Durethan® BM 240 H3.0 000000

Polyamide 6

LANXESS GmbH

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 filler, 40% 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)	1.44	--	g/cm³	ISO 1183
Apparent Density	0.70	--	g/cm³	ISO 60
Molding Shrinkage				ISO 294-4
Vertical flow direction: 280°C, 2.00mm [1]	0.85	--	%	ISO 294-4
Vertical flow direction: 120°C, 2 hours, 2.00mm [2]	0.25	--	%	ISO 294-4
Flow direction: 280°C, 2.00mm [3]	0.85	--	%	ISO 294-4
Flow direction: 120°C, 2 hours, 2.00mm [4]	0.25	--	%	ISO 294-4
Water Absorption				ISO 62
Saturated, 23°C	6.0	--	%	ISO 62
Equilibrium, 23°C, 50% RH	1.9	--	%	ISO 62

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
23°C	5630	2140	MPa	ASTM D638
23°C	5700	2200	MPa	ISO 527-2/1
Tensile Strength				
Fracture, 23°C	82.7	53.1	MPa	ASTM D638
Fracture, 23°C	85.0	55.0	MPa	ISO 527-2/5
Tensile Elongation				
Fracture, 23°C	10	40	%	ASTM D638
Fracture, 23°C	5.5	40	%	ISO 527-2/5
Flexural Modulus				
23°C	5600	2000	MPa	ASTM D790

23°C [5]	5500	2000	MPa	ISO 178/A
Flexural Strength				
23°C	150	64.8	MPa	ASTM D790
3.5% strain [6]	130	60.0	MPa	ISO 178/A
23°C [7]	140	65.0	MPa	ISO 178
Flexural Strain at Flexural Strength [8] (23°C)	5.5	8.0	%	
Burning Behavior [9]	passed	--		ISO 3795
ISO Shortname	PA 6, GHR, 14-060, MD40	--		ISO 1874
Residual Moisture Content	0.030 - 0.12		%	Karl Fisher
Films	**Dry**	**Conditioned**	**Unit**	**Test Method**
Film Puncture Energy				ISO 6603-2
-- [10]	3.00	--	J	ISO 6603-2
-- [11]	20.0	65.0	J	ISO 6603-2
Film Puncture Force				ISO 6603-2
-- [12]	728	--	N	ISO 6603-2
-- [13]	3030	--	N	ISO 6603-2
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-40°C	< 10	< 10	kJ/m²	ISO 179/1eA
-30°C	< 10	< 10	kJ/m²	ISO 179/1eA
23°C	< 10	12	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	130	80	kJ/m²	ISO 179/1eU
23°C	150 kJ/m²	No Break		ISO 179/1eU
Notched Izod Impact				ISO 180/1A
-30°C	< 10	< 10	kJ/m²	ISO 180/1A
23°C	< 10	< 10	kJ/m²	ISO 180/1A
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	100	85	kJ/m²	ISO 180/1U
23°C	130 kJ/m²	No Break		ISO 180/1U
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				
0.45 MPa, not annealed	185	--	°C	ISO 75-2/B
1.8 MPa, not annealed	85.0	--	°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	6.0E-5	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	7.0E-5	--	cm/cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	7.0E+15	--	ohms	IEC 60093
Volume Resistivity (23°C)	4.0E+15	--	ohms·cm	IEC 60093
Dielectric Strength (23°C, 1.00 mm)	36	--	kV/mm	IEC 60243-1
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	0.026	--		IEC 60250
23°C, 1 MHz	0.024	--		IEC 60250
Comparative Tracking Index (Solution A)	550	--	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
Oxygen Index [15]	27	--	%	ISO 4589-2
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	280 - 300		°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			

15.	Procedure A

Recommended distributors for this material

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