Durethan BKV130 000000

PA 6-Copolymer, 30 % glass fibers, injection molding, improved impact strength

ISO Shortname: ISO 16396-PA 6/66-I,GF30,GR,S14-090

Property	Test Condition	Unit	Standard	guide value d.a.m.	guide value cond.
Rheological properties					
Molding shrinkage, parallel	150x105x3; 280 °C / MT 80 °C; 500 bar	%	acc. ISO 2577	0.16	
Molding shrinkage, transverse	150x105x3; 280 °C / MT 80 °C; 500 bar	%	acc. ISO 2577	0.72	
Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.04	
Post- shrinkage, transverse	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.15	
C Molding shrinkage, parallel	60x60x2; 280 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.2	
C Molding shrinkage, transverse	60x60x2; 280 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.6	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.15	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.15	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	9000	5200
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	160	100
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	4.0	7.0
C Tensile creep modulus	1 h	MPa	ISO 899-1		4200
C Tensile creep modulus	1000 h	MPa	ISO 899-1		3300
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	95	110
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	80	80
C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	18	28
C Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	10	10
Izod impact strength	23 °C	kJ/m²	ISO 180-1U	70	75
Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	65	60
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	16	25
Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	10	10
Flexural modulus	2 mm/min	MPa	ISO 178-A	8000	4800
Flexural strength	2 mm/min	MPa	ISO 178-A	250	145
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	5.0	7.0
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	230	115
C Puncture maximum force	23 °C	N	ISO 6603-2	1000	1400
C Puncture maximum force	-30 °C	N	ISO 6603-2	800	900
C Puncture energy	23 °C	J	ISO 6603-2	3.1	5.9
C Puncture energy	-30 °C	J	ISO 6603-2	1.9	2.1
Ball indentation hardness		N/mm²	ISO 2039-1	190	80
Thermal properties					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	213	

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	Property	Test Condition	Unit	Standard	guide value d.a.m.	guide value cond.
C	Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	200	
C	Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	210	
C	Temperature of deflection under load	8.00 MPa	°C	ISO 75-1,-2	90	
	Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	> 200	
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	1.0	
C	Burning behavior UL 94	1.5 mm	Class	UL 94	HB	
C	Burning behavior UL 94	0.75 mm	Class	UL 94	HB	
C	Oxygen index	Method A	%	ISO 4589-2	22	
	Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	650	
	Burning behavior US-FMVSS302			ISO 3795	< 55	
C	Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	> 200	
	Electrical properties (23 °C/50 % r. h.)					
C	Relative permittivity	100 Hz	-	IEC 60250	4.2	13
C	Relative permittivity	1 MHz	-	IEC 60250	3.8	4.6
C	Dissipation factor	100 Hz	10^{-4}	IEC 60250	90	1750
C	Dissipation factor	1 MHz	10^{-4}	IEC 60250	200	900
C	Volume resistivity		Ohm·m	IEC 60093	1E13	1E10
C	Surface resistivity		Ohm	IEC 60093	1E15	1E13
C	Electric strength	1 mm	kV/mm	IEC 60243-1	40	40
C	Comparative tracking index CTI	Solution A	Rating	IEC 60112	575	
	Comparative tracking index CTI M	Solution B	Rating	IEC 60112	525 M	
	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	2.0	
C	Density		kg/m³	ISO 1183	1360	
	Bulk density		kg/m³	ISO 60	700	
	Processing conditions for test specimens					
C	Injection molding-Melt temperature		°C	ISO 294	280	
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	0.03-0.12	
	Melt temperature (Tmin - Tmax)		°C	-	260-290	
	Mold temperature		°C	-	80-100	

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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.

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