

# LNPT<sup>™</sup> LUBRILOY<sup>™</sup> COMPOUND DF2041

DF-20 FR ECO

## DESCRIPTION

LNP LUBRILOY DF2041 compound is based on Polycarbonate (PC) resin containing 20% glass fiber and a proprietary lubricant. Added features of this grade include: Flame Retardant, Wear Resistant.

### GENERAL INFORMATION

|                       |                                                            |
|-----------------------|------------------------------------------------------------|
| Features              | Flame Retardant, Wear resistant, Non Cl/Br flame retardant |
| Fillers               | Glass Fiber                                                |
| Polymer Types         | Polycarbonate (PC)                                         |
| Processing Techniques | Injection Molding                                          |

### INDUSTRY

Building and Construction  
Consumer  
Electrical and Electronics  
Industrial

### SUB INDUSTRY

Building Component  
Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance  
Mobile Phone - Computer - Tablets  
Electrical

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|----------------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL <sup>(1)</sup></b>             |                |                   |              |
| Tensile Stress, break                        | 101            | MPa               | ASTM D638    |
| Tensile Strain, break                        | 2.2            | %                 | ASTM D638    |
| Tensile Modulus, 50 mm/min                   | 6680           | MPa               | ASTM D638    |
| Flexural Stress                              | 153            | MPa               | ASTM D790    |
| Flexural Modulus                             | 6370           | MPa               | ASTM D790    |
| Tensile Stress, break                        | 100            | MPa               | ISO 527      |
| Tensile Strain, break                        | 2              | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 6830           | MPa               | ISO 527      |
| Flexural Stress                              | 149            | MPa               | ISO 178      |
| Flexural Modulus                             | 6270           | MPa               | ISO 178      |
| <b>IMPACT <sup>(1)</sup></b>                 |                |                   |              |
| Izod Impact, unnotched, 23°C                 | 603            | J/m               | ASTM D4812   |
| Izod Impact, notched, 23°C                   | 154            | J/m               | ASTM D256    |
| Instrumented Dart Impact Energy @ peak, 23°C | 11             | J                 | ASTM D3763   |
| Multiaxial Impact                            | 3              | J                 | ISO 6603     |
| Izod Impact, unnotched 80*10*4 +23°C         | 36             | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, notched 80*10*4 +23°C           | 9              | kJ/m <sup>2</sup> | ISO 180/1A   |
| <b>THERMAL <sup>(1)</sup></b>                |                |                   |              |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 92             | °C                | ASTM D648    |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm        | 102            | °C                | ISO 75 /Af   |

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CHEMISTRY THAT MATTERS<sup>™</sup>

| PROPERTIES                                          | TYPICAL VALUES                    | UNITS                                           | TEST METHODS                |
|-----------------------------------------------------|-----------------------------------|-------------------------------------------------|-----------------------------|
| Relative Temp Index, Elec <sup>(2)</sup>            | 80                                | °C                                              | UL 746B                     |
| Relative Temp Index, Mech w/impact <sup>(2)</sup>   | 80                                | °C                                              | UL 746B                     |
| Relative Temp Index, Mech w/o impact <sup>(2)</sup> | 80                                | °C                                              | UL 746B                     |
| <b>PHYSICAL <sup>(1)</sup></b>                      |                                   |                                                 |                             |
| Density                                             | 1.33                              | g/cm <sup>3</sup>                               | ASTM D792                   |
| Moisture Absorption, (23°C/50% RH/24 hrs)           | 0.06                              | %                                               | ASTM D570                   |
| Mold Shrinkage, flow, 24 hrs <sup>(3)</sup>         | 0.2                               | %                                               | ASTM D955                   |
| Mold Shrinkage, xflow, 24 hrs <sup>(3)</sup>        | 0.4                               | %                                               | ASTM D955                   |
| Mold Shrinkage, flow, 24 hrs <sup>(3)</sup>         | 0.18                              | %                                               | ISO 294                     |
| Mold Shrinkage, xflow, 24 hrs <sup>(3)</sup>        | 0.39                              | %                                               | ISO 294                     |
| Wear Factor Washer                                  | 57                                | 10 <sup>-10</sup> in <sup>4</sup> -min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Dynamic COF                                         | 0.43                              | -                                               | ASTM D3702 Modified: Manual |
| Static COF                                          | 0.36                              | -                                               | ASTM D3702 Modified: Manual |
| Moisture Absorption (23°C / 50% RH)                 | 0.11                              | %                                               | ISO 62                      |
| <b>FLAME CHARACTERISTICS <sup>(2)</sup></b>         |                                   |                                                 |                             |
| UL Yellow Card Link                                 | <a href="#">E121562-101345270</a> | -                                               | -                           |
| UL Yellow Card Link 2                               | <a href="#">E207780-101345230</a> | -                                               | -                           |
| UL Recognized, 94V-0 Flame Class Rating             | ≥3                                | mm                                              | UL 94                       |
| UL Recognized, 94V-1 Flame Class Rating             | ≥0.8                              | mm                                              | UL 94                       |
| UL Recognized, 94V-2 Flame Class Rating             | ≥0.4                              | mm                                              | UL 94                       |
| <b>INJECTION MOLDING <sup>(4)</sup></b>             |                                   |                                                 |                             |
| Drying Temperature                                  | 80                                | °C                                              |                             |
| Drying Time                                         | 4 – 6                             | Hrs                                             |                             |
| Maximum Moisture Content                            | 0.02                              | %                                               |                             |
| Melt Temperature                                    | 255 – 290                         | °C                                              |                             |
| Front - Zone 3 Temperature                          | 260 – 270                         | °C                                              |                             |
| Middle - Zone 2 Temperature                         | 255 – 265                         | °C                                              |                             |
| Rear - Zone 1 Temperature                           | 250 – 260                         | °C                                              |                             |
| Mold Temperature                                    | 40 – 65                           | °C                                              |                             |
| Back Pressure                                       | 0.2 – 0.3                         | 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) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(3) 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.

(4) 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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