

Lanxess Durethan® BKV 35 H3.0 000000 Nylon 6, Glass Fiber Reinforced

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, 40% Glass Fiber Filled

Material Notes:

PA 6, 35% glass fibers, injection molding, heat-aging stabilized Information provided by LANXESS.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Lanxess-Durethan-BKV-35-H30-000000-Nylon-6-Glass-Fiber-Reinforced.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|---------------|---------------|---|
| Specific Gravity | 1.41 g/cc | 1.41 g/cc | ISO 1183 |
| Moisture Absorption at Equilibrium | 1.9 % | 1.9 % | 50% RH; ISO 62 |
| Water Absorption at Saturation | 6.5 % | 6.5 % | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.00030 cm/cm | 0.00030 in/in | Post-shrinkage, 150x105x3; 120Â°C; 4 hour; ISO 2577 |
| | 0.00050 cm/cm | 0.00050 in/in | Post-shrinkage, 60x60x2; 120Â°C; 4 hour; ISO 294-4 |
| | 0.0016 cm/cm | 0.0016 in/in | 150x105x3; 280Â°C / MT 80Â°C; 500 bar; ISO 2577 |
| | 0.0023 cm/cm | 0.0023 in/in | 60x60x2; 280Â°C / MT 80Â°C; 600 bar; ISO 294-4 |
| Linear Mold Shrinkage, Transverse | 0.00070 cm/cm | 0.00070 in/in | Post-shrinkage, 60x60x2; 120Â°C; 4 hour; ISO 294-4 |
| | 0.0010 cm/cm | 0.0010 in/in | Post-shrinkage, 150x105x3; 120Â°C; 4 hour; ISO 2577 |
| | 0.0068 cm/cm | 0.0068 in/in | 60x60x2; 280Â°C / MT 80Â°C; 600 bar; ISO 294-4 |
| | 0.0081 cm/cm | 0.0081 in/in | 150x105x3; 280Â°C / MT 80Â°C; 500 bar; ISO 2577 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|-----------|---------------------------------|
| Tensile Strength at Break | 120 MPa | 17400 psi | cond.; ISO 527-1, -2; 5 mm/min |
| | 190 MPa | 27600 psi | d.a.m.; ISO 527-1, -2; 5 mm/min |
| Elongation at Break | 3.0 % | 3.0 % | d.a.m.; ISO 527-1, -2; 5 mm/min |
| | 5.0 % | 5.0 % | cond.; ISO 527-1, -2; 5 mm/min |
| Tensile Modulus | 6.80 GPa | 986 ksi | cond.; ISO 527-1, -2; 1 mm/min |
| | 11.0 GPa | 1600 ksi | d.a.m.; ISO 527-1, -2; 1 mm/min |
| | 180 MPa | 26100 psi | |

| Flexural Strength Mechanical Properties | Metric @Strain 5.00 % | English @Strain 5.00 % | cond., 2 mm/min; ISO 178-A Comments |
|--|--------------------------|----------------------------|--|
| | 290 MPa | 42100 psi | d.a.m., 2 mm/min; ISO 178-A |
| | @Strain 4.00 % | @Strain 4.00 % | |
| Flexural Yield Strength | 160 MPa | 23200 psi | cond., 2 mm/min; ISO 178-A |
| | @Strain 3.50 % | @Strain 3.50 % | |
| Flexural Modulus | 5.90 GPa | 856 ksi | cond., 2 mm/min; ISO 178-A |
| | 10.7 GPa | 1550 ksi | d.a.m., 2 mm/min; ISO 178-A |
| Izod Impact, Notched (ISO) | 10.0 kJ/m ² | 4.76 ft-lb/in ² | d.a.m.; ISO 180-1A |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| | 10.0 kJ/m ² | 4.76 ft-lb/in ² | cond.; ISO 180-1A |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| | 15.0 kJ/m ² | 7.14 ft-lb/in ² | d.a.m.; ISO 180-1A |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| | 22.0 kJ/m ² | 10.5 ft-lb/in ² | cond.; ISO 180-1A |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Izod Impact, Unnotched (ISO) | 80.0 kJ/m ² | 38.1 ft-lb/in ² | d.a.m.; ISO 180-1U |
| Charpy Impact Unnotched | 7.50 J/cm ² | 35.7 ft-lb/in ² | d.a.m.; ISO 179-1eU |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| | 7.50 J/cm ² | 35.7 ft-lb/in ² | cond.; ISO 179-1eU |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| | 8.50 J/cm ² | 40.4 ft-lb/in ² | d.a.m.; ISO 179-1eU |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| | 9.50 J/cm ² | 45.2 ft-lb/in ² | cond.; ISO 179-1eU |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Charpy Impact, Notched | 1.00 J/cm ² | 4.76 ft-lb/in ² | d.a.m.; ISO 179-1eA |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |

| Mechanical Properties | 1.00 J/cm ² Metric | 4.75 ft-lb/in ² English | Comments cond.; ISO 179-1eA |
|-----------------------------------|--|---|--------------------------------|
| | @Temperature -30.0 Â°C | @Temperature -22.0 Â°F | |
| | 1.50 J/cm ² @Temperature 23.0 Â°C | 7.14 ft-lb/in ² @Temperature 73.4 Â°F | d.a.m.; ISO 179-1eA |
| | 2.20 J/cm ² @Temperature 23.0 Â°C | 10.5 ft-lb/in ² @Temperature 73.4 Â°F | cond.; ISO 179-1eA |
| Tensile Creep Modulus, 1 hour | 6000 MPa | 870000 psi | cond.; ISO 899-1 |
| Tensile Creep Modulus, 1000 hours | 4900 MPa | 711000 psi | cond.; ISO 899-1 |

| Thermal Properties | Metric | English | Comments |
|--|---|--|----------------------------|
| CTE, linear, Parallel to Flow | 20.0 Âµm/m-Â°C @Temperature 23.0 - 55.0 Â°C | 11.1 Âµin/in-Â°F @Temperature 73.4 - 131 Â°F | ISO 11359-1, -2 |
| CTE, linear, Transverse to Flow | 80.0 Âµm/m-Â°C @Temperature 23.0 - 55.0 Â°C | 44.4 Âµin/in-Â°F @Temperature 73.4 - 131 Â°F | ISO 11359-1, -2 |
| Melting Point | 222 Â°C | 432 Â°F | 10Â°C/min; ISO 11357-1, -3 |
| Deflection Temperature at 0.46 MPa (66 psi) | 215 Â°C | 419 Â°F | ISO 75-1, -2 |
| Deflection Temperature at 1.8 MPa (264 psi) | 205 Â°C | 401 Â°F | ISO 75-1, -2 |
| Vicat Softening Point | >= 200 Â°C @Load 5.10 kg | >= 392 Â°F @Load 11.2 lb | 120Â°C/hour; ISO 306 |
| Flammability, UL94 | HB @Thickness 1.60 mm | HB @Thickness 0.0630 in | |
| | HB @Thickness 3.20 mm | HB @Thickness 0.126 in | |
| Glow Wire Test | 650 Â°C @Diameter 2.00 mm | 1200 Â°F @Diameter 0.0787 in | GWFI; IEC 60695-2-12 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|-----------------|-----------------|-------------------|
| Volume Resistivity | 1.00e+10 ohm-cm | 1.00e+10 ohm-cm | cond.; IEC 60093 |
| | 1.00e+13 ohm-cm | 1.00e+13 ohm-cm | d.a.m.; IEC 60093 |

| Electrical Properties | Metric | English | Comments |
|----------------------------|-----------------------|-----------------------|-------------------------------|
| Surface Resistance | 1.00e+12 ohm | 1.00e+12 ohm | cond.; IEC 60093 |
| | 1.00e+14 ohm | 1.00e+14 ohm | d.a.m.; IEC 60093 |
| Dielectric Constant | 4.0 | 4.0 | d.a.m.; IEC 60250 |
| | @Frequency 100 Hz | @Frequency 100 Hz | |
| | 4.0 | 4.0 | d.a.m.; IEC 60250 |
| | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz | |
| | 5.0 | 5.0 | cond.; IEC 60250 |
| | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz | |
| | 15 | 15 | cond.; IEC 60250 |
| | @Frequency 100 Hz | @Frequency 100 Hz | |
| Dielectric Strength | 35.0 kV/mm | 889 kV/in | cond.; IEC 60243-1 |
| | @Thickness 1.00 mm | @Thickness 0.0394 in | |
| | 40.0 kV/mm | 1020 kV/in | d.a.m.; IEC 60243-1 |
| | @Thickness 1.00 mm | @Thickness 0.0394 in | |
| Dissipation Factor | 0.0070 | 0.0070 | d.a.m.; IEC 60250 |
| | @Frequency 100 Hz | @Frequency 100 Hz | |
| | 0.015 | 0.015 | d.a.m.; IEC 60250 |
| | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz | |
| | 0.12 | 0.12 | cond.; IEC 60250 |
| | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz | |
| | 0.20 | 0.20 | cond.; IEC 60250 |
| | @Frequency 100 Hz | @Frequency 100 Hz | |
| Comparative Tracking Index | 525 V | 525 V | d.a.m.; Solution A; IEC 60112 |

| Processing Properties | Metric | English | Comments |
|-----------------------|---------------|---------------|-----------------------------|
| Melt Temperature | 270 - 290 Å°C | 518 - 554 Å°F | |
| | 280 Å°C | 536 Å°F | for test specimens; ISO 294 |
| Mold Temperature | 80.0 Å°C | 176 Å°F | for test specimens; ISO 294 |

| Processing Properties | 80.0 - 120 Å°C Metric | 176 - 248 Å°F English | Comments |
|-----------------------|--------------------------|--------------------------|-----------------------------|
| Drying Temperature | 80.0 Å°C | 176 Å°F | |
| Dry Time | 2 - 6 hour | 2 - 6 hour | |
| Moisture Content | 0.030 - 0.12 % | 0.030 - 0.12 % | residual; Karl Fischer Test |

| Descriptive Properties | Value | Comments |
|------------------------|----------------------------------|-----------------------|
| Flammability Test | passed | ISO 3795; US-FMVSS302 |
| ISO Shortname | ISO 1874-PA 6, GHR, 14-110, GF35 | |

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