

Durethan® AKV 30 H2.0 901510

Polyamide 66

LANXESS GmbH

Message:

PA 66, 30 % glass fibers, injection molding, heat-aging stabilized

General Information				
UL YellowCard		E245249-473555		
Filler / Reinforcement		Glass fiber reinforced material, 30% 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				
--	1.36	--	g/cm ³	ASTM D792
23°C	1.36	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	ISO 60
Molding Shrinkage				ISO 294-4
Vertical flow direction: 290°C, 2.00mm ¹	0.93	--	%	ISO 294-4
Vertical flow direction: 120°C, 2 hours, 2.00mm ²	0.13	--	%	ISO 294-4
Flow direction: 290°C, 2.00mm ³	0.39	--	%	ISO 294-4
Flow direction: 120°C, 2 hours, 2.00mm ⁴	0.070	--	%	ISO 294-4
Water Absorption				ISO 62
Saturated, 23°C	5.5	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.0	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	220	120	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
23°C ⁵	9170	6200	MPa	ASTM D638
23°C	10000	6000	MPa	ISO 527-2/1
Tensile Strength				
Fracture, 23°C	170	110	MPa	ASTM D638
Fracture, 23°C	175	110	MPa	ISO 527-2/5
Tensile Elongation (Break, 23°C)	3.0	6.0	%	ASTM D638, ISO 527-2/5

Nominal Tensile Strain at Break (23°C)	4.4	6.7	%	ISO 527-2/50
Flexural Modulus				
23°C	8690	6000	MPa	ASTM D790
23°C ⁶	9200	5700	MPa	ISO 178/A
Flexural Strength				
23°C	270	170	MPa	ASTM D790
3.5% strain ⁷	265	150	MPa	ISO 178/A
23°C ⁸	270	180	MPa	ISO 178
Flexural Strain at Flexural Strength ⁹ (23°C)	4.0	6.0	%	
Burning Behavior ¹⁰ (> 1.00 mm)	passed	--		ISO 3795
ISO Shortname	PA 66, GHR, 14-100, GF30	--		ISO 1874
Residual Moisture Content	0.030 - 0.12		%	Karl Fisher
Films	Dry	Conditioned	Unit	Test Method
Film Puncture Energy				ISO 6603-2
-- ¹¹	2.30	--	J	ISO 6603-2
-- ¹²	2.80	5.40	J	ISO 6603-2
Film Puncture Force				ISO 6603-2
-- ¹³	800	--	N	ISO 6603-2
-- ¹⁴	900	1160	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	14	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	60	60	kJ/m ²	ISO 179/1eU
23°C	75	85	kJ/m ²	ISO 179/1eU
Notched Izod Impact				
-40°C, 3.18 mm	--	150	J/m	ASTM D256
23°C, 3.18 mm	120	--	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	55	--	kJ/m ²	ISO 180/1U
23°C	60	--	kJ/m ²	ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				

0.45 MPa, not annealed, 3.99mm	> 249	--	°C	ASTM D648
0.45 MPa, not annealed	250	--	°C	ISO 75-2/B
1.8 MPa, not annealed, 3.99mm	> 249	--	°C	ASTM D648
1.8 MPa, not annealed	> 240	--	°C	ISO 75-2/A
Vicat Softening Temperature				
--	230	--	°C	ISO 306/B50
--	> 230	--	°C	ISO 306/B120
Ball Pressure Test (253°C)	Pass	--		IEC 60695-10-2
Melting Temperature ¹⁵	263	--	°C	ISO 11357-3
Linear thermal expansion coefficient				
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
RTI Elec				UL 746
0.750 mm	125	--	°C	UL 746
1.50 mm	125	--	°C	UL 746
RTI Imp				UL 746
0.750 mm	90.0	--	°C	UL 746
1.50 mm	105	--	°C	UL 746
RTI				UL 746
0.750 mm	110	--	°C	UL 746
1.50 mm	115	--	°C	UL 746
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+15	1.0E+13	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	35	30	kV/mm	IEC 60243-1
23°C, 3.00 mm	30	35	kV/mm	IEC 60243-1
Dielectric Constant				IEC 60250
23°C, 50 Hz ¹⁶	4.00	4.00		IEC 60250
23°C, 1 MHz ¹⁷	4.00	12.0		IEC 60250
23°C, 100 Hz	4.00	12.0		IEC 60250
23°C, 1 MHz	4.00	4.00		IEC 60250
Dissipation Factor				IEC 60250
23°C, 50 Hz	0.012	0.27		IEC 60250
23°C, 100 Hz	0.012	0.27		IEC 60250
	0.019	0.080		
23°C, 1 MHz	0.019	0.080		IEC 60250
Comparative Tracking Index (Solution A)				
	475	--	V	IEC 60112

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				IEC 60695-2-12
0.800 mm	700	--	°C	IEC 60695-2-12
1.60 mm	700	--	°C	IEC 60695-2-12
3.00 mm	700	--	°C	IEC 60695-2-12
Oxygen Index ¹⁸	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	280 - 300		°C	
Mold Temperature	80.0 - 120		°C	
NOTE				
1.	60x60x2; MT 80°C; 600 Bar			
2.	60x60x2			
3.	60x60x2; MT 80°C; 600 Bar			
4.	60x60x2			
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			
17.	Tinfoil Electrodes			
18.	Procedure A			

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