

## SABIC Innovative Plastics LNP LUBRICOMP KP004XXP Acetal Copolymer

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

### Material Notes:

LNP LUBRICOMP\* KP004XXP is a compound based on Acetal Copolymer resin containing 20% PTFE/Silicone. Added feature of this material is: Wear Resistant.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-LNP-LUBRICOMP-KP004XXP-Acetal-Copolymer.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-LNP-LUBRICOMP-KP004XXP-Acetal-Copolymer.php)

| Physical Properties               | Metric                | English                   | Comments                           |
|-----------------------------------|-----------------------|---------------------------|------------------------------------|
| Density                           | 1.48 g/cc             | 0.0535 lb/in <sup>3</sup> | ASTM D792                          |
|                                   | 1.48 g/cc             | 0.0535 lb/in <sup>3</sup> | ISO 1183                           |
| Moisture Absorption               | 0.180 %               | 0.180 %                   | 50% RH, 24 hrs; ASTM D570          |
|                                   | 0.430 %               | 0.430 %                   | 23 <sup>o</sup> C / 50% RH; ISO 62 |
| Linear Mold Shrinkage, Flow       | 0.021 - 0.029 cm/cm   | 0.021 - 0.029 in/in       | ASTM D955                          |
|                                   | @Time 86400 sec       | @Time 24.0 hour           |                                    |
|                                   | 0.0209 - 0.0292 cm/cm | 0.0209 - 0.0292 in/in     | ISO 294                            |
|                                   | @Time 86400 sec       | @Time 24.0 hour           |                                    |
| Linear Mold Shrinkage, Transverse | 0.021 - 0.029 cm/cm   | 0.021 - 0.029 in/in       | ASTM D955                          |
|                                   | @Time 86400 sec       | @Time 24.0 hour           |                                    |
|                                   | 0.0209 - 0.0292 cm/cm | 0.0209 - 0.0292 in/in     | ISO 294                            |
|                                   | @Time 86400 sec       | @Time 24.0 hour           |                                    |

| Mechanical Properties     | Metric   | English  | Comments  |
|---------------------------|----------|----------|-----------|
| Tensile Strength at Break | 39.0 MPa | 5660 psi | ISO 527   |
|                           | 43.0 MPa | 6240 psi | ASTM D638 |
| Tensile Strength, Yield   | 39.0 MPa | 5660 psi | ISO 527   |
|                           | 43.0 MPa | 6240 psi | ASTM D638 |
| Elongation at Break       | 30.3 %   | 30.3 %   | ASTM D638 |
|                           | 42.8 %   | 42.8 %   | ISO 527   |
| Elongation at Yield       | 13.7 %   | 13.7 %   | ASTM D638 |
|                           | 21.5 %   | 21.5 %   | ISO 527   |

| Tensile Modulus<br>Mechanical Properties | 1.83 GPa<br>Metric                           | 265 ksi<br>English                                         | 50 mm/min; ASTM D638<br>Comments                 |
|------------------------------------------|----------------------------------------------|------------------------------------------------------------|--------------------------------------------------|
|                                          | 2.02 GPa                                     | 293 ksi                                                    | 1 mm/min; ISO 527                                |
| Flexural Strength                        | 60.0 MPa                                     | 8700 psi                                                   | ISO 178                                          |
|                                          | 63.0 MPa                                     | 9140 psi                                                   | ASTM D790                                        |
| Flexural Modulus                         | 2.02 GPa                                     | 293 ksi                                                    | ASTM D790                                        |
|                                          | 2.08 GPa                                     | 302 ksi                                                    | ISO 178                                          |
| Izod Impact, Notched                     | 0.530 J/cm                                   | 0.993 ft-lb/in                                             | ASTM D256                                        |
| Izod Impact, Unnotched                   | 6.19 J/cm                                    | 11.6 ft-lb/in                                              | ASTM D4812                                       |
| Izod Impact, Notched (ISO)               | 5.00 kJ/m <sup>2</sup>                       | 2.38 ft-lb/in <sup>2</sup>                                 | 80*10*4; ISO 180/1A                              |
| Izod Impact, Unnotched (ISO)             | 42.0 kJ/m <sup>2</sup>                       | 20.0 ft-lb/in <sup>2</sup>                                 | 80*10*4; ISO 180/1U                              |
| Dart Drop, Total Energy                  | 3.00 J                                       | 2.21 ft-lb                                                 | Instrumented Impact Energy @ peak;<br>ASTM D3763 |
| Impact Test                              | 1.00 J                                       | 0.738 ft-lb                                                | Multiaxial Impact; ISO 6603                      |
| Coefficient of Friction, Dynamic         | 0.25                                         | 0.25                                                       | ASTM D3702 Modified                              |
| Coefficient of Friction, Static          | 0.14                                         | 0.14                                                       | ASTM D3702 Modified                              |
| K (wear) Factor                          | 18.1 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M | 9.00 x 10 <sup>-10</sup> in <sup>3</sup> -<br>min/ft-lb-hr | Washer; ASTM D3702 Modified                      |

| Thermal Properties                             | Metric                           | English                         | Comments                         |
|------------------------------------------------|----------------------------------|---------------------------------|----------------------------------|
| CTE, linear, Parallel to Flow                  | 111 Âµm/m-Â°C                    | 61.7 Âµin/in-Â°F                | ASTM E 831                       |
|                                                | @Temperature -40.0 -<br>40.0 Â°C | @Temperature -40.0 -<br>104 Â°F |                                  |
|                                                | 111 Âµm/m-Â°C                    | 61.7 Âµin/in-Â°F                | ISO 11359-2                      |
|                                                | @Temperature -40.0 -<br>40.0 Â°C | @Temperature -40.0 -<br>104 Â°F |                                  |
| CTE, linear, Transverse to Flow                | 114 Âµm/m-Â°C                    | 63.3 Âµin/in-Â°F                | ASTM E 831                       |
|                                                | @Temperature -40.0 -<br>40.0 Â°C | @Temperature -40.0 -<br>104 Â°F |                                  |
|                                                | 114 Âµm/m-Â°C                    | 63.3 Âµin/in-Â°F                | ISO 11359-2                      |
|                                                | @Temperature -40.0 -<br>40.0 Â°C | @Temperature -40.0 -<br>104 Â°F |                                  |
| Deflection Temperature at 1.8 MPa<br>(264 psi) | 79.0 Â°C                         | 174 Â°F                         | Flatw 80*10*4 sp=64mm; ISO 75/Af |
|                                                | 87.0 Â°C                         | 189 Â°F                         |                                  |

| Thermal Properties | Metric<br>@ Thickness 3.20 mm | English<br>@ Thickness 0.126 in | unannealed; ASTM D648<br>Comments |
|--------------------|-------------------------------|---------------------------------|-----------------------------------|
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