

Lanxess Durethan® BM 240 000000 Nylon 6, Mineral Reinforced

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, 40% Mineral Filled

Material Notes:

PA 6, injection molding, 40% mineral, isotopic properties, low warpage
Information provided by LANXESS.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Lanxess-Durethan-BM-240-000000-Nylon-6-Mineral-Reinforced.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.46 g/cc	1.46 g/cc	ISO 1183
Bulk Density	0.700 g/cc	0.0253 lb/in ³	ISO 60
Moisture Absorption at Equilibrium	1.9 %	1.9 %	50% RH; ISO 62
Water Absorption at Saturation	6.0 %	6.0 %	ISO 62
Linear Mold Shrinkage, Flow	0.0017 cm/cm	0.0017 in/in	Post-shrinkage, 150x105x3; 120°C; 4 hour; ISO 294-4
	0.0125 cm/cm	0.0125 in/in	150x105x3; 280°C / MT 80°C; 500 bar; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0020 cm/cm	0.0020 in/in	Post-shrinkage, 150x105x3; 120°C; 4 hour; ISO 294-4
	0.0122 cm/cm	0.0122 in/in	150x105x3; 280°C / MT 80°C; 500 bar; ISO 294-4

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	85.0 MPa	12300 psi	ISO 2039-1
	205 MPa	29700 psi	ISO 2039-1
Tensile Strength at Break	55.0 MPa	7980 psi	cond.; ISO 527-1, -2; 5 mm/min
	85.0 MPa	12300 psi	d.a.m.; ISO 527-1, -2; 5 mm/min
Elongation at Break	10 %	10 %	ISO 527-1, -2; 5 mm/min
	40 %	40 %	ISO 527-1, -2; 5 mm/min
Tensile Modulus	2.20 GPa	319 ksi	cond.; ISO 527-1, -2; 1 mm/min
	5.80 GPa	841 ksi	d.a.m.; ISO 527-1, -2; 1 mm/min
Flexural Strength	65.0 MPa	9430 psi	cond., 2 mm/min; ISO 178-A
	@Strain 8.00 %	@Strain 8.00 %	
	150 MPa	21800 psi	d.a.m., 2 mm/min; ISO 178-A

Mechanical Properties	@Strain 5.00 % Metric	@Strain 5.00 % English	Comments
Flexural Yield Strength	60.0 MPa	8700 psi	cond., 2 mm/min; ISO 178-A
	@Strain 3.50 %	@Strain 3.50 %	
	145 MPa	21000 psi	d.a.m., 2 mm/min; ISO 178-A
	@Strain 3.50 %	@Strain 3.50 %	
Flexural Modulus	2.00 GPa	290 ksi	cond., 2 mm/min; ISO 178-A
	5.50 GPa	798 ksi	
Izod Impact, Notched (ISO)	<= 10.0 kJ/mÂ²	<= 4.76 ft-lb/inÂ²	d.a.m.; ISO 180-1A
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
	<= 10.0 kJ/mÂ²	<= 4.76 ft-lb/inÂ²	cond.; ISO 180-1A
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
	<= 10.0 kJ/mÂ²	<= 4.76 ft-lb/inÂ²	d.a.m.; ISO 180-1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	<= 10.0 kJ/mÂ²	<= 4.76 ft-lb/inÂ²	cond.; ISO 180-1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Unnotched (ISO)	75.0 kJ/mÂ²	35.7 ft-lb/inÂ²	d.a.m.; ISO 180-1U
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	85.0 kJ/mÂ²	40.4 ft-lb/inÂ²	cond.; ISO 180-1U
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	100 kJ/mÂ²	47.6 ft-lb/inÂ²	d.a.m.; ISO 180-1U
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
	NB	NB	cond.; ISO 180-1U
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
Charpy Impact Unnotched	8.00 J/cmÂ²	38.1 ft-lb/inÂ²	d.a.m.; ISO 179-1eU
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	8.00 J/cmÂ²	38.1 ft-lb/inÂ²	cond.; ISO 179-1eU
	@Temperature -30.0	@Temperature -22.0	

Mechanical Properties	Metric	English	Comments
	14.8 J/cm ²	66.6 ft-lb/in ²	d.a.m.; ISO 179-1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	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 23.0 °C	@Temperature 73.4 °F	
	<= 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	
	<= 1.00 J/cm ²	<= 4.76 ft-lb/in ²	cond.; ISO 179-1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.20 J/cm ²	5.71 ft-lb/in ²	cond.; ISO 179-1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Puncture Energy	65.0 J	47.9 ft-lb	cond.; ISO 6603-2
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	3.00 J	2.21 ft-lb	d.a.m.; ISO 6603-2
	@Load <=74.2 kg, Temperature -30.0 °C	@Load <=164 lb, Temperature -22.0 °F	
	20.0 J	14.8 ft-lb	d.a.m.; ISO 6603-2
	@Load <=309.1 kg, Temperature 23.0 °C	@Load <=681.4 lb, Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	60.0 µm/m-°C	33.3 µin/in-°F	ISO 11359-1, -2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
CTE, linear, Transverse to Flow	70.0 µm/m-°C	38.9 µin/in-°F	ISO 11359-1, -2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
Melting Point	222 °C	432 °F	10°C/min; ISO 11357-1, -3
Deflection Temperature at 0.46 MPa			

(56 psi) Thermal Properties	190 Â°C Metric	374 Â°F English	ISO 75-1, -2 Comments
Deflection Temperature at 1.8 MPa (264 psi)	90.0 Â°C	194 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
	>= 200 Â°C @Load 5.10 kg	>= 392 Â°F @Load 11.2 lb	50Â°C/hour; ISO 306
Glow Wire Test	650 Â°C @Diameter 2.00 mm	1200 Â°F @Diameter 0.0787 in	GWFI; IEC 60695-2-12

Processing Properties	Metric	English	Comments
Melt Temperature	270 - 290 Â°C	518 - 554 Â°F	
	290 Â°C	554 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	2 - 6 hour	2 - 6 hour	
Moisture Content	0.030 - 0.12 %	0.030 - 0.12 %	residual; Karl Fischer Test

Descriptive Properties	Value	Comments
ISO Shortname	ISO 1874-PA 6, MHR, 14-060, MD40	

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