

Durethan® BKV 25 H2.0 LT 904040

Polyamide 6

LANXESS GmbH

Message:

PA 6, 25 % glass fibers, injection molding, heat-aging stabilized, laser-transparent, IR-transparent black pigmentation

General Information				
UL YellowCard		E245249-473584		
Filler / Reinforcement		Glass fiber reinforced material, 25% filler by weight		
Additive		heat stabilizer		
Features		Good heat aging resistance		
Agency Ratings		EC 1907/2006 (REACH)		
Appearance		Clear/transparent		
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.32	--	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	0.14	--	%	ISO 294-4
Flow direction: 280°C, 3.00mm ³	0.21	--	%	ISO 2577
Flow direction: 120°C, 2 hours, 3.00mm ⁴	0.040	--	%	ISO 2577
Water Absorption				ISO 62
Saturated, 23°C	7.5	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.2	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	190	90.0	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	8400	5100	MPa	ISO 527-2/1
Tensile Stress (Break, 23°C)	160	90.0	MPa	ISO 527-2/5
Tensile Strain (Break, 23°C)	3.0	6.0	%	ISO 527-2/5
Tensile Creep Modulus				ISO 899-1
1 hr	--	4500	MPa	ISO 899-1
1000 hr	--	3500	MPa	ISO 899-1
Flexural Modulus ⁵ (23°C)	7200	4200	MPa	ISO 178/A
Flexural Stress ⁶				
3.5% strain	230	120	MPa	ISO 178/A

23°C	250	145	MPa	ISO 178
Flexural Strain at Flexural Strength ⁷ (23°C)	5.0	6.0	%	
Burning Behavior ⁸	passed	--		ISO 3795
ISO Shortname	PA 6, GHR, 14-080, GF25	--		ISO 1874
Residual Moisture Content	0.030 - 0.12		%	Karl Fisher
Films	Dry	Conditioned	Unit	Test Method
Film Puncture Energy				ISO 6603-2
-- ⁹	2.60	--	J	ISO 6603-2
-- ¹⁰	3.40	--	J	ISO 6603-2
Film Puncture Force				ISO 6603-2
-- ¹¹	832	--	N	ISO 6603-2
-- ¹²	926	--	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	45	45	kJ/m ²	ISO 179/1eU
23°C	60	80	kJ/m ²	ISO 179/1eU
Notched Izod Impact				ISO 180/1A
-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	60	65	kJ/m ²	ISO 180/1U
23°C	65	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	200	--	°C	ISO 75-2/A
8.0 MPa, not annealed	120	--	°C	ISO 75-2/C
Vicat Softening Temperature	> 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	3.0E-5	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	9.0E-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	15.0		IEC 60250
23°C, 1 MHz	4.00	5.00		IEC 60250
Dissipation Factor				IEC 60250
23°C, 100 Hz	5.0E-3	0.50		IEC 60250
23°C, 1 MHz	0.015	0.16		IEC 60250
Comparative Tracking Index				IEC 60112
Solution a	400	--	V	IEC 60112
Solution B	275	--	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.	150x150x3; MT 80°C; 500 Bar			
2.	150x150x3			
3.	150x150x3; MT 80°C; 500 Bar			
4.	150x150x3			
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			

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