

Durethan® BKV 40 000000

Polyamide 6

LANXESS Corporation

Message:

PA 6, 40 % glass fibers, injection molding

General Information				
Filler / Reinforcement		Glass fiber reinforced material, 40% filler by weight		
Agency Ratings		EC 1907/2006 (REACH)		
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity				
--	1.46	--	g/cm ³	ASTM D792
23°C	1.46	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 2577
Vertical flow direction: 280°C, 3.00mm ¹	0.85	--	%	ISO 2577
Vertical flow direction: 120°C, 4 hours, 3.00mm ²	0.070	--	%	ISO 2577
Flow direction: 280°C, 3.00mm ³	0.16	--	%	ISO 2577
Flow direction: 120°C, 4 hours, 3.00mm ⁴	0.030	--	%	ISO 2577
Water Absorption				ISO 62
Saturated, 23°C	6.0	--	%	ISO 62
Equilibrium, 23°C, 50% RH	1.8	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
23°C ⁵	11800	7400	MPa	ASTM D638
23°C	11900	7800	MPa	ISO 527-2/1
Tensile Strength				
Fracture, 23°C	200	120	MPa	ASTM D638
Fracture, 23°C	195	130	MPa	ISO 527-2/5
Tensile Elongation				
Fracture, 23°C	3.0	4.0	%	ASTM D638
Fracture, 23°C	3.0	6.0	%	ISO 527-2/5
Flexural Modulus				
23°C	10800	6800	MPa	ASTM D790
23°C ⁶	11200	7300	MPa	ISO 178/A
Flexural Strength				
23°C	330	200	MPa	ASTM D790

3.5% strain, 23°C	305	170	MPa	ISO 178/A
23°C ⁷	310	200	MPa	ISO 178/A
Flexural Strain at Flexural Strength ⁸ (23°C)	4.0	5.0	%	ISO 178/A
ISO Shortname	PA 6, GR, 14-120, GF40	--		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	12	12	kJ/m ²	ISO 179/1eA
23°C	15	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	85	90	kJ/m ²	ISO 179/1eU
Notched Izod Impact				
-40°C, 3.18 mm	130	130	J/m	ASTM D256
23°C, 3.18 mm	160	190	J/m	ASTM D256
-30°C	13	11	kJ/m ²	ISO 180/1A
23°C	18	24	kJ/m ²	ISO 180/1A
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, unannealed, 39.9mm	215	--	°C	ASTM D648
0.45 MPa, not annealed	215	--	°C	ISO 75-2/B
1.8 MPa, not annealed	200	--	°C	ISO 75-2/A
1.8 MPa, annealing, 3.99mm	200	--	°C	ASTM D648
Vicat Softening Temperature	> 200	--	°C	ISO 306/B120
Melting Temperature ⁹	222	--	°C	ISO 11357-3
RTI Elec (1.50 mm)	120	--	°C	UL 746
RTI Imp (1.50 mm)	95.0	--	°C	UL 746
RTI (1.50 mm)	140	--	°C	UL 746
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				IEC 60243-1
23°C, 1.00 mm	40	35	kV/mm	IEC 60243-1
23°C, 3.00 mm	40	35	kV/mm	IEC 60243-1
Dielectric Constant				
23°C, 50 Hz ¹⁰	4.00	15.0		IEC 60250
23°C, 1 MHz ¹¹	4.00	5.00		IEC 60250

23°C, 100 Hz	4.00	15.0		IEC 60250
Dissipation Factor				IEC 60250
23°C, 50 Hz	0.010	--		IEC 60250
23°C, 100 Hz	7.0E-3	0.20		IEC 60250
	0.015	0.15		
23°C, 1 MHz	0.015	0.12		IEC 60250
Comparative Tracking Index				
Solution a	525	--	V	IEC 60112
--	--	375	V	ASTM D3638
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
1.50 mm	HB	--		UL 94
1.60 mm	HB	--		UL 94
3.00 mm	HB	--		UL 94
3.20 mm	HB	--		UL 94
Glow Wire Flammability Index (2.00 mm)	650	--	°C	IEC 60695-2-12
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.	150x105x3mm, 80°C MT, 400 bar			
2.	150x105x3mm			
3.	150x105x3mm, 80°C MT, 400 bar			
4.	150x105x3mm			
5.	1.0 mm/min			
6.	2.0 mm/min			
7.	2.0 mm/min			
8.	2 mm/min			
9.	10°C/min			
10.	Tinfoil Electrodes			
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