

## SABIC Innovative Plastics LNP Lubricomp KCL34 Acetal Copoly

Category : Polymer , Thermoplastic , Acetal (POM) , Acetal Copolymer, Carbon Fiber Filled

### Material Notes:

LNP\* Lubricomp\* KCL34 is a compound based on Acetal Copolymer resin containing PTFE, Carbon Fiber. Added features of this material include: Internally Lubricated, Electrically Conductive. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-LNP-Lubricomp-KCL34-Acetal-Copoly.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-LNP-Lubricomp-KCL34-Acetal-Copoly.php)

| Physical Properties                | Metric                | English                   | Comments           |
|------------------------------------|-----------------------|---------------------------|--------------------|
| Density                            | 1.48 g/cc             | 0.0535 lb/in <sup>3</sup> | ASTM D 792         |
|                                    | 1.48 g/cc             | 0.0535 lb/in <sup>3</sup> | ISO 1183           |
| Moisture Absorption at Equilibrium | 0.10 %                | 0.10 %                    | 50% RH; ASTM D 570 |
|                                    | @Time 86400 sec       | @Time 24.0 hour           |                    |
| Linear Mold Shrinkage, Flow        | 0.0075 cm/cm          | 0.0075 in/in              | ISO 294            |
|                                    | @Time 86400 sec       | @Time 24.0 hour           |                    |
|                                    | 0.0070 - 0.0090 cm/cm | 0.0070 - 0.0090 in/in     | ASTM D 955         |
|                                    | @Time 86400 sec       | @Time 24.0 hour           |                    |
| Linear Mold Shrinkage, Transverse  | 0.013 - 0.015 cm/cm   | 0.013 - 0.015 in/in       | ASTM D 955         |
|                                    | @Time 86400 sec       | @Time 24.0 hour           |                    |
|                                    | 0.014 cm/cm           | 0.014 in/in               | ISO 294            |
|                                    | @Time 86400 sec       | @Time 24.0 hour           |                    |

| Mechanical Properties     | Metric   | English   | Comments          |
|---------------------------|----------|-----------|-------------------|
| Tensile Strength at Break | 121 MPa  | 17500 psi | ISO 527           |
|                           | 127 MPa  | 18400 psi | ASTM D 638        |
| Tensile Strength, Yield   | 122 MPa  | 17700 psi | ISO 527           |
|                           | 127 MPa  | 18400 psi | ASTM D 638        |
| Elongation at Break       | 1.8 %    | 1.8 %     | ISO 527           |
|                           | 1.9 %    | 1.9 %     | ASTM D 638        |
| Elongation at Yield       | 1.8 %    | 1.8 %     | ISO 527           |
|                           | 1.9 %    | 1.9 %     | ASTM D 638        |
| Tensile Modulus           | 14.3 GPa | 2070 ksi  | 1 mm/min; ISO 527 |

| Mechanical Properties            | Metric<br>15.85 GPa                     | English<br>2299 ksi                            | Comments<br>50 mm/min; ASTM D 638                 |
|----------------------------------|-----------------------------------------|------------------------------------------------|---------------------------------------------------|
| Flexural Strength                | 180 MPa                                 | 26100 psi                                      | ISO 178                                           |
|                                  | 186 MPa                                 | 27000 psi                                      | ASTM D 790                                        |
| Flexural Modulus                 | 12.9 GPa                                | 1870 ksi                                       | ISO 178                                           |
|                                  | 13.1 GPa                                | 1900 ksi                                       | ASTM D 790                                        |
| Izod Impact, Notched             | 0.480 J/cm<br>@Temperature 23.0<br>Â°C  | 0.899 ft-lb/in<br>@Temperature 73.4 Â°F        | ASTM D 256                                        |
| Izod Impact, Unnotched           | 5.12 J/cm<br>@Temperature 23.0<br>Â°C   | 9.59 ft-lb/in<br>@Temperature 73.4 Â°F         | ASTM D 4812                                       |
| Izod Impact, Notched (ISO)       | 5.00 kJ/mÂ²<br>@Temperature 23.0<br>Â°C | 2.38 ft-lb/inÂ²<br>@Temperature 73.4 Â°F       | 80*10*4; ISO 180/1A                               |
| Izod Impact, Unnotched (ISO)     | 31.0 kJ/mÂ²<br>@Temperature 23.0<br>Â°C | 14.8 ft-lb/inÂ²<br>@Temperature 73.4 Â°F       | 80*10*4; ISO 180/1U                               |
| Impact Test                      | 2.00 J                                  | 1.48 ft-lb                                     | Multiaxial Impact; ISO 6603                       |
|                                  | 11.0 J<br>@Temperature 23.0<br>Â°C      | 8.11 ft-lb<br>@Temperature 73.4 Â°F            | Instrumented Impact Energy @ peak;<br>ASTM D 3763 |
| Coefficient of Friction, Dynamic | 0.36                                    | 0.36                                           | ASTM D 3702 Modified                              |
| K (wear) Factor                  | 127 x 10 <sup>-8</sup> mmÂ³/N-M         | 63.0 x 10 <sup>-10</sup> inÂ³-<br>min/ft-lb-hr | Washer; ASTM D 3702 Modified                      |

| Thermal Properties              | Metric                                             | English                                             | Comments    |
|---------------------------------|----------------------------------------------------|-----------------------------------------------------|-------------|
| CTE, linear, Parallel to Flow   | 70.0 Âµm/m-Â°C<br>@Temperature -40.0 -<br>40.0 Â°C | 38.9 Âµin/in-Â°F<br>@Temperature -40.0 -<br>104 Â°F | ISO 11359-2 |
|                                 | 70.2 Âµm/m-Â°C<br>@Temperature -40.0 -<br>40.0 Â°C | 39.0 Âµin/in-Â°F<br>@Temperature -40.0 -<br>104 Â°F | ASTM E 831  |
| CTE, linear, Transverse to Flow | 34.0 Âµm/m-Â°C<br>@Temperature -40.0 -<br>40.0 Â°C | 18.9 Âµin/in-Â°F<br>@Temperature -40.0 -<br>104 Â°F | ISO 11359-2 |

| Thermal Properties                          | 34.2 Åmm/m-Å°C<br>Metric      | 19.0 Åmm/in-Å°F<br>English   | Comments                         |
|---------------------------------------------|-------------------------------|------------------------------|----------------------------------|
|                                             | @Temperature -40.0 - 40.0 Å°C | @Temperature -40.0 - 104 Å°F | ASTM E 831                       |
| Deflection Temperature at 0.46 MPa (66 psi) | 163 Å°C                       | 325 Å°F                      | Flatw 80*10*4 sp=64mm; ISO 75/Bf |
|                                             | 162 Å°C                       | 324 Å°F                      | unannealed; ASTM D 648           |
|                                             | @Thickness 3.20 mm            | @Thickness 0.126 in          |                                  |
| Deflection Temperature at 1.8 MPa (264 psi) | 159 Å°C                       | 318 Å°F                      | Flatw 80*10*4 sp=64mm; ISO 75/Af |
|                                             | 160 Å°C                       | 320 Å°F                      | unannealed; ASTM D 648           |
|                                             | @Thickness 3.20 mm            | @Thickness 0.126 in          |                                  |

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