Durethan BKV215 000000

PA 6-Copolymer, 15 % glass fibers, injection molding, improved impact strength

ISO Shortname: ISO 16396-PA 6/66-I,GF15,GR,S14-040

Property	Test Condition	Unit	Standard	guide value [1] d.a.m.	cond.
Rheological properties					
C Molding shrinkage, parallel	60x60x2; 280 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.59	
C Molding shrinkage, transverse	60x60x2; 280 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.61	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.14	
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	4500	2400
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	85	55
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	4.5	15
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	70	80
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	80	75
C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	20	35
C Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	12	12
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	18	30
Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	10	10
Flexural modulus	2 mm/min	MPa	ISO 178-A	4000	2200
Flexural strength	2 mm/min	MPa	ISO 178-A	130	80
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	125	60
C Puncture maximum force	23 °C	N	ISO 6603-2	1003	
C Puncture maximum force	-30 °C	N	ISO 6603-2	650	
C Puncture energy	23 °C	J	ISO 6603-2	13	32
C Puncture energy	-30 °C	J	ISO 6603-2	4.8	
Ball indentation hardness		N/mm²	ISO 2039-1	110	55
Thermal properties					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	214	
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	175	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	205	
C Temperature of deflection under load	8.00 MPa	°C	ISO 75-1,-2	60	
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	0.4	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	1.5	
C Burning behavior UL 94	1.5 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	passed	
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	3.5	10

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C Relative permittivity	1 MHz	-	IEC 60250	3.2	3.7
C Dissipation factor	100 Hz	10^{-4}	IEC 60250	60	1500
C Dissipation factor	1 MHz	10^{-4}	IEC 60250	150	800
C Volume resistivity		Ohm·m	IEC 60093	1E11	1E10
C Surface resistivity		Ohm	IEC 60093	1E15	1E13
C Electric strength	1 mm	kV/mm	IEC 60243-1	43	43
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600	
Other properties (23 °C)					
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	7.0	
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	2.0	
C Density		kg/m³	ISO 1183	1180	
Bulk density		kg/m³	ISO 60	600	
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	

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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Disclaimer

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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.)