Durethan® BM 240 H2.0 901510

Polyamide 6

LANXESS Corporation

Message:

PA 6, 40 % mineral, injection molding, heat-aging stabilized, low tendency to warp, isotopic properties

General Information				
UL YellowCard	E245249-473603			
Filler / Reinforcement	Mineral,40% Filler by Weight			
Additive	Heat Stabilizer			
Features	Good Heat Aging Resistance Low Warpage			
Agency Ratings	EC 1907/2006 (REACH)			
Processing Method	Injection Molding			
Physical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Specific Gravity				
--	1.46	--	g/cm³	ASTM D792
23°C	1.46	--	g/cm³	ISO 1183
Apparent Density	0.70	--	g/cm³	ISO 60
Molding Shrinkage				
Across Flow : 280°C, 3.00 mm [1]	1.2	--	%	ISO 2577
Across Flow : 120°C, 2 hr, 3.00 mm [2]	0.20	--	%	ISO 294-4
Flow : 280°C, 3.00 mm [3]	1.3	--	%	ISO 2577
Flow : 120°C, 2 hr, 3.00 mm [4]	0.17	--	%	ISO 2577
Water Absorption				ISO 62
Saturation, 23°C	6.0	--	%	
Equilibrium, 23°C, 50% RH	1.9	--	%	
Hardness	**Dry**	**Conditioned**	**Unit**	**Test Method**
Ball Indentation Hardness	210	90.0	MPa	ISO 2039-1
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus				
23°C [5]	6000	2000	MPa	ASTM D638
23°C	6000	2200	MPa	ISO 527-2/1
Tensile Strength				
Break, 23°C	84.8	50.3	MPa	ASTM D638
Break, 23°C	85.0	50.0	MPa	ISO 527-2/5

Tensile Elongation				
Break, 23°C	9.0	35	%	ASTM D638
Break, 23°C	7.0	40	%	ISO 527-2/5
Flexural Modulus				
23°C	5400	1800	MPa	ASTM D790
23°C [6]	5500	2100	MPa	ISO 178/A
Flexural Strength				
23°C	155	64.8	MPa	ASTM D790
3.5% Strain [7]	140	50.0	MPa	ISO 178/A
23°C [8]	150	60.0	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, GHR, 14-060, MD40	--		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]	1.60	--	J	
-- [12]	9.20	--	J	
Film Puncture Force				ISO 6603-2
-- [13]	825	--	N	
-- [14]	3050	--	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	12	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	90	90	kJ/m²	
23°C	120 kJ/m²	No Break		
Notched Izod Impact				
-40°C, 3.18 mm	37	37	J/m	ASTM D256
23°C, 3.18 mm	64	80	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	75	85	kJ/m²	
23°C	100 kJ/m²	No Break		
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	190	--	°C	ISO 75-2/B
1.8 MPa, Unannealed, 3.99 mm	105	--	°C	ASTM D648
1.8 MPa, Unannealed	90.0	--	°C	ISO 75-2/A
8.0 MPa, Unannealed	50.0	--	°C	ISO 75-2/C
Vicat Softening Temperature				
--	200	--	°C	ISO 306/B50
--	> 200	--	°C	ISO 306/B120
Melting Temperature [15]	222	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C	6.0E-5	--	cm/cm/°C	
Transverse : 23 to 55°C	7.0E-5	--	cm/cm/°C	
RTI Elec				UL 746
0.750 mm	65.0	--	°C	
1.50 mm	65.0	--	°C	
RTI Imp				UL 746
0.750 mm	65.0	--	°C	
1.50 mm	65.0	--	°C	
RTI Str				UL 746
0.750 mm	65.0	--	°C	
1.50 mm	65.0	--	°C	

Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+14 to 1.0E+15	1.0E+12 to 1.0E+13	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+15	1.0E+11	ohms·cm	IEC 60093
Electric Strength				IEC 60243-1
23°C, 1.00 mm	35	38	kV/mm	
23°C, 3.00 mm	35	35	kV/mm	
Dielectric Constant				IEC 60250
23°C, 50 Hz [16]	5.00	15.0		
23°C, 1 MHz [17]	4.00	4.00		
23°C, 100 Hz	4.40	15.0		
23°C, 1 MHz	4.00	4.70		
Dissipation Factor				IEC 60250
23°C, 100 Hz	0.011	0.25		
	0.015	0.10		
23°C, 1 MHz	0.015	0.070		
Comparative Tracking Index				
Solution A	525	--	V	IEC 60112

--	--	575	V	ASTM D3638
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.750 mm	HB	--		
1.50 mm	HB	--		
3.00 mm	HB	--		
Glow Wire Flammability Index (2.00 mm)	700	--	°C	IEC 60695-2-12
Oxygen Index [18]	26	--	%	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	280 to 300		°C	
Mold Temperature	80.0 to 120		°C	

NOTE	
1.	150x150x3; MT 80°C; 500 Bar
2.	150x150x3
3.	150x150x3; MT 80°C; 500 Bar
4.	150x150x3
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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