

Durethan® BKV 15 000000

Polyamide 6

LANXESS GmbH

Message:

PA 6-Copolymer, 15 % glass fibers, injection molding

General Information				
UL YellowCard		E245249-473580		
Filler / Reinforcement		Glass fiber reinforced material, 15% filler by weight		
Features		Copolymer		
Agency Ratings		EC 1907/2006 (REACH)		
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity				
--	1.23	--	g/cm ³	ASTM D792
23°C	1.23	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	ISO 60
Molding Shrinkage				
Vertical flow direction: 280°C, 3.00mm ¹	0.88	--	%	ISO 2577
Vertical flow direction: 120°C, 2 hours, 3.00mm ²	0.21	--	%	ISO 294-4
Flow direction: 280°C, 3.00mm ³	0.29	--	%	ISO 2577
Flow direction: 120°C, 2 hours, 3.00mm ⁴	0.080	--	%	ISO 2577
Water Absorption				ISO 62
Saturated, 23°C	8.5	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.6	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	170	80.0	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
23°C ⁵	6200	3100	MPa	ASTM D638
23°C	6000	3000	MPa	ISO 527-2/1
Tensile Strength				
Fracture, 23°C	130	70.3	MPa	ASTM D638
Fracture, 23°C	125	75.0	MPa	ISO 527-2/5
Tensile Elongation				
Fracture, 23°C	3.0	5.0	%	ASTM D638
Fracture, 23°C	3.0	12	%	ISO 527-2/5

Flexural Modulus				
23°C	5400	2900	MPa	ASTM D790
23°C ⁶	5200	3100	MPa	ISO 178/A
Flexural Strength				
23°C	200	120	MPa	ASTM D790
3.5% strain ⁷	180	90.0	MPa	ISO 178/A
23°C ⁸	200	120	MPa	ISO 178
Flexural Strain at Flexural Strength ⁹ (23°C)	5.0	8.0	%	
Burning Behavior ¹⁰ (> 1.00 mm)		--		ISO 3795
ISO Shortname	PA 6/66, GR, 14-060, GF15	--		ISO 1874
Residual Moisture Content	0.030 - 0.12		%	Karl Fisher
Films	Dry	Conditioned	Unit	Test Method
Film Puncture Energy				ISO 6603-2
-- ¹¹	3.00	--	J	ISO 6603-2
-- ¹²	4.00	--	J	ISO 6603-2
Film Puncture Force				ISO 6603-2
-- ¹³	585	--	N	ISO 6603-2
-- ¹⁴	644	--	N	ISO 6603-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°C	< 10	< 10	kJ/m ²	ISO 179/1eA
-30°C	< 10	< 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	35	35	kJ/m ²	ISO 179/1eU
23°C	45	70	kJ/m ²	ISO 179/1eU
Notched Izod Impact				
-40°C, 3.18 mm	53	53	J/m	ASTM D256
23°C, 3.18 mm	64	250	J/m	ASTM D256
-40°C	< 10	< 10	kJ/m ²	ISO 180/1A
-30°C	< 10	< 10	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	30	30	kJ/m ²	ISO 180/1U
23°C	30	80	kJ/m ²	ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, not annealed, 3.99mm	215	--	°C	ASTM D648

0.45 MPa, not annealed	210	--	°C	ISO 75-2/B
1.8 MPa, not annealed, 3.99mm	200	--	°C	ASTM D648
1.8 MPa, not annealed	190	--	°C	ISO 75-2/A
8.0 MPa, not annealed	60.0	--	°C	ISO 75-2/C
Vicat Softening Temperature				
--	200	--	°C	ISO 306/B50
--	> 200	--	°C	ISO 306/B120
Melting Temperature ¹⁵	213	--	°C	ISO 11357-3
Linear thermal expansion coefficient				
				ISO 11359-2
Flow: 23 to 55°C	3.0E-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+13 - 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	35	31	kV/mm	IEC 60243-1
Dielectric Constant				
23°C, 50 Hz ¹⁶	4.00	15.0		IEC 60250
23°C, 1 MHz ¹⁷	4.00	5.00		IEC 60250
23°C, 100 Hz	4.00	10.0		IEC 60250
Dissipation Factor				
				IEC 60250
23°C, 50 Hz	5.0E-3	0.50		IEC 60250
23°C, 100 Hz	5.0E-3	0.20		IEC 60250
	0.015	0.12		
23°C, 1 MHz	0.015	0.16		IEC 60250
Comparative Tracking Index				
Solution a	600	--	V	IEC 60112
Solution B	425	--	V	IEC 60112
--	--	425	V	ASTM D3638
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 ¹⁸	22	--	%	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	260 - 290	°C
Mold Temperature	80.0 - 100	°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
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18.	Procedure A

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