

## EPICHEM PA 6 Polyamide 6

Category : Polymer , Thermoplastic , Nylon , Nylon 6

### Material Notes:

Characteristics: medium viscosity, general purpose

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_EPICHEM-PA-6-Polyamide-6.php](http://www.lookpolymers.com/polymer_EPICHEM-PA-6-Polyamide-6.php)

| Physical Properties   | Metric               | English                   | Comments               |
|-----------------------|----------------------|---------------------------|------------------------|
| Density               | 1.13 g/cc            | 0.0408 lb/in <sup>3</sup> | ASTM D792, ISO 1183    |
| Water Absorption      | 9.0 %                | 9.0 %                     | 24h; ASTM D570, ISO 62 |
|                       | @Temperature 23.0 °C | @Temperature 73.4 °F      |                        |
| Linear Mold Shrinkage | 0.0070 - 0.012 cm/cm | 0.0070 - 0.012 in/in      | ASTM D955              |

| Mechanical Properties   | Metric                                     | English                                     | Comments              |
|-------------------------|--------------------------------------------|---------------------------------------------|-----------------------|
| Hardness, Rockwell L    | 80 - 95                                    | 80 - 95                                     | ASTM D785, ISO 2039/2 |
| Tensile Strength, Yield | 70.0 MPa                                   | 10200 psi                                   | ASTM D638, ISO R527   |
| Elongation at Break     | 55 - 80 %                                  | 55 - 80 %                                   | ASTM D638, ISO R527   |
| Flexural Strength       | 82.0 MPa                                   | 11900 psi                                   | ASTM D790, ISO 178    |
| Flexural Modulus        | 2.30 GPa                                   | 334 ksi                                     | ASTM D790, ISO 178    |
| Izod Impact, Notched    | 0.400 J/cm                                 | 0.749 ft-lb/in                              | ASTM D256, ISO 180/4a |
|                         | @Thickness 3.20 mm,<br>Temperature 23.0 °C | @Thickness 0.126 in,<br>Temperature 73.4 °F |                       |

| Thermal Properties                          | Metric         | English       | Comments                           |
|---------------------------------------------|----------------|---------------|------------------------------------|
| Maximum Service Temperature, Air            | 70.0 °C        | 158 °F        | 20000 h; VDE 0304/P2-1, IEC 216    |
|                                             | 85.0 °C        | 185 °F        | 5000 h; VDE 0304/P2-1, IEC 216     |
|                                             | 180 °C         | 356 °F        | few hours; VDE 0304/P2-1, IEC 216  |
| Deflection Temperature at 1.8 MPa (264 psi) | 50.0 °C        | 122 °F        | ASTM D648, ISO 75                  |
| Vicat Softening Point                       | 180 °C         | 356 °F        | 120°C/min; ASTM D1525/B, ISO 306/B |
|                                             | @Load 5.00 kg  | @Load 11.0 lb |                                    |
|                                             | 205 °C         | 401 °F        | 120°C/min; ASTM D1525/A, ISO 306/A |
|                                             | @Load 0.999 kg | @Load 2.20 lb |                                    |

| Thermal Properties<br>Flammability UL 94 | <sup>Unit</sup><br>Metric | <sup>Unit</sup><br>English | Comments |
|------------------------------------------|---------------------------|----------------------------|----------|
|                                          | @Thickness 1.60 mm        | @Thickness 0.0630 in       |          |
|                                          | HB                        | HB                         |          |
|                                          | @Thickness 3.20 mm        | @Thickness 0.126 in        |          |

| Electrical Properties      | Metric             | English            | Comments             |
|----------------------------|--------------------|--------------------|----------------------|
| Surface Resistance         | 1.00e+13 ohm       | 1.00e+13 ohm       | ASTM D257, IEC 93    |
| Dielectric Constant        | 3.4                | 3.4                | ASTM D150, IEC 250   |
|                            | @Frequency 1000 Hz | @Frequency 1000 Hz |                      |
| Dielectric Strength        | 90.0 kV/mm         | 2290 kV/in         | ASTM D149, IEC 243   |
| Dissipation Factor         | 0.020              | 0.020              | ASTM D150, IEC 250   |
|                            | @Frequency 1000 Hz | @Frequency 1000 Hz |                      |
| Comparative Tracking Index | 600 V              | 600 V              | VDE 0303-P1, IEC 112 |

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