

Lanxess Durethan® BKV 50 000000 Nylon 6, Glass Fiber Reinforced

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, 50% Glass Fiber Filled

Material Notes:

PA 6, 50% glass fibers, injection molding Information provided by LANXESS.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Lanxess-Durethan-BKV-50-000000-Nylon-6-Glass-Fiber-Reinforced.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.57 g/cc	1.57 g/cc	ISO 1183
Moisture Absorption at Equilibrium	1.5 %	1.5 %	50% RH; ISO 62
Water Absorption at Saturation	5.0 %	5.0 %	ISO 62
Linear Mold Shrinkage, Flow	0.00020 cm/cm	0.00020 in/in	Post-shrinkage, 150x105x3; 120°C; 4 hour; ISO 2577
	0.0016 cm/cm	0.0016 in/in	150x105x3; 280°C / MT 80°C; 400 bar; ISO 2577
Linear Mold Shrinkage, Transverse	0.00050 cm/cm	0.00050 in/in	Post-shrinkage, 150x105x3; 120°C; 4 hour; ISO 2577
	0.0085 cm/cm	0.0085 in/in	150x105x3; 280°C / MT 80°C; 400 bar; ISO 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	145 MPa	21000 psi	cond.; ISO 527-1, -2; 5 mm/min
	220 MPa	31900 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	9.80 GPa	1420 ksi	cond.; ISO 527-1, -2; 1 mm/min
	16.3 GPa	2360 ksi	d.a.m.; ISO 527-1, -2; 1 mm/min
Flexural Strength	235 MPa	34100 psi	cond., 2 mm/min; ISO 178-A
	@Strain 5.00 %	@Strain 5.00 %	
Flexural Yield Strength	365 MPa	52900 psi	d.a.m., 2 mm/min; ISO 178-A
	@Strain 3.00 %	@Strain 3.00 %	
Flexural Modulus	210 MPa	30500 psi	cond., 2 mm/min; ISO 178-A
	@Strain 3.50 %	@Strain 3.50 %	
Flexural Modulus	9.70 GPa	1410 ksi	cond., 2 mm/min; ISO 178-A

Mechanical Properties	Metric 10 ¹¹ GPa	English 10 ¹⁰ lbf/in ²	Comments 0.5 mm, 2 mm/min; ISO 178-A
Izod Impact, Notched (ISO)	13.0 kJ/m ²	6.19 ft-lb/in ²	d.a.m.; ISO 180-1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	14.0 kJ/m ²	6.66 ft-lb/in ²	cond.; ISO 180-1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	20.0 kJ/m ²	9.52 ft-lb/in ²	d.a.m.; ISO 180-1A
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
	25.0 kJ/m ²	11.9 ft-lb/in ²	cond.; ISO 180-1A
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
Charpy Impact Unnotched	8.50 J/cm ²	40.4 ft-lb/in ²	d.a.m.; ISO 179-1eU
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	8.50 J/cm ²	40.4 ft-lb/in ²	cond.; ISO 179-1eU
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	10.0 J/cm ²	47.6 ft-lb/in ²	d.a.m.; ISO 179-1eU
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
	11.0 J/cm ²	52.3 ft-lb/in ²	cond.; ISO 179-1eU
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
Charpy Impact, Notched	1.50 J/cm ²	7.14 ft-lb/in ²	d.a.m.; ISO 179-1eA
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	1.50 J/cm ²	7.14 ft-lb/in ²	cond.; ISO 179-1eA
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	2.00 J/cm ²	9.52 ft-lb/in ²	d.a.m.; ISO 179-1eA
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
	2.50 J/cm ²	11.9 ft-lb/in ²	cond.; ISO 179-1eA
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Mechanical Properties	Metric	English	Comments
Fracture Energy	6.00 J @Temperature -30.0 Â°C	4.43 ft-lb @Temperature -22.0 Â°F	d.a.m.; ISO 6603-2
	9.00 J @Temperature 23.0 Â°C	6.64 ft-lb @Temperature 73.4 Â°F	d.a.m.; ISO 6603-2
	14.0 J @Temperature 23.0 Â°C	10.3 ft-lb @Temperature 73.4 Â°F	cond.; ISO 6603-2
Tensile Creep Modulus, 1 hour	8100 MPa	1.17e+6 psi	cond.; ISO 899-1
Tensile Creep Modulus, 1000 hours	6600 MPa	957000 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	70.0 Âµm/m-Â°C @Temperature 23.0 - 55.0 Â°C	38.9 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	
Oxygen Index	24 %	24 %	Method A; ISO 4589-2
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
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Volume Resistivity Electrical Properties	1.00e+12 ohm-cm Metric	1.00e+12 ohm-cm English	cond.; IEC 60093 Comments
	1.00e+15 ohm-cm	1.00e+15 ohm-cm	d.a.m.; IEC 60093
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	
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	0.010	0.010	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	
	0.14	0.14	cond.; IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	525 V	525 V	d.a.m.; Solution A; IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	270 - 290 Â°C	518 - 554 Â°F	
	280 Â°C	536 Â°F	for test specimens; ISO 294
Mold Temperature	80.0 Â°C	176 Â°F	for test specimens; ISO 294
	80.0 - 120 Â°C	176 - 248 Â°F	
Drying Temperature	80.0 Â°C	176 Â°F	
Dry Time			

Processing Properties	2 - 6 hour Metric	2 - 6 hour English	Comments
Moisture Content	0.030 - 0.12 %	0.030 - 0.12 %	residual; Karl Fischer Test

Descriptive Properties	Value	Comments
ISO Shortname	ISO 1874-PA 6, GR, 14-160, GF50	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China