## LG Chemical LUCEL FW-700A Friction and Wear Resistant POM, Polymeric Wear Additive <br> Category: Polymer, Thermoplastic , Acetal (POM)

## 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 processingExcellent thermal stability based on structure of Acetal CopolymerWell balanced mechanical properties and resistance to creepHighest fatigue resistance to organic and chemical and hot waterExcellent friction and abrasion resistanceHigh dimensional stability and good moldabilityEasy part design and application over a broad range of environmental conditionsApplications: 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 nozzleElectrical 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 componentIndustrial 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 containerInformation Provided by LG Chem

Order this product through the following link:
http://www.lookpolymers.com/polymer_LG-Chemical-LUCEL-FW-700A-Friction-and-Wear-Resistant-POM-Polymeric-Wear-Additive.php

| Physical Properties | Metric | English | Comments |
| :--- | :--- | :--- | :--- |
| Specific Gravity | $1.39 \mathrm{~g} / \mathrm{cc}$ | $1.39 \mathrm{~g} / \mathrm{cc}$ | ASTM D792 |
| Linear Mold Shrinkage | $0.020-0.022 \mathrm{~cm} / \mathrm{cm}$ | $0.020-0.022 \mathrm{in} / \mathrm{in}$ | ASTM D955 |


| Mechanical Properties | Metric | English | Comments |
| :--- | :--- | :--- | :--- |
| Hardness, Rockwell M | 75 | 75 | ASTM D785 |
| Tensile Strength at Break | 54.0 MPa | 7830 psi | ASTM D638 |
| Elongation at Break | $60 \%$ | $60 \%$ | ASTM D638 |
| Flexural Strength | 75.0 MPa | 10900 psi | ASTM D790 |
| Flexural Modulus | 2.25 GPa | 326 ksi | ASTM D790 |
| Izod Impact, Notched | $6.50 \mathrm{~J} / \mathrm{cm}$ | $12.2 \mathrm{ft}-\mathrm{lb} / \mathrm{in}$ | ASTM D256 |
|  | $7.00 \mathrm{~J} / \mathrm{cm}$ | $13.1 \mathrm{ft}-\mathrm{lb} / \mathrm{in}$ | Reverse notched; ASTM D256 |
| Coefficient of Friction, Dynamic | 0.12 | 0.12 | ASTM D1894 D1894 |
| Coefficient of Friction, Static | 0.090 | 0.090 | CS 17 Wheel, 1000g; ASTM D1044 |
| Taber Abrasion, mg/1000 Cycles | 11 | 11 |  |


| Mechanical Properties | Metric | English | Comments |
| :---: | :---: | :---: | :---: |
| Thermal Properties | Metric | English | Comments |
| Deflection Temperature at 0.46 MPa (66 psi) | $160 \hat{A ̂}^{\circ} \mathrm{C}$ | 320 Â ${ }^{\circ}$ | ASTM D648 |
| Deflection Temperature at 1.8 MPa (264 psi) | $110 \hat{A}^{\circ} \mathrm{C}$ | 230 Â ${ }^{\circ}$ | ASTM D648 |
| Processing Properties | Metric | English | Comments |
| Rear Barrel Temperature | 160-180 Â ${ }^{\text {C }}$ | 320-356 Â^F |  |
| Middle Barrel Temperature | 180-200 Â ${ }^{\circ} \mathrm{C}$ | 356-392 Â^F |  |
| Front Barrel Temperature | 190-200 Â ${ }^{\circ} \mathrm{C}$ | 374-392 Â^F |  |
| Nozzle Temperature | 190-200 Â ${ }^{\text {C }}$ | 374-392 Â ${ }^{\circ}$ |  |
| Melt Temperature | 190-200 Â ${ }^{\text {C }}$ | 374-392 Â ${ }^{\circ} \mathrm{F}$ |  |
| Mold Temperature | 60.0-100 Â'C | 140-212 Â ${ }^{\text {F }}$ |  |
| Drying Temperature | 90.0-110 Â'C | 194-230 Â ${ }^{\text {F }}$ |  |
| 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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