

Durethan® BG 30 X H3.0 000000

Polyamide 6

LANXESS GmbH

Message:

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

General Information				
UL YellowCard		E245249-100895223		
Filler / Reinforcement		Glass Beads \Glass Fiber, 30% Filler by Weight		
Additive		heat stabilizer		
Features		Low warpage		
		Good heat aging resistance		
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.36	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	ISO 60
Molding Shrinkage				ISO 294-4
Vertical flow direction: 280°C, 2.00mm ¹	0.80	--	%	ISO 294-4
Vertical flow direction: 120°C, 2 hours, 2.00mm ²	0.30	--	%	ISO 294-4
Flow direction: 280°C, 2.00mm ³	0.50	--	%	ISO 294-4
Flow direction: 120°C, 2 hours, 2.00mm ⁴	0.20	--	%	ISO 294-4
Water Absorption				ISO 62
Saturated, 23°C	7.0	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.2	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	185	75.0	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
23°C	6210	3100	MPa	ASTM D638
23°C	6400	3100	MPa	ISO 527-2/1
Tensile Strength				
Fracture, 23°C	121	62.7	MPa	ASTM D638
Fracture, 23°C	120	65.0	MPa	ISO 527-2/5
Tensile Elongation (Break, 23°C)	4.0	10	%	ASTM D638, ISO 527-2/5
Tensile Creep Modulus				ISO 899-1

1 hr	--	2400	MPa	ISO 899-1
1000 hr	--	2000	MPa	ISO 899-1
Flexural Modulus				
23°C	5800	2800	MPa	ASTM D790
23°C ⁵	5800	2800	MPa	ISO 178/A
Flexural Strength				
23°C	195	100	MPa	ASTM D790
3.5% strain ⁶	170	80.0	MPa	ISO 178/A
23°C ⁷	185	100	MPa	ISO 178
Flexural Strain at Flexural Strength ⁸ (23°C)	5.0	8.0	%	
Burning Behavior ⁹	passed	--		ISO 3795
ISO Shortname	PA 6,GHR,14-060, (GB+GF)30	--		ISO 1874
Residual Moisture Content	0.030 - 0.12		%	Karl Fisher
Films	Dry	Conditioned	Unit	Test Method
Film Puncture Energy				ISO 6603-2
-- ¹⁰	1.70	--	J	ISO 6603-2
-- ¹¹	2.00	--	J	ISO 6603-2
Film Puncture Force				ISO 6603-2
-- ¹²	690	--	N	ISO 6603-2
-- ¹³	700	--	N	ISO 6603-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°C	< 10	< 10	kJ/m ²	ISO 179/1eA
-30°C	< 10	< 10	kJ/m ²	ISO 179/1eA
23°C	< 10	10	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	40	45	kJ/m ²	ISO 179/1eU
23°C	45	75	kJ/m ²	ISO 179/1eU
Notched Izod Impact				ISO 180/1A
-40°C	< 10	< 10	kJ/m ²	ISO 180/1A
-30°C	< 10	< 10	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	30	40	kJ/m ²	ISO 180/1U
23°C	35	60	kJ/m ²	ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	210	--	°C	ISO 75-2/B
1.8 MPa, not annealed	190	--	°C	ISO 75-2/A

Vicat Softening Temperature	> 200	--	°C	ISO 306/B120
Melting Temperature ¹⁴	222	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 55°C	3.0E-5	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	9.0E-5	--	cm/cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+14	--	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+15	--	ohms·cm	IEC 60093
Relative Permittivity				IEC 60250
23°C, 100 Hz	4.50	--		IEC 60250
23°C, 1 MHz	4.00	--		IEC 60250
Dissipation Factor				IEC 60250
23°C, 100 Hz	0.027	--		IEC 60250
23°C, 1 MHz	0.022	--		IEC 60250
Comparative Tracking Index (Solution A)	375	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
1.60 mm	HB	--		UL 94
3.20 mm	HB	--		UL 94
Glow Wire Flammability Index (2.00 mm)	650	--	°C	IEC 60695-2-12
Injection	Dry	Unit	Test Method	
Drying Temperature - Dry Air Dryer	80.0		°C	
Drying Time - Dry Air Dryer	2.0 - 6.0		hr	
Processing (Melt) Temp	270 - 290		°C	
Mold Temperature	80.0 - 120		°C	
NOTE				
1.	60x60x2; MT 80°C; 600 Bar			
2.	60x60x2			
3.	60x60x2; MT 80°C; 600 Bar			
4.	60x60x2			
5.	2.0 mm/min			
6.	2.0 mm/min			
7.	2.0 mm/min			
8.	Pull Rate: 2 mm/min; 50% RH			
9.	US-FMVSS302			
10.	-30°C			
11.	23°C			
12.	-30°C			

13.	23°C
14.	10°C/min

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