

Durethan® BKV 30 000000

Polyamide 6

LANXESS Corporation

Message:

PA 6, 30 % glass fibers, injection molding

General Information	
UL YellowCard	E245249-473588
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight
Processing Method	Injection molding
Multi-Point Data	Creep Modulus vs. Time (ISO 11403-1)
	Isochronous Stress vs. Strain (ISO 11403-1)
	Isothermal Stress vs. Strain (ISO 11403-1)
	Secant Modulus vs. Strain (ISO 11403-1)
	Shear Modulus vs. Temperature (ISO 11403-1)
	Specific Volume vs Temperature (ISO 11403-2)
Viscosity vs. Shear Rate (ISO 11403-2)	

Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity				
	1.36			
--	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
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	14.0	--	cm ³ /10min	ISO 1133
Molding Shrinkage				ISO 2577
Vertical flow direction: 280°C, 3.00mm ¹	0.82	--	%	ISO 2577
Vertical flow direction: 120°C, 4 hours, 3.00mm ²	0.12	--	%	ISO 2577
Flow direction: 280°C, 3.00mm ³	0.16	--	%	ISO 2577
Flow direction: 120°C, 4 hours, 3.00mm ⁴	0.030	--	%	ISO 2577
Water Absorption				ISO 62
Saturated, 23°C	7.0	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.1	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	210	100	MPa	ISO 2039-1

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
23°C ⁵	9200	5600	MPa	ASTM D638
23°C	9800	6100	MPa	ISO 527-2/1
Tensile Strength				
Fracture, 23°C	180	100	MPa	ASTM D638
Fracture, 23°C	180	105	MPa	ISO 527-2/5
Tensile Elongation (Break, 23°C)	3.0	6.0	%	ASTM D638, ISO 527-2/5
Tensile Creep Modulus				ISO 899-1
1 hr	--	5100	MPa	ISO 899-1
1000 hr	--	4100	MPa	ISO 899-1
Flexural Modulus				
23°C	8270	5000	MPa	ASTM D790
23°C ⁶	8600	5100	MPa	ISO 178/A
Flexural Strength				
23°C	280	170	MPa	ASTM D790
3.5% strain, 23°C	--	145	MPa	ISO 178/A
23°C ⁷	280	170	MPa	ISO 178/A
Flexural Strain at Flexural Strength ⁸ (23°C)	4.0	6.0	%	ISO 178/A
Burning Behavior ⁹ (> 1.00 mm)	passed	--		ISO 3795
ISO Shortname	PA 6, GR, 14-100, GF30	--		ISO 1874
Residual Moisture Content	0.030 - 0.12		%	Karl Fisher
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	10	10	kJ/m ²	ISO 179/1eA
23°C	15	20	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	70	70	kJ/m ²	ISO 179/1eU
23°C	80	95	kJ/m ²	ISO 179/1eU
Notched Izod Impact				
-40°C, 3.18 mm	100	100	J/m	ASTM D256
23°C, 3.18 mm	120	150	J/m	ASTM D256
-30°C	10	10	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	60	70	kJ/m ²	ISO 180/1U
23°C	75	80	kJ/m ²	ISO 180/1U

Multi-Axial Instrumented Impact Energy				ISO 6603-2
-30°C	6.00	5.00	J	ISO 6603-2
23°C	8.00	14.0	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force				ISO 6603-2
-30°C	950	--	N	ISO 6603-2
23°C	1070	--	N	ISO 6603-2
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, unannealed, 39.9mm	215	--	°C	ASTM D648
0.45 MPa, not annealed	215	--	°C	ISO 75-2/B
1.8 MPa, not annealed	200	--	°C	ISO 75-2/A
1.8 MPa, annealing, 3.99mm	200	--	°C	ASTM D648
Vicat Softening Temperature				
--	200	--	°C	ISO 306/B50
--	> 200	--	°C	ISO 306/B120
Melting Temperature ¹⁰	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	8.0E-5	--	cm/cm/°C	ISO 11359-2
RTI Elec (1.50 mm)	130	--	°C	UL 746
RTI Imp				UL 746
0.830 mm	95.0	--	°C	UL 746
1.50 mm	95.0	--	°C	UL 746
RTI				UL 746
0.830 mm	130	--	°C	UL 746
1.50 mm	130	--	°C	UL 746
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				IEC 60243-1
23°C, 1.00 mm	40	35	kV/mm	IEC 60243-1
23°C, 3.00 mm	40	35	kV/mm	IEC 60243-1
Dielectric Constant				
23°C, 50 Hz ¹¹	4.00	15.0		IEC 60250
23°C, 1 MHz ¹²	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
Arc Resistance ¹³	--	76.0	sec	ASTM D495
Comparative Tracking Index				
Solution a	600	--	V	IEC 60112
Solution B	400	--	V	IEC 60112
--	--	400	V	ASTM D3638
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.830 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)	600	--	°C	IEC 60695-2-12
Oxygen Index ¹⁴	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	270 - 290		°C	
Mold Temperature	80.0 - 120		°C	
NOTE				
1.	150x105x3mm, 80°C MT, 500 bar			
2.	150x105x3mm			
3.	150x105x3mm, 80°C MT, 500 bar			
4.	150x105x3mm			
5.	1.0 mm/min			
6.	2.0 mm/min			
7.	2.0 mm/min			
8.	2 mm/min			
9.	US-FMVSS302			
10.	10°C/min			
11.	Tinfoil Electrodes			
12.	Tinfoil Electrodes			
13.	Tungsten Electrodes			
14.	Procedure A			

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