

Durethan® AKV 50 H2.0 901510

Polyamide 66

LANXESS GmbH

Message:

PA 66, 50 % glass fibers, injection molding, heat-aging stabilized

General Information				
UL YellowCard		E245249-473559		
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
Density (23°C)	1.57	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	ISO 60
Molding Shrinkage				
Vertical flow direction: 300°C, 3.00mm ¹	0.90	--	%	ISO 2577
Vertical flow direction: 120°C, 2 hours, 3.00mm ²	0.040	--	%	ISO 294-4
Flow direction: 300°C, 3.00mm ³	0.23	--	%	ISO 2577
Flow direction: 120°C, 2 hours, 3.00mm ⁴	0.020	--	%	ISO 2577
Water Absorption				ISO 62
Saturated, 23°C	4.0	--	%	ISO 62
Equilibrium, 23°C, 50% RH	1.4	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	246	140	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	16000	10200	MPa	ISO 527-2/1
Tensile Stress (Break, 23°C)	230	155	MPa	ISO 527-2/5
Tensile Strain (Break, 23°C)	2.6	4.3	%	ISO 527-2/5
Flexural Modulus ⁵ (23°C)	14000	10000	MPa	ISO 178/A
Flexural Stress ⁶				
3.5% strain	--	216	MPa	ISO 178/A
23°C	360	240	MPa	ISO 178
Flexural Strain at Flexural Strength ⁷ (23°C)	3.0	4.8	%	

Burning Behavior ⁸ (> 1.00 mm)	passed	--		ISO 3795
ISO Shortname	PA 66, 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
-- ⁹	2.80	--	J	ISO 6603-2
-- ¹⁰	3.60	5.00	J	ISO 6603-2
Film Puncture Force				ISO 6603-2
-- ¹¹	1050	--	N	ISO 6603-2
-- ¹²	1160	1200	N	ISO 6603-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	12	15	kJ/m ²	ISO 179/1eA
23°C	15	23	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	100	100	kJ/m ²	ISO 179/1eU
23°C	95	--	kJ/m ²	ISO 179/1eU
Notched Izod Impact				ISO 180/1A
-30°C	12	12	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	85	80	kJ/m ²	ISO 180/1U
23°C	85	85	kJ/m ²	ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	250	--	°C	ISO 75-2/B
1.8 MPa, not annealed	250	--	°C	ISO 75-2/A
Vicat Softening Temperature	> 230	--	°C	ISO 306/B50, ISO 306/B120
Ball Pressure Test (258°C)	Pass	--		IEC 60695-10-2
Melting Temperature ¹³	261	--	°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+13	1.0E+12	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+15	1.0E+14	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	4.50	14.0		IEC 60250
23°C, 1 MHz	4.00	5.00		IEC 60250
Dissipation Factor				IEC 60250
23°C, 100 Hz	9.0E-3	0.32		IEC 60250
23°C, 1 MHz	0.015	0.085		IEC 60250
Comparative Tracking Index (Solution A)	550	--	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)	600	--	°C	IEC 60695-2-12
Oxygen Index ¹⁴	27	--	%	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	280 - 300		°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.	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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