Datasheet
Durethan BKV30FN00 000000

PA 6, 30% glass fibers, injection molding, halogen free flame retardant, heat-aging stabilized

ISO Shortname: ISO 16396-PA 6,GF30 FR(30+40+72),GF2HR,S14-110

Property	Test Condition	Unit	Standard	guide value [1] d.a.m.	guide value [1] cond.
Rheological properties					
C Molding shrinkage, parallel	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.2	
C Molding shrinkage, transverse	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.6	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.2	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	11000	6700
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	135	90
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	3.0	6.1
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	65	65
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	60	
C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	<10	
C Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	<10	
Izod impact strength	23 °C	kJ/m²	ISO 180-1U	55	55
Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	55	
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	<10	
Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	<10	
Flexural modulus	2 mm/min	MPa	ISO 178-A	10500	6000
Flexural strength	2 mm/min	MPa	ISO 178-A	225	140
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	3.1	4.6
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A		128
Ball indentation hardness		N/mm²	ISO 2039-1	220	
Thermal properties					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	220	
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	204	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	218	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	210	
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.2	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.8	
C Burning behavior UL 94	1.5 mm	Class	UL 94	V-0	
C Burning behavior UL 94	0.75 mm	Class	UL 94	V-0	
C Burning behavior UL 94-5V	1.5 mm	Class	UL 94	5VA	
C Oxygen index	Method A	%	ISO 4589-2	32	
Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	209	

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Property	Test Condition	Unit	Standard	guide value [1] d.a.m.	cond.
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	800	
Electrical properties (23 °C/50 % r. h.)					
C Relative permittivity	100 Hz	-	IEC 60250	4.2	8.8
C Relative permittivity	1 MHz	-	IEC 60250	3.7	4.2
C Dissipation factor	100 Hz	10^{-4}	IEC 60250	160	1215
C Dissipation factor	1 MHz	10^{-4}	IEC 60250	155	695
C Volume resistivity		Ohm·m	IEC 62631-3	2.9E+13	7.1E+10
C Electric strength	1 mm	kV/mm	IEC 60243-1	40	36
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600	
Comparative tracking index CTI	Solution A	PLC	UL 746A	0	
Other properties (23 °C)					
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	5	
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	1.5	
C Density		kg/m³	ISO 1183	1443	
Bulk density		kg/m³	ISO 60	580	
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	

Notes
1 Typical properties: these are not to be construed as specifications
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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Test values

Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the coloring.

Processing note

Under the recommended processing conditions small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded. Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.

Conditioning

Conditioning in accordance with ISO 1110 (70 °C; 62 % r.h.)