

Durethan® BM 40 X H2.0 EF 900116

Polyamide 6

LANXESS GmbH

Message:

PA 6, 40 % glass fibers/mineral, injection molding, improved flowability, heat-aging stabilized, low tendency to warp, improved surface finish

General Information				
Filler / Reinforcement		Glass \mineral, 40% filler by weight		
Additive		heat stabilizer		
Features		Low warpage		
		Good liquidity		
		Thermal Stability		
		Excellent appearance		
Agency Ratings		EC 1907/2006 (REACH)		
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.45	--	g/cm³	ISO 1183
Apparent Density	0.70	--	g/cm³	ISO 60
Molding Shrinkage				ISO 2577
Vertical flow direction: 290°C, 2.00mm ¹	0.72	--	%	ISO 2577
Vertical flow direction: 120°C, 4 hours, 2.00mm ²	0.11	--	%	ISO 2577
Flow direction: 290°C, 2.00mm ³	0.31	--	%	ISO 2577
Flow direction: 120°C, 4 hours, 2.00mm ⁴	0.050	--	%	ISO 2577
Vertical flow direction: 290°C, 3.00mm ⁵	0.87	--	%	ISO 2577
Vertical flow direction: 120°C, 4 hours, 3.00mm ⁶	0.15	--	%	ISO 2577
Flow direction: 290°C, 3.00mm ⁷	0.25	--	%	ISO 2577
Flow direction: 120°C, 4 hours, 3.00mm ⁸	0.050	--	%	ISO 2577
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	210	95.0	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	9000	4500	MPa	ISO 527-2/1
Tensile Stress (Break, 23°C)	125	65.0	MPa	ISO 527-2/5
Tensile Strain (Break, 23°C)	2.5	8.7	%	ISO 527-2/5
Flexural Modulus ⁹ (23°C)	8800	4250	MPa	ISO 178/A

Flexural Stress				ISO 178/A
3.5% strain, 23°C	200	110	MPa	ISO 178/A
23°C ¹⁰	206	125	MPa	ISO 178/A
Flexural Strain at Flexural Strength ¹¹ (23°C)	2.9	6.2	%	ISO 178/A
ISO Shortname	PA 6, GHR, 10-080, (GF+MD) 40-			ISO 1874
Residual Moisture Content	0.030 - 0.12			Karl Fisher
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	< 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	37	45	kJ/m ²	ISO 179/1eU
23°C	40	65	kJ/m ²	ISO 179/1eU
Notched Izod Impact				ISO 180/1A
-30°C	< 10	--	kJ/m ²	ISO 180/1A
23°C	< 10	10	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	33	30	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	215	--	°C	ISO 75-2/B
1.8 MPa, not annealed	195	--	°C	ISO 75-2/A
Melting Temperature ¹²	220	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 55°C	2.8E-5	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	8.5E-5	--	cm/cm/°C	ISO 11359-2
Flammability	Dry	Conditioned		Test Method
Flame Rating				UL 94
0.800 mm	HB	--		UL 94
1.60 mm	HB	--		UL 94
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 - 100		°C	
NOTE				

1.	60x60x2mm, 80°C MT, 600 bar
2.	60x60x2mm
3.	60x60x2mm, 80°C MT, 600 bar
4.	60x60x2mm
5.	150x105x3mm, 80°C MT, 500 bar
6.	150x105x3mm
7.	150x105x3mm, 80°C MT, 500 bar
8.	150x105x3mm
9.	2.0 mm/min
10.	2.0 mm/min
11.	2 mm/min
12.	10°C/min

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