# Aardvark Polymers AarlonÂ® 2000 Rotational Molding Resin, DAM

**Category :** Polymer , Thermoplastic , Nylon , Nylon 66

**Material Notes:**

AarlonÂ® 2000 PA 6/6 is a high performance nylon for rotational molding applications. AarlonÂ® 2000 offers high heat capabilities with exceptional mechanical properties.Information provided by Gehrig & Associates

Order this product through the following link:
http://www.lookpolymers.com/polymer_Aardvark-Polymers-Aarlon-2000-Rotational-Molding-Resin-DAM.php

| Physical Properties | Metric | English | Comments |
|---|---|---|---|
| Density | 1.14 g/cc | 0.0412 lb/inÂ³ | ASTM D792 |
| Water Absorption | 1.2 % | 1.2 % | Immersion 24h; ASTM D570 |
| Moisture Absorption at Equilibrium | 2.6 % | 2.6 % | ISO 62 |
| Water Absorption at Saturation | 8.5 % | 8.5 % | ASTM D570 |
| Linear Mold Shrinkage | 0.014 cm/cm<br>@Thickness 2.00 mm | 0.014 in/in<br>@Thickness 0.0787 in | ISO 294-4 |
| Linear Mold Shrinkage, Transverse | 0.014 cm/cm<br>@Thickness 2.00 mm | 0.014 in/in<br>@Thickness 0.0787 in | ISO 294-4 |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| Hardness, Rockwell M | 79 | 79 | ASTM D785 |
| Hardness, Rockwell R | 121 | 121 | ASTM D785 |
| Tensile Strength, Ultimate | 83.0 MPa | 12000 psi | ASTM D638 |
| Tensile Strength, Yield | 82.0 MPa | 11900 psi | ISO 527 |
| | 83.0 MPa | 12000 psi | ASTM D638 |
| Elongation at Break | 60 % | 60 % | ASTM D638 |
| Elongation at Yield | 4.5 % | 4.5 % | ISO 527 |
| Tensile Modulus | 3.70 GPa | 537 ksi | ISO 527 |
| Flexural Modulus | 2.80 GPa | 406 ksi | ISO 178 |
| Shear Strength | 66.2 MPa | 9600 psi | ASTM D732 |
| Izod Impact, Unnotched | 0.530 J/cm | 0.993 ft-lb/in | ASTM D256 |
| | 0.320 J/cm | 0.599 ft-lb/in | |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| | @Temperature -40.0 Â°C | @Temperature -40.0 Â°F | ASTM D256 |
| Izod Impact, Notched (ISO) | 5.50 kJ/mÂ² | 2.62 ft-lb/inÂ² | ISO 180/1A |
| | 5.50 kJ/mÂ²<br>@Temperature -40.0 Â°C | 2.62 ft-lb/inÂ²<br>@Temperature -40.0 Â°F | ISO 180/1A |
| Charpy Impact Unnotched | 40.0 J/cmÂ² | 190 ft-lb/inÂ² | Low Temp; ISO 179/1eU |
| Charpy Impact, Notched | 0.550 J/cmÂ² | 2.62 ft-lb/inÂ² | ISO 179/1eA |
| | 0.300 J/cmÂ²<br>@Temperature -30.0 Â°C | 1.43 ft-lb/inÂ²<br>@Temperature -22.0 Â°F | ISO 179/1E |
| | 0.450 J/cmÂ²<br>@Temperature -30.0 Â°C | 2.14 ft-lb/inÂ²<br>@Temperature -22.0 Â°F | ISO 179/1EA |
| Tensile Impact Strength | 504 kJ/mÂ² | 240 ft-lb/inÂ² | Long Specimen; ISO 179/1eA |
| | 1470 kJ/mÂ² | 699 ft-lb/inÂ² | ISO 179/1eA |

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| CTE, linear | 100 Âµm/m-Â°C<br>@Temperature 23.0 - 55.0 Â°C | 55.6 Âµin/in-Â°F<br>@Temperature 73.4 - 131 Â°F | ASTM E831 |
| CTE, linear, Transverse to Flow | 110 Âµm/m-Â°C<br>@Temperature 23.0 - 55.0 Â°C | 61.1 Âµin/in-Â°F<br>@Temperature 73.4 - 131 Â°F | ASTM E831 |
| Melting Point | 262 Â°C | 504 Â°F | 10Â°C/min; ISO 11357-1/-3 |
| Deflection Temperature at 0.46 MPa (66 psi) | 200 Â°C | 392 Â°F | ISO 75-1/-2 |
| | 210 Â°C | 410 Â°F | ASTM D648 |
| Deflection Temperature at 1.8 MPa (264 psi) | 65.0 Â°C | 149 Â°F | ASTM D648 |
| | 70.0 Â°C | 158 Â°F | ISO 75-1/-2 |
| Brittleness Temperature | -80.0 Â°C | -112 Â°F | ASTM D746 |
| UL RTI, Electrical | 130 Â°C<br>@Thickness 1.50 mm | 266 Â°F<br>@Thickness 0.0591 in | UL 746B |

| Thermal Properties with Impact | Metric | English | Comments |
|---|---|---|---|
| | 75.0 Â°C<br>@Thickness 1.50 mm | 167 Â°F<br>@Thickness 0.0591 in | |
| UL RTI, Mechanical without Impact | 85.0 Â°C<br>@Thickness 1.50 mm | 185 Â°F<br>@Thickness 0.0591 in | UL 746B |
| Flammability, UL94 | V-2<br>@Thickness 0.710 mm | V-2<br>@Thickness 0.0280 in | IEC 60695-11-10 |
| | V-2<br>@Thickness 3.00 mm | V-2<br>@Thickness 0.118 in | |
| Oxygen Index | 28 % | 28 % | ASTM D2863 |

| Electrical Properties | Metric | English | Comments |
|---|---|---|---|
| Dielectric Constant | 3.6<br>@Frequency 100 Hz | 3.6<br>@Frequency 100 Hz | ASTM D150 |
| | 3.9<br>@Frequency 1000 Hz | 3.9<br>@Frequency 1000 Hz | ASTM D150 |
| | 4.0<br>@Frequency 1e+6 Hz | 4.0<br>@Frequency 1e+6 Hz | ASTM D150 |
| Dissipation Factor | 0.010<br>@Frequency 100 Hz | 0.010<br>@Frequency 100 Hz | ASTM D150 |
| | 0.020<br>@Frequency 1000 Hz | 0.020<br>@Frequency 1000 Hz | ASTM D150 |
| | 0.020<br>@Frequency 1e+6 Hz | 0.020<br>@Frequency 1e+6 Hz | ASTM D150 |

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