

Data sheet

Durethan BKV20FN20 000000

PA 6, 20 % glass fibers, injection molding, halogen free flame retardant, heat-aging stabilized

ISO Shortname: ISO 16396-PA 6,GF20 FR(30),GF2HR,S12-060

Property	Test Condition	Unit	Standard	guide value	
				d.a.m.	cond.
Rheological properties					
C Molding shrinkage, parallel	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.6	
C Molding shrinkage, transverse	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.7	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	6100	3100
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	100	55
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	3	15
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	35	100
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	30	
C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	<10	<10
C Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	<10	<10
Izod impact strength	23 °C	kJ/m²	ISO 180-1U	30	85
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	<10	11
Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	<10	<10
Flexural modulus	2 mm/min	MPa	ISO 178-A	6100	3200
Flexural strength	2 mm/min	MPa	ISO 178-A	170	90
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	4.5	7
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	165	75
Thermal properties					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	222	
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	185	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	215	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	205	
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10-4/K	ISO 11359-1,-2	0.4	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10-4/K	ISO 11359-1,-2	0.9	
C Burning behavior UL 94	1.5 mm	Class	UL 94	V-2	
C Burning behavior UL 94	0.75 mm	Class	UL 94	V-2	
C Oxygen index	Method A	%	ISO 4589-2	26.9	
Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	212	
Glow wire test (GWFI)	0.75 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWFI)	1.5 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWFI)	3.0 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWIT)	0.75 mm	°C	IEC 60695-2-13	775	
Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	775	
Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	775	
Electrical properties (23 °C/50 % r. h.)					
C Volume resistivity		Ohm · m	IEC 60093	6.00E+13	
Surface resistivity		Ohm	IEC 60167	5.00E+14	
C Electric strength	1 mm	kV/mm	IEC 60243-1	32	
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	525	
Comparative tracking index CTI	Solution A	PLC	UL 746A	1	
Other properties (23 °C)					
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	7	
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	2.1	
C Density		kg/m³	ISO 1183	1310	
Processing conditions for test specimens					
C Injection molding-Melt temperature		°C	ISO 294	260	
C Injection molding-Mold temperature		°C	ISO 294	80	
Processing recommendations					

Drying temperature dry air dryer	°C	-	80
Drying time dry air dryer	h	-	2-6
Residual moisture content	%	Acc. to Karl Fischer	0.03-0.07
Melt temperature (Tmin - Tmax)	°C	-	250-270
Mold temperature	°C	-	80-100

C These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350.

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Typical Properties

Property data is provided as general information only. Property values are approximate and are not part of the product specifications.

Flammability

Flammability results are based on small-scale laboratory tests for purposes of relative comparison and are not intended to reflect the hazards presented by this or any other material under actual fire conditions.

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Color and Visual Effects

Type and quantity of pigments or additives used to obtain certain colors and special visual effects can affect mechanical properties.

LANXESS Corporation | Pittsburgh, PA 15275

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