

# LNPT<sup>TM</sup> LUBRICOMP<sup>TM</sup> COMPOUND UX06427

UCL-4036 A HS HW

## DESCRIPTION

LNP LUBRICOMP UX06427 compound is based on Polyphthalamide (PPA) resin containing 30% carbon fiber, 15% PTFE. Added features of this grade include: Heat Stabilized, Hot Water Moldable, Wear Resistant, Electrically Conductive.

### GENERAL INFORMATION

|                       |                                                                                                                                     |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Features              | Electrically Conductive, Heat Stabilized, Wear resistant, Carbon fiber filled, High stiffness/Strength, High temperature resistance |
| Fillers               | Carbon Fiber, PTFE                                                                                                                  |
| Polymer Types         | Polyphthalamide (PPA)                                                                                                               |
| Processing Techniques | Injection Molding                                                                                                                   |

### INDUSTRY

Automotive  
Consumer  
Electrical and Electronics

### SUB INDUSTRY

Automotive Under the Hood  
Home Appliances, Commercial Appliance  
Electronic Components, Mobile Phone - Computer - Tablets

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|----------------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL <sup>(1)</sup></b>             |                |                   |              |
| Tensile Stress, brk, Type I, 5 mm/min        | 224            | MPa               | ASTM D638    |
| Tensile Strain, brk, Type I, 5 mm/min        | 1.2            | %                 | ASTM D638    |
| Tensile Modulus, 50 mm/min                   | 25200          | MPa               | ASTM D638    |
| Flexural Stress, brk, 1.3 mm/min, 50 mm span | 311            | MPa               | ASTM D790    |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 17200          | MPa               | ASTM D790    |
| Tensile Stress, break, 5 mm/min              | 227            | MPa               | ISO 527      |
| Tensile Strain, break, 5 mm/min              | 1.3            | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 22770          | MPa               | ISO 527      |
| Flexural Modulus, 2 mm/min                   | 19640          | MPa               | ISO 178      |
| <b>IMPACT <sup>(1)</sup></b>                 |                |                   |              |
| Izod Impact, unnotched, 23°C                 | 646            | J/m               | ASTM D4812   |
| Izod Impact, notched, 23°C                   | 53             | J/m               | ASTM D256    |
| Multiaxial Impact                            | 2              | J                 | ISO 6603     |
| Izod Impact, unnotched 80°10°4 +23°C         | 40             | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, notched 80°10°4 +23°C           | 5              | kJ/m <sup>2</sup> | ISO 180/1A   |
| <b>THERMAL <sup>(1)</sup></b>                |                |                   |              |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 296            | °C                | ASTM D648    |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 284            | °C                | ASTM D648    |
| CTE, -30°C to 30°C, flow                     | 2.2E-05        | 1/°C              | ASTM D696    |
| CTE, -30°C to 30°C, xflow                    | 3.4E-05        | 1/°C              | ASTM D696    |

| PROPERTIES                                   | TYPICAL VALUES | UNITS                                          | TEST METHODS                |
|----------------------------------------------|----------------|------------------------------------------------|-----------------------------|
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm       | 298            | °C                                             | ISO 75/Bf                   |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm        | 284            | °C                                             | ISO 75/Af                   |
| <b>PHYSICAL <sup>(1)</sup></b>               |                |                                                |                             |
| Density                                      | 1.42           | g/cm <sup>3</sup>                              | ASTM D792                   |
| Moisture Absorption, (23°C/50% RH/24 hrs)    | 0.4            | %                                              | ASTM D570                   |
| Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>  | 0.06 – 0.09    | %                                              | ASTM D955                   |
| Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup> | 0.6 – 0.9      | %                                              | ASTM D955                   |
| Wear Factor Washer                           | 26             | 10 <sup>-4</sup> in <sup>3</sup> -min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Dynamic COF                                  | 0.34           | -                                              | ASTM D3702 Modified: Manual |
| Static COF                                   | 0.33           | -                                              | ASTM D3702 Modified: Manual |
| Density                                      | 1.41           | g/cm <sup>3</sup>                              | ISO 1183                    |
| Moisture Absorption (23°C / 50% RH)          | 0.6            | %                                              | ISO 62                      |
| <b>INJECTION MOLDING <sup>(3)</sup></b>      |                |                                                |                             |
| Drying Temperature                           | 120            | °C                                             |                             |
| Drying Time                                  | 4              | Hrs                                            |                             |
| Maximum Moisture Content                     | 0.06           | %                                              |                             |
| Minimum Moisture Content                     | 0.03           | %                                              |                             |
| Melt Temperature                             | 330 – 345      | °C                                             |                             |
| Front - Zone 3 Temperature                   | 325 – 330      | °C                                             |                             |
| Rear - Zone 1 Temperature                    | 320 – 325      | °C                                             |                             |
| Mold Temperature                             | 65 – 95        | °C                                             |                             |
| Back Pressure                                | 0.4            | MPa                                            |                             |
| Screw Speed                                  | 30 – 60        | rpm                                            |                             |

- (1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
- (2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
- (3) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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