

Durethan® BKV 50 H2.0 901510

Polyamide 6

LANXESS GmbH

Message:

PA 6, 50 % glass fibers, injection molding, heat-aging stabilized

General Information				
UL YellowCard	E245249-473600			
Filler / Reinforcement	Glass fiber reinforced material, 50% filler by weight			
Additive	heat stabilizer			
Features	Good heat aging resistance			
Agency Ratings	EC 1907/2006 (REACH)			
Processing Method	Injection molding			
Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity				
--	1.57	--	g/cm ³	ASTM D792
23°C	1.57	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	ISO 60
Molding Shrinkage				
Vertical flow direction: 280°C, 3.00mm ¹	0.85	--	%	ISO 2577
Vertical flow direction: 120°C, 2 hours, 3.00mm ²	0.050	--	%	ISO 294-4
Flow direction: 280°C, 3.00mm ³	0.16	--	%	ISO 2577
Flow direction: 120°C, 2 hours, 3.00mm ⁴	0.020	--	%	ISO 2577
Water Absorption				ISO 62
Saturated, 23°C	5.0	--	%	ISO 62
Equilibrium, 23°C, 50% RH	1.5	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	250	109	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
23°C ⁵	15000	9500	MPa	ASTM D638
23°C	16300	9800	MPa	ISO 527-2/1
Tensile Strength				
Fracture, 23°C	210	150	MPa	ASTM D638
Fracture, 23°C	220	140	MPa	ISO 527-2/5
Tensile Elongation				
Fracture, 23°C	2.0	4.0	%	ASTM D638

Fracture, 23°C	3.0	5.0	%	ISO 527-2/5
Tensile Creep Modulus				ISO 899-1
1 hr	--	8100	MPa	ISO 899-1
1000 hr	--	6600	MPa	ISO 899-1
Flexural Modulus				
23°C	13500	7690	MPa	ASTM D790
23°C ⁶	15100	9700	MPa	ISO 178/A
Flexural Strength				
23°C	350	220	MPa	ASTM D790
23°C ⁷	360	230	MPa	ISO 178
Flexural Strain at Flexural Strength ⁸ (23°C)	3.0	5.0	%	
Burning Behavior ⁹ (> 1.00 mm)	passed	--		ISO 3795
ISO Shortname	PA 6, GHR, 14-160, GF50	--		ISO 1874
Residual Moisture Content	0.030 - 0.12		%	Karl Fisher
Films	Dry	Conditioned	Unit	Test Method
Film Puncture Energy				ISO 6603-2
-- ¹⁰	3.70	--	J	ISO 6603-2
-- ¹¹	4.20	8.90	J	ISO 6603-2
Film Puncture Force				ISO 6603-2
-- ¹²	1060	--	N	ISO 6603-2
-- ¹³	1200	--	N	ISO 6603-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	15	13	kJ/m ²	ISO 179/1eA
23°C	20	25	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	85	80	kJ/m ²	ISO 179/1eU
23°C	100	100	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	170	200	J/m	ASTM D256
-30°C	12	12	kJ/m ²	ISO 180/1A
23°C	20	25	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	80	80	kJ/m ²	ISO 180/1U
23°C	85	85	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	215	--	°C	ISO 75-2/B
1.8 MPa, not annealed, 3.99mm	200	--	°C	ASTM D648
1.8 MPa, not annealed	205	--	°C	ISO 75-2/A
Vicat Softening Temperature	> 200	--	°C	ISO 306/B50, ISO 306/B120
Melting Temperature ¹⁴	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	7.0E-5	--	cm/cm/°C	ISO 11359-2
RTI Elec				UL 746
0.750 mm	65.0	--	°C	UL 746
1.50 mm	120	--	°C	UL 746
RTI Imp				UL 746
0.750 mm	65.0	--	°C	UL 746
1.50 mm	95.0	--	°C	UL 746
RTI				UL 746
0.750 mm	65.0	--	°C	UL 746
1.50 mm	140	--	°C	UL 746
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+13 - 1.0E+14	1.0E+12 - 1.0E+13	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+15 - 1.0E+16	1.0E+12 - 1.0E+13	ohms·cm	IEC 60093
Dielectric Strength				IEC 60243-1
23°C, 1.00 mm	35	26	kV/mm	IEC 60243-1
23°C, 3.00 mm	40	35	kV/mm	IEC 60243-1
Dielectric Constant				IEC 60250
23°C, 50 Hz ¹⁵	4.00	--		IEC 60250
23°C, 1 MHz ¹⁶	4.00	5.00		IEC 60250
23°C, 100 Hz	5.30	14.2		IEC 60250
23°C, 1 MHz	4.30	5.00		IEC 60250
Dissipation Factor				IEC 60250
23°C, 50 Hz	0.010	--		IEC 60250
23°C, 100 Hz	0.036	0.32		IEC 60250
	0.024	0.089		
23°C, 1 MHz	0.015	0.14		IEC 60250
Comparative Tracking Index				
Solution a	550	--	V	IEC 60112
--	--	375	V	ASTM D3638
Flammability	Dry	Conditioned	Unit	Test Method

Flame Rating				UL 94
0.750 mm	HB	--		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
Oxygen Index ¹⁷	24	--	%	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.	150x150x3; MT 80°C; 400 Bar
2.	150x150x3
3.	150x150x3; MT 80°C; 400 Bar
4.	150x150x3
5.	1.0 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.	Tinfoil Electrodes
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17.	Procedure A

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