Durethan® BG 30 X 000000

Polyamide 6

LANXESS Corporation

Message:

PA 6, 30 % glass fibers/glass spheres, injection molding, low tendency to warp

General Information				
UL YellowCard	E245249-473570			
Filler / Reinforcement	Glass Bead\Glass Fiber,30% Filler by Weight			
Features	Low Warpage			
Agency Ratings	EC 1907/2006 (REACH)			
Processing Method	Injection Molding			
Physical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Specific Gravity				
--	1.35	--	g/cm³	ASTM D792
23°C	1.35	--	g/cm³	ISO 1183
Apparent Density	0.70	--	g/cm³	ISO 60
Molding Shrinkage				ISO 294-4
Across Flow : 280°C, 2.00 mm [1]	0.77	--	%	
Across Flow : 120°C, 2 hr, 2.00 mm [2]	0.16	--	%	
Flow : 280°C, 2.00 mm [3]	0.48	--	%	
Flow : 120°C, 2 hr, 2.00 mm [4]	0.12	--	%	
Water Absorption				ISO 62
Saturation, 23°C	7.0	--	%	
Equilibrium, 23°C, 50% RH	2.2	--	%	
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 [5]	6200	3500	MPa	ASTM D638
23°C	6300	3100	MPa	ISO 527-2/1
Tensile Strength				
Break, 23°C	125	64.8	MPa	ASTM D638
Break, 23°C	125	65.0	MPa	ISO 527-2/5
Tensile Elongation				
Break, 23°C	4.0	9.0	%	ASTM D638
Break, 23°C	4.0	10	%	ISO 527-2/5

Tensile Creep Modulus				ISO 899-1
1 hr	--	2400	MPa	
1000 hr	--	2000	MPa	
Flexural Modulus				
23°C	5500	2800	MPa	ASTM D790
23°C [6]	5800	2800	MPa	ISO 178/A
Flexural Strength				
23°C	195	110	MPa	ASTM D790
3.5% Strain [7]	170	80.0	MPa	ISO 178/A
23°C [8]	185	100	MPa	ISO 178
Flexural Strain at Flexural Strength [9] (23°C)	5.0	8.0	%	
Burning Behavior [10]	passed	--		ISO 3795
ISO Shortname	PA 6, GR, 14-060, (GB+GF) 30	--		ISO 1874
Residual Moisture Content	0.030 to 0.12		%	Karl Fisher
Films	**Dry**	**Conditioned**	**Unit**	**Test Method**
Film Puncture Energy				ISO 6603-2
-- [11]	1.70	--	J	
-- [12]	2.00	--	J	
Film Puncture Force				ISO 6603-2
-- [13]	690	--	N	
-- [14]	700	--	N	
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-40°C	< 10	< 10	kJ/m²	
-30°C	< 10	< 10	kJ/m²	
23°C	< 10	10	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	40	45	kJ/m²	
23°C	45	75	kJ/m²	
Notched Izod Impact				
-40°C, 3.18 mm	48	48	J/m	ASTM D256
23°C, 3.18 mm	59	140	J/m	ASTM D256
-40°C	< 10	< 10	kJ/m²	ISO 180/1A
-30°C	< 10	< 10	kJ/m²	ISO 180/1A
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	30	40	kJ/m²	
23°C	35	60	kJ/m²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Deflection Temperature Under Load				

0.45 MPa, Unannealed, 3.99 mm	200	--	°C	ASTM D648
0.45 MPa, Unannealed	210	--	°C	ISO 75-2/B
1.8 MPa, Unannealed, 3.99 mm	180	--	°C	ASTM D648
1.8 MPa, Unannealed	190	--	°C	ISO 75-2/A
Vicat Softening Temperature	> 200	--	°C	ISO 306/B50, ISO 306/B120
Melting Temperature [15]	222	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C	3.0E-5	--	cm/cm/°C	
Transverse : 23 to 55°C	9.0E-5	--	cm/cm/°C	
RTI Elec (1.50 mm)	120	--	°C	UL 746
RTI Imp (1.50 mm)	90.0	--	°C	UL 746
RTI Str (1.50 mm)	125	--	°C	UL 746
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Surface Resistivity	1.0E+14 to 1.0E+16	1.0E+12 to 1.0E+13	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+15	1.0E+11 to 1.0E+12	ohms·cm	IEC 60093
Electric Strength				IEC 60243-1
23°C, 1.00 mm	36	30	kV/mm	
23°C, 3.00 mm	35	35	kV/mm	
Dielectric Constant				IEC 60250
23°C, 50 Hz [16]	4.50	10.0		
23°C, 1 MHz [17]	4.00	5.00		
23°C, 100 Hz	4.50	16.0		
23°C, 1 MHz	4.00	4.80		
Dissipation Factor				IEC 60250
23°C, 50 Hz	0.015	0.20		
23°C, 100 Hz	0.013	0.31		
	0.018	0.10		
23°C, 1 MHz	0.020	0.060		
Arc Resistance	--	110	sec	ASTM D495
Comparative Tracking Index				
Solution A	400	--	V	IEC 60112
--	--	450	V	ASTM D3638
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94
1.50 mm	HB	--		
1.60 mm	HB	--		
3.00 mm	HB	--		
3.20 mm	HB	--		

Glow Wire Flammability Index (2.00 mm)	650	--	°C	IEC 60695-2-12
Oxygen Index [18]	23	--	%	ISO 4589-2

Injection	Dry	Unit	Test Method
Drying Temperature - Dry Air Dryer	80.0		°C
Drying Time - Dry Air Dryer	2.0 to 6.0		hr
Processing (Melt) Temp	270 to 290		°C
Mold Temperature	80.0 to 120		°C

NOTE	
1.	60x60x2; MT 80°C; 600 Bar
2.	60x60x2
3.	60x60x2; MT 80°C; 600 Bar
4.	60x60x2
5.	1.0 mm/min
6.	2.0 mm/min
7.	2.0 mm/min
8.	2.0 mm/min
9.	Pull Rate: 2 mm/min; 50% RH
10.	US-FMVSS302
11.	-30°C
12.	23°C
13.	-30°C
14.	23°C
15.	10°C/min
16.	Tinfoil Electrodes
17.	Tinfoil Electrodes
18.	Procedure A

Recommended distributors for this material

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