Datasheet
Durethan BKV15GH2.0 900051

PA 6, 15% glass fibers, injection molding, heat-aging stabilized, improved surface finish, weather stabilized

ISO Shortname: ISO 16396-PA 6,GF15,GHR,S14-060

	Property	Test Condition	Unit	Standard	guide value [1] d.a.m.	guide value [1] cond.
	Rheological properties					
	Molding shrinkage, parallel	150x105x3; 280 °C / MT 80 °C; 500 bar	%	acc. ISO 294-4	0.34	
	Molding shrinkage, transverse	150x105x3; 280 °C / MT 80 °C; 500 bar	%	acc. ISO 294-4	0.67	
	Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 294-4	0.1	
	Post- shrinkage, transverse	150x105x3; 120 °C; 4 h	%	acc. ISO 294-4	0.21	
	Mechanical properties (23 °C/50 % r. h.)					
C	Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	6300	4000
C	Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	120	70
C	Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	3.0	11
C	Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	30	40
C	Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	35	35
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
	Charpy notched impact strength	-40 °C	kJ/m²	ISO 179-1eA	< 10	< 10
	Izod impact strength	23 °C	kJ/m²	ISO 180-1U	25	35
	Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	20	25
	Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	< 10	< 10
	Izod notched impact strength	-40 °C	kJ/m²	ISO 180-1A	< 10	< 10
	Flexural modulus	2 mm/min	MPa	ISO 178-A	5700	3500
	Flexural strength	2 mm/min	MPa	ISO 178-A	185	125
	Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	4.0	7.0
	Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A		100
C	Puncture maximum force	23 °C	N	ISO 6603-2	560	
C	Puncture maximum force	-30 °C	N	ISO 6603-2	505	
C	Puncture energy	23 °C	J	ISO 6603-2	2.0	
C	Puncture energy	-30 °C	J	ISO 6603-2	1.5	
	Ball indentation hardness		N/mm²	ISO 2039-1	190	95
	Thermal properties					
C	Melting temperature	10 °C/min	°C	ISO 11357-1,-3	218	
C	Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	180	
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	55	
	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	0.3	

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Property	Test Condition	Unit	Standard	guide value [1] d.a.m.	guide value [1] cond.
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	HB	
C Oxygen index	Method A	%	ISO 4589-2	23	
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	4.1	10
C Relative permittivity	1 MHz	-	IEC 60250	3.7	4.3
C Dissipation factor	100 Hz	10^{-4}	IEC 60250	80	2200
C Dissipation factor	1 MHz	10^{-4}	IEC 60250	180	700
C Volume resistivity		Ohm·m	IEC 62631-3	1E11	1E09
C Surface resistivity		Ohm	IEC 62631-3	1E15	1E13
C Electric strength	1 mm	kV/mm	IEC 60243-1	30	30
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	375	
Other properties (23 °C)					
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	7.8	
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	2.6	
C Density		kg/m³	ISO 1183	1240	
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	

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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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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Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling Envalior products mentioned in this publication. Before working with these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets (MSDS) and product labels. Consult your Envalior representative or contact the Product Safety and Regulatory Affairs Department. For materials that are not Envalior products, appropriate industrial hygiene and other safety precautions recommended by their manufacturer(s) must be followed.

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