

Durethan® BKV 35 000000

Polyamide 6

LANXESS GmbH

Message:

PA 6, 35 % glass fibers, injection molding

General Information				
Filler / Reinforcement		Glass fiber reinforced material, 35% filler by weight		
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.41	--	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	0.70	--	%	ISO 294-4
Vertical flow direction: 120°C, 2 hours, 2.00mm ²	0.14	--	%	ISO 294-4
Flow direction: 280°C, 2.00mm ³	0.23	--	%	ISO 294-4
Flow direction: 120°C, 2 hours, 2.00mm ⁴	0.070	--	%	ISO 294-4
Water Absorption				ISO 62
Saturated, 23°C	6.5	--	%	ISO 62
Equilibrium, 23°C, 50% RH	1.9	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	230	120	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	10700	6800	MPa	ISO 527-2/1
Tensile Stress (Break, 23°C)	180	110	MPa	ISO 527-2/5
Tensile Strain (Break, 23°C)	3.0	5.0	%	ISO 527-2/5
Tensile Creep Modulus				ISO 899-1
1 hr	--	6000	MPa	ISO 899-1
1000 hr	--	4900	MPa	ISO 899-1
Flexural Modulus ⁵ (23°C)	10700	5900	MPa	ISO 178/A
Flexural Stress ⁶				
3.5% strain	280	160	MPa	ISO 178/A
23°C	290	180	MPa	ISO 178
Flexural Strain at Flexural Strength ⁷ (23°C)	4.0	5.0	%	
Burning Behavior ⁸ (> 1.00 mm)	passed	--		ISO 3795

ISO Shortname	PA 6, GR, 14-110, GF35	--		ISO 1874
Residual Moisture Content	0.030 - 0.12		%	Karl Fisher
Films	Dry	Conditioned	Unit	Test Method
Film Puncture Energy				ISO 6603-2
-- ⁹	3.30	--	J	ISO 6603-2
-- ¹⁰	3.90	--	J	ISO 6603-2
Film Puncture Force				ISO 6603-2
-- ¹¹	945	--	N	ISO 6603-2
-- ¹²	1060	--	N	ISO 6603-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	< 10	10	kJ/m ²	ISO 179/1eA
23°C	12	20	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	70	70	kJ/m ²	ISO 179/1eU
23°C	80	90	kJ/m ²	ISO 179/1eU
Notched Izod Impact				ISO 180/1A
-30°C	< 10	10	kJ/m ²	ISO 180/1A
23°C	15	20	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	70	65	kJ/m ²	ISO 180/1U
23°C	75	85	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	205	--	°C	ISO 75-2/A
8.0 MPa, not annealed	150	--	°C	ISO 75-2/C
Vicat Softening Temperature				
--	200	--	°C	ISO 306/B50
--	> 200	--	°C	ISO 306/B120
Melting Temperature ¹³	222	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 55°C	2.0E-5	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	8.0E-5	--	cm/cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+14	1.0E+12	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+15	1.0E+12	ohms · cm	IEC 60093

Dielectric Strength (23°C, 1.00 mm)	40	35	kV/mm	IEC 60243-1
Relative Permittivity				IEC 60250
23°C, 100 Hz	4.00	1.50		IEC 60250
23°C, 1 MHz	4.00	5.00		IEC 60250
Dissipation Factor				IEC 60250
23°C, 100 Hz	7.0E-3	0.20		IEC 60250
23°C, 1 MHz	0.015	0.12		IEC 60250
Comparative Tracking Index (Solution A)	525	--	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 ¹⁴	23	--	%	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	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.	Pull Rate: 2 mm/min; 50% RH			
8.	US-FMVSS302			
9.	-30°C			
10.	23°C			
11.	-30°C			
12.	23°C			
13.	10°C/min			
14.	Procedure A			

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