

## BASF Ultramid® B50L 01 PA6 (Dry)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Unreinforced

### Material Notes:

Ultramid B50L 01 is a high-viscosity, lubricated, general-purpose extrusion PA6 grade. It conforms to FDA requirements including, 21 CFR 177.1500, EU Directive 2002/72/EC, the German BfR recommendation "X Polyamide", 1.6.1998 or legislations for other countries will be provided on request.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_BASF-Ultramid-B50L-01-PA6-Dry.php](http://www.lookpolymers.com/polymer_BASF-Ultramid-B50L-01-PA6-Dry.php)

| Physical Properties                | Metric                                               | English                                              | Comments              |
|------------------------------------|------------------------------------------------------|------------------------------------------------------|-----------------------|
| Density                            | 1.13 g/cc                                            | 0.0408 lb/in <sup>3</sup>                            | ISO 1183              |
| Water Absorption                   | 9.5 %                                                | 9.5 %                                                | ISO 62                |
| Moisture Absorption at Equilibrium | 2.6 %                                                | 2.6 %                                                | 23°C/50% R.H.; ISO 62 |
| Relative Viscosity                 | 5.0 cP                                               | 5.0 cP                                               | ISO Test; 96 % SAV    |
| Viscosity Test                     | 320 cm <sup>3</sup> /g                               | 320 cm <sup>3</sup> /g                               | Viscosity number      |
| Linear Mold Shrinkage              | 0.0090 cm/cm                                         | 0.0090 in/in                                         | ASTM Data; MD         |
| Melt Flow                          | 8.0 g/10 min<br>@Load 5.00 kg,<br>Temperature 275 °C | 8.0 g/10 min<br>@Load 11.0 lb,<br>Temperature 527 °F | ISO 1133              |

| Mechanical Properties   | Metric                              | English                                 | Comments                          |
|-------------------------|-------------------------------------|-----------------------------------------|-----------------------------------|
| Tensile Strength, Yield | 80.0 MPa                            | 11600 psi                               | 2 in/min; ASTM Test               |
|                         | 90.0 MPa                            | 13100 psi                               | 50mm/min; ISO 527                 |
| Elongation at Break     | >= 50 %                             | >= 50 %                                 | 50mm/min, Nominal strain; ISO 527 |
| Elongation at Yield     | 4.5 %                               | 4.5 %                                   | 50mm/min; ISO 527                 |
| Tensile Modulus         | 3.00 GPa                            | 435 ksi                                 | 1mm/min; ISO 527                  |
|                         | 3.00 GPa                            | 435 ksi                                 | ASTM Test                         |
| Izod Impact, Notched    | 0.530 J/cm<br>@Temperature -40.0 °C | 0.993 ft-lb/in<br>@Temperature -40.0 °F | ASTM Test                         |
|                         | 1.34 J/cm<br>@Thickness 3.17 mm     | 2.51 ft-lb/in<br>@Thickness 0.125 in    | ASTM Test                         |
| Charpy Impact Unnotched | NB                                  | NB                                      | ISO 179                           |

| Mechanical Properties  | Metric                  | English                    | Comments |
|------------------------|-------------------------|----------------------------|----------|
|                        | @Temperature -30.0 °C   | @Temperature -22.0 °F      | ISO 179  |
| Charpy Impact, Notched | 0.900 J/cm <sup>2</sup> | 4.28 ft-lb/in <sup>2</sup> | ISO 179  |
|                        | NB                      | NB                         | ISO 179  |
|                        | @Temperature -30.0 °C   | @Temperature -22.0 °F      |          |

| Thermal Properties                          | Metric                       | English                      | Comments                        |
|---------------------------------------------|------------------------------|------------------------------|---------------------------------|
| CTE, linear                                 | 40.0 µm/m-°C                 | 22.2 µin/in-°F               | ASTM Test                       |
|                                             | @Temperature -30.0 - 30.0 °C | @Temperature -22.0 - 86.0 °F |                                 |
| CTE, linear, Parallel to Flow               | 85.0 µm/m-°C                 | 47.2 µin/in-°F               | ISO 11359                       |
| Melting Point                               | 220 °C                       | 428 °F                       | 10 K/min                        |
|                                             | 220 °C                       | 428 °F                       | ASTM Test                       |
| Deflection Temperature at 0.46 MPa (66 psi) | 160 °C                       | 320 °F                       | ASTM Test                       |
|                                             | 160 °C                       | 320 °F                       | ISO 75                          |
| Deflection Temperature at 1.8 MPa (264 psi) | 54.0 °C                      | 129 °F                       | ASTM Test                       |
|                                             | 65.0 °C                      | 149 °F                       | ISO 75                          |
| Vicat Softening Point                       | 204 °C                       | 399 °F                       | (50 °C/h / 50N) - B/50; ISO 306 |
| Flammability, UL94                          | HB                           | HB                           |                                 |
|                                             | @Thickness 1.50 mm           | @Thickness 0.0591 in         |                                 |
|                                             | HB                           | HB                           |                                 |
|                                             | @Thickness 0.800 mm          | @Thickness 0.0315 in         |                                 |

| Electrical Properties | Metric                | English               | Comments  |
|-----------------------|-----------------------|-----------------------|-----------|
| Volume Resistivity    | 1.00e+13 ohm-cm       | 1.00e+13 ohm-cm       | IEC 60093 |
| Surface Resistance    | 1.00e+13 ohm          | 1.00e+13 ohm          | IEC 60093 |
| Dielectric Constant   | 3.5                   | 3.5                   | IEC 60250 |
|                       | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz |           |
|                       | 4.0                   | 4.0                   | IEC 60250 |
|                       | @Frequency 100 Hz     | @Frequency 100 Hz     |           |

| Electrical Properties      | 0.023<br>Metric          | 0.023<br>English         | Comments  |
|----------------------------|--------------------------|--------------------------|-----------|
| Dielectric Factor          | @Frequency 1.00e+6<br>Hz | @Frequency 1.00e+6<br>Hz | IEC 60283 |
| Comparative Tracking Index | 600 V                    | 600 V                    | IEC 60112 |

| Descriptive Properties       | Value                    | Comments |
|------------------------------|--------------------------|----------|
| Color                        | Natural                  |          |
| Commercial Status            | North America and Europe |          |
| FDA                          | 21 CFR 177.1500          |          |
| Form                         | Pellets                  |          |
| Impact Modified              | No                       |          |
| Primary Processing Technique | Film Extrusion           |          |
| Processing                   | Film Extrusion           |          |
|                              | Profile Extrusion        |          |

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