

Durethan BKV50H2.0 901510

PA 6, 50 % glass fibers, injection molding, heat-aging stabilized

ISO/ ASTM

ISO Shortname: ISO 16396-PA 6,GF50,GHR,S14-160

Property	Test Condition	Unit	Standard	guide value	
				d.a.m.	cond.
Rheological properties					
Molding shrinkage, parallel	150x105x3; 280 °C / MT 80 °C; 400 % bar		acc. ISO 2577	0.16	
Molding shrinkage, transverse	150x105x3; 280 °C / MT 80 °C; 400 % bar		acc. ISO 2577	0.85	
Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.02	
Post- shrinkage, transverse	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.05	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	16300	9800
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	220	140
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	3.0	5.0
C Tensile creep modulus	1 h	MPa	ISO 899-1		8100
C Tensile creep modulus	1000 h	MPa	ISO 899-1		6600
C Charpy impact strength	23 °C	kJ/m ²	ISO 179-1eU	100	100
C Charpy impact strength	-30 °C	kJ/m ²	ISO 179-1eU	85	80
C Charpy notched impact strength	23 °C	kJ/m ²	ISO 179-1eA	20	25
C Charpy notched impact strength	-30 °C	kJ/m ²	ISO 179-1eA	15	13
Izod impact strength	23 °C	kJ/m ²	ISO 180-1U	85	85
Izod impact strength	-30 °C	kJ/m ²	ISO 180-1U	80	80
Izod notched impact strength	23 °C	kJ/m ²	ISO 180-1A	20	25
Izod notched impact strength	-30 °C	kJ/m ²	ISO 180-1A	12	12
Flexural modulus	2 mm/min	MPa	ISO 178-A	15100	9700
Flexural strength	2 mm/min	MPa	ISO 178-A	360	230
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	3.0	5.0
C Puncture maximum force	23 °C	N	ISO 6603-2	1200	
C Puncture maximum force	-30 °C	N	ISO 6603-2	1060	
C Puncture energy	23 °C	J	ISO 6603-2	4.2	8.9
C Puncture energy	-30 °C	J	ISO 6603-2	3.7	
Ball indentation hardness		N/mm ²	ISO 2039-1	250	109
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	205	
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	> 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	0.7	
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	24	
Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	650	
Burning behavior US-FMVSS302	>=1.0 mm		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	5.3	14.2
C Relative permittivity	1 MHz	-	IEC 60250	4.3	5.0
C Dissipation factor	100 Hz	10 ⁻⁴	IEC 60250	360	3190
C Dissipation factor	1 MHz	10 ⁻⁴	IEC 60250	240	890
C Volume resistivity		Ohm·m	IEC 60093	1E14	1E11
C Surface resistivity		Ohm	IEC 60093	1E13	1E13
C Electric strength	1 mm	kV/mm	IEC 60243-1	35	26
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	550	
Other properties (23 °C)					

C	Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	5.0
C	Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	1.5
C	Density		kg/m ³	ISO 1183	1570
	Bulk density		kg/m ³	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	-	270-290
	Mold temperature		°C	-	80-120

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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