization. LUCEL resins can be widely accepted as the replacement of thermosets, aluminum and zinc die-casts or other metals. Characteristics: No pungent smell in processing Excellent thermal stability based on structure of Acetal CopolymerWell balanced mechanical properties and resistance to creepHighest fatigue resistance to organic and chemical and hot water Excellent friction and abrasion resistance High dimensional stability and good moldability Easy part design and application over a broad range of environmental conditions Applications: Automotive: Water valve parts, radiator drain cock, carburetor float, exhaust gas valve, diaphragm valve, door lock, winker switch, wiper gear and pivot bearing, speedometer gear, window glass bottom channel, safety belt, retractor parts, door handle, lumbar support handle, sun visor bracket, collapsible room mirror stay, fender mirror body, waster pump nozzle Electrical and Electronic: Switch, coil bobbin, micrometer base, tuner parts, control switch parts, dial mechanism, cassette tape reel, power transmission gear, shaft nearing, bracket, fan motor housing, spring frame of headphone, arc shooter, toner agitating rotor, printer mechanism, gas meter component Industrial Parts and Others: Spring, bearing, spray guns, power cylinder, watch gear, alarm clock base, hot water pot housing, gear housing, table top chain runner, zipper, partition corner piece curtain runner, blind gear, door runner, office furniture parts, accessories, comb, pressure container Information Provided by LG Chem

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http://www.lookpolymers.com/polymer_LG-Chemical-LUCEL-N127-02-General-Purpose-POM-Unreinforced-Externally-Lubricated-High-Flow.php

| Physical Properties | Metric | English | Comments |
|------------------------|--------------------------------------|--------------------------------------|------------|
| Specific Gravity | 1.41 g/cc | 1.41 g/cc | ASTM D792 |
| Linear Mold Shrinkage | 0.018 - 0.021 cm/cm | 0.018 - 0.021 in/in | ASTM D955 |
| Melt Index of Compound | 27 g/10 min | 27 g/10 min | |
| | @Load 2.16 kg, Temperature 190 °C | @Load 4.76 lb, Temperature 374 °F | ASTM D1238 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|------------|---------------|----------------------------|
| Hardness, Rockwell M | 82 | 82 | ASTM D785 |
| Tensile Strength at Break | 62.0 MPa | 8990 psi | ASTM D638 |
| Elongation at Break | 55 % | 55 % | ASTM D638 |
| Flexural Strength | 91.0 MPa | 13200 psi | ASTM D790 |
| Flexural Modulus | 2.60 GPa | 377 ksi | ASTM D790 |
| Izod Impact, Notched | 0.600 J/cm | 1.12 ft-lb/in | ASTM D256 |
| | 7.00 J/cm | 13.1 ft-lb/in | Reverse notched; ASTM D256 |
| | | | |



| Mechanical Properties | 0.16 Metric | n 16 English | ASTM 01894 Comments |
|---------------------------------|----------------|-----------------|--------------------------------|
| Coefficient of Friction, Static | 0.12 | 0.12 | ASTM D1894 |
| Taber Abrasion, mg/1000 Cycles | 14 | 14 | CS 17 Wheel, 1000g; ASTM D1044 |

| Thermal Properties | Metric | English | Comments |
|--|--------|---------|-----------|
| Deflection Temperature at 0.46 MPa (66 psi) | 160 °C | 320 °F | ASTM D648 |
| Deflection Temperature at 1.8 MPa (264 psi) | 110 °C | 230 °F | ASTM D648 |

| Processing Properties | Metric | English | Comments |
|---------------------------|-------------------|------------------|----------|
| Rear Barrel Temperature | 160 - 180 °C | 320 - 356 °F | |
| Middle Barrel Temperature | 180 - 200 °C | 356 - 392 °F | |
| Front Barrel Temperature | 190 - 200 °C | 374 - 392 °F | |
| Nozzle Temperature | 190 - 200 °C | 374 - 392 °F | |
| Melt Temperature | 190 - 200 °C | 374 - 392 °F | |
| Mold Temperature | 60.0 - 100 °C | 140 - 212 °F | |
| Drying Temperature | 90.0 - 110 °C | 194 - 230 °F | |
| Dry Time | 3 - 6 hour | 3 - 6 hour | |
| Injection Pressure | 34.32 - 68.65 MPa | 4978 - 9957 psi | Second |
| | 39.2 - 118 MPa | 5690 - 17100 psi | First |
| Back Pressure | 0.000 - 3.92 MPa | 0.000 - 569 psi | |
| Screw Speed | 50 - 100 rpm | 50 - 100 rpm | |

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