

## Lanxess Durethan® BG 30 X H3.0 000000 Nylon 6, 30% Glass Fibers/Glass Spheres

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, Glass Bead Filled

### Material Notes:

PA 6, 30% glass fibers/glass spheres, injection molding, heat-ageing stabilized, low tendency to warp

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Lanxess-Durethan-BG-30-X-H30-000000-Nylon-6-30-Glass-FibersGlass-Spheres.php](http://www.lookpolymers.com/polymer_Lanxess-Durethan-BG-30-X-H30-000000-Nylon-6-30-Glass-FibersGlass-Spheres.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.355 g/cc	1.355 g/cc	ISO 1183
Bulk Density	0.700 g/cc	0.0253 lb/in <sup>3</sup>	ISO 60
Moisture Absorption at Equilibrium	2.2 %	2.2 %	50% RH; ISO 62
Water Absorption at Saturation	7.0 %	7.0 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 cm/cm @Thickness 2.00 mm	0.0050 in/in @Thickness 0.0787 in	Mold Temp 80°C; Melt Temp 280°C; 600 bar; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0080 cm/cm @Thickness 2.00 mm	0.0080 in/in @Thickness 0.0787 in	Mold Temp 80°C; Melt Temp 280°C; 600 bar; ISO 294-4

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	75.0 MPa	10900 psi	Conditioned; ISO 2039-1
	185 MPa	26800 psi	ISO 2039-1
Tensile Strength at Break	65.0 MPa	9430 psi	Conditioned; ISO 527-1,-2
	120 MPa	17400 psi	ISO 527-1,-2
Elongation at Break	4.0 %	4.0 %	ISO 527-1,-2
	10 %	10 %	Conditioned; ISO 527-1,-2
Tensile Modulus	3.20 GPa	464 ksi	Conditioned; ISO 527-1,-2
	6.40 GPa	928 ksi	ISO 527-1,-2
Flexural Strength	100 MPa @Strain 8.00 %	14500 psi @Strain 8.00 %	Conditioned; ISO 178
	185 MPa @Strain 5.00 %	26800 psi @Strain 5.00 %	ISO 178

Mechanical Properties	80.0 MPa Metric	11600 psi English	Comments
	@Strain 3.50 %	@Strain 3.50 %	
	165 MPa	23900 psi	ISO 178
	@Strain 3.50 %	@Strain 3.50 %	
Flexural Modulus	2.80 GPa	406 ksi	Conditioned; ISO 178
	5.80 GPa	841 ksi	ISO 178
Izod Impact, Notched (ISO)	<= 10.0 kJ/m <sup>2</sup>	<= 4.76 ft-lb/in <sup>2</sup>	ISO 180-1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	<= 10.0 kJ/m <sup>2</sup>	<= 4.76 ft-lb/in <sup>2</sup>	Conditioned; ISO 180-1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	<= 10.0 kJ/m <sup>2</sup>	<= 4.76 ft-lb/in <sup>2</sup>	ISO 180-1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	<= 10.0 kJ/m <sup>2</sup>	<= 4.76 ft-lb/in <sup>2</sup>	Conditioned; ISO 180-1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Izod Impact, Unnotched (ISO)	30.0 kJ/m <sup>2</sup>	14.3 ft-lb/in <sup>2</sup>	ISO 180-1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	35.0 kJ/m <sup>2</sup>	16.7 ft-lb/in <sup>2</sup>	ISO 180-1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	40.0 kJ/m <sup>2</sup>	19.0 ft-lb/in <sup>2</sup>	Conditioned; ISO 180-1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	80.0 kJ/m <sup>2</sup>	38.1 ft-lb/in <sup>2</sup>	Conditioned; ISO 180-1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	4.00 J/cm <sup>2</sup>	19.0 ft-lb/in <sup>2</sup>	ISO 179-1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	4.50 J/cm <sup>2</sup>	21.4 ft-lb/in <sup>2</sup>	ISO 179-1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
	4.50 J/cm <sup>2</sup> @Temperature -30.0 °C	21.4 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	Conditioned; ISO 179-1eU
	7.50 J/cm <sup>2</sup> @Temperature 23.0 °C	35.7 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	Conditioned; ISO 179-1eU
Charpy Impact, Notched	1.00 J/cm <sup>2</sup> @Temperature 23.0 °C	4.76 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	Conditioned; ISO 179-1eA
	<= 1.00 J/cm <sup>2</sup> @Temperature 23.0 °C	<= 4.76 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 179-1eA
	<= 1.00 J/cm <sup>2</sup> @Temperature -30.0 °C	<= 4.76 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179-1eA
	<= 1.00 J/cm <sup>2</sup> @Temperature -30.0 °C	<= 4.76 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	Conditioned; ISO 179-1eA
	<= 1.00 J/cm <sup>2</sup> @Temperature -40.0 °C	<= 4.76 ft-lb/in <sup>2</sup> @Temperature -40.0 °F	ISO 179-1eA
	<= 1.00 J/cm <sup>2</sup> @Temperature -40.0 °C	<= 4.76 ft-lb/in <sup>2</sup> @Temperature -40.0 °F	Conditioned; ISO 179-1eA
Puncture Energy	1.70 J @Load <=69.9 kg, Temperature -30.0 °C	1.25 ft-lb @Load <=154 lb, Temperature -22.0 °F	ISO 6603-2
	2.00 J @Load <=71.5 kg, Temperature 23.0 °C	1.48 ft-lb @Load <=158 lb, Temperature 73.4 °F	ISO 6603-2
Tensile Creep Modulus, 1 hour	2400 MPa	348000 psi	Conditioned; ISO 889-1
Tensile Creep Modulus, 1000 hours	2000 MPa	290000 psi	Conditioned; ISO 889-1

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	30.0 μm/m-°C	16.7 μin/in-°F	ISO 11359-1,-2
CTE, linear, Transverse to Flow	90.0 μm/m-°C	50.0 μin/in-°F	ISO 11359-1,-2
Melting Point	222 °C	432 °F	ISO 11357-1,-3

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	190 °C	374 °F	ISO 75-1,-2
Deflection Temperature at 1.8 MPa (264 psi)	190 °C	374 °F	ISO 75-1,-2
Vicat Softening Point	>= 200 °C @Load 5.10 kg	>= 392 °F @Load 11.2 lb	120 °C/h; 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 °C @Diameter 2.00 mm	1200 °F @Diameter 0.0787 in	IEC 60695-2-12
Shrinkage	0.20 % @Temperature 120 °C, Time 14400 sec	0.20 % @Temperature 248 °F, Time 4.00 hour	Molding Post-shrinkage; ISO 294-4
	0.30 % @Temperature 120 °C, Time 14400 sec	0.30 % @Temperature 248 °F, Time 4.00 hour	Molding Post-shrinkage; ISO 294-4

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	IEC 60093
Dielectric Constant	4.0 @Frequency 1.00e+6 Hz	4.0 @Frequency 1.00e+6 Hz	IEC 60250
	4.5 @Frequency 100 Hz	4.5 @Frequency 100 Hz	IEC 60250
Dissipation Factor	0.022 @Frequency 1.00e+6 Hz	0.022 @Frequency 1.00e+6 Hz	IEC 60250
	0.0265 @Frequency 100 Hz	0.0265 @Frequency 100 Hz	IEC 60250
Comparative Tracking Index	375 V	375 V	Solution A, Rating; IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	280 Å°C	536 Å°F	Processing conditions for test specimens; ISO 294
	270 - 290 Å°C	518 - 554 Å°F	Recommended
Mold Temperature	80.0 Å°C	176 Å°F	Processing conditions for test specimens; ISO 294
	80.0 - 120 Å°C	176 - 248 Å°F	Recommended
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; Acc. To Karl Fischer

Descriptive Properties	Value	Comments
Flammability	Passed US-FMVSS302	ISO 3795
ISO Shortname	ISO 1874-PA 6,GHR,14-060, (GB+GF)30	

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