



## LNP™ LUBRICOMP™ Compound QP004

### Americas: COMMERCIAL

Also known as: LNP™ LUBRICOMP™ Compound QL-4540

Product reorder name: QP004

LNP LUBRICOMP QP004 is a compound based on Nylon 6/10 containing 20% PTFE/Silicone. Added feature of this grade is: Wear Resistant.

| TYPICAL PROPERTIES <sup>1</sup>          | TYPICAL VALUE | Unit                | Standard    |
|------------------------------------------|---------------|---------------------|-------------|
| <b>MECHANICAL</b>                        |               |                     |             |
| Tensile Stress, yld, Type I, 5 mm/min    | 490           | kgf/cm <sup>2</sup> | ASTM D 638  |
| Tensile Stress, brk, Type I, 5 mm/min    | 490           | kgf/cm <sup>2</sup> | ASTM D 638  |
| Tensile Strain, yld, Type I, 5 mm/min    | 10.5          | %                   | ASTM D 638  |
| Tensile Strain, brk, Type I, 5 mm/min    | 10.9          | %                   | ASTM D 638  |
| Tensile Modulus, 50 mm/min               | 22800         | kgf/cm <sup>2</sup> | ASTM D 638  |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 20800         | kgf/cm <sup>2</sup> | ASTM D 790  |
| Tensile Stress, yield, 5 mm/min          | 48            | MPa                 | ISO 527     |
| Tensile Stress, break, 5 mm/min          | 47            | MPa                 | ISO 527     |
| Tensile Strain, yield, 5 mm/min          | 9             | %                   | ISO 527     |
| Tensile Strain, break, 5 mm/min          | 9.2           | %                   | ISO 527     |
| Tensile Modulus, 1 mm/min                | 2170          | MPa                 | ISO 527     |
| Flexural Stress                          | 69            | MPa                 | ISO 178     |
| Flexural Modulus, 2 mm/min               | 1990          | MPa                 | ISO 178     |
| <b>IMPACT</b>                            |               |                     |             |
| Izod Impact, unnotched, 23°C             | 42            | cm-kgf/cm           | ASTM D 4812 |
| Izod Impact, notched, 23°C               | 2             | cm-kgf/cm           | ASTM D 256  |
| Multiaxial Impact                        | 7             | cm-kgf              | ISO 6603    |
| Instrumented Impact Total Energy, 23°C   | 33            | cm-kgf              | ASTM D 3763 |
| Izod Impact, unnotched 80*10*4 +23°C     | 25            | kJ/m <sup>2</sup>   | ISO 180/1U  |
| Izod Impact, notched 80*10*4 +23°C       | 4             | kJ/m <sup>2</sup>   | ISO 180/1A  |
| <b>THERMAL</b>                           |               |                     |             |
| HDT, 0.45 MPa, 3.2 mm, unannealed        | 170           | °C                  | ASTM D 648  |
| HDT, 1.82 MPa, 3.2mm, unannealed         | 57            | °C                  | ASTM D 648  |



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|----------------------------------------|---------------|-------------------------------------------------|----------------------|
| <b>THERMAL</b>                         |               |                                                 |                      |
| CTE, -30°C to 30°C, flow               | 1.13E-04      | 1/°C                                            | ASTM D 696           |
| CTE, -30°C to 30°C, xflow              | 1.08E-04      | 1/°C                                            | ASTM D 696           |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 138           | °C                                              | ISO 75/Bf            |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm  | 55            | °C                                              | ISO 75/Af            |
| <b>PHYSICAL</b>                        |               |                                                 |                      |
| Specific Gravity                       | 1.19          | -                                               | ASTM D 792           |
| Density                                | 1.19          | g/cm <sup>3</sup>                               | ASTM D 792           |
| Moisture Absorption, 50% RH, 24 hrs    | 0.33          | %                                               | ASTM D 570           |
| Mold Shrinkage, flow, 24 hrs (5)       | 1 - 4         | %                                               | ASTM D 955           |
| Mold Shrinkage, xflow, 24 hrs (5)      | 1 - 4         | %                                               | ASTM D 955           |
| Wear Factor Washer                     | 4             | 10 <sup>-10</sup> in <sup>5</sup> -min/ft-lb-hr | ASTM D 3702 Modified |
| Wear Factor Ring                       | -1            | 10 <sup>-10</sup> in <sup>5</sup> -min/ft-lb-hr | ASTM D 3702 Modified |
| Dynamic COF                            | 0.26          | -                                               | ASTM D 3702 Modified |
| Static COF                             | 0.1           | -                                               | ASTM D 3702 Modified |
| Moisture Absorption (23°C / 50% RH)    | 0.51          | %                                               | ISO 62               |



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| PROCESSING PARAMETERS       | TYPICAL VALUE | Unit |
|-----------------------------|---------------|------|
| <b>Injection Molding</b>    |               |      |
| Drying Temperature          | 80            | °C   |
| Drying Time                 | 4             | hrs  |
| Maximum Moisture Content    | 0.12 - 0.2    | %    |
| Melt Temperature            | 270 - 275     | °C   |
| Front - Zone 3 Temperature  | 270 - 280     | °C   |
| Middle - Zone 2 Temperature | 260 - 270     | °C   |
| Rear - Zone 1 Temperature   | 250 - 260     | °C   |
| Mold Temperature            | 80 - 95       | °C   |
| Back Pressure               | 0.2 - 0.3     | MPa  |
| Screw Speed                 | 30 - 60       | rpm  |