

Datasheet

Durethan BG30XH2.0 901510

PA 6, 30% glass fibers/glass spheres, injection molding, heat-aging stabilized, low tendency to warp

ISO Shortname: ISO 16396-PA 6,(GB+GF)30,GHR,S14-060

Property	Test Condition	Unit	Standard	guide value ¹	
				d.a.m.	cond.
Rheological properties					
Molding shrinkage, parallel	150x105x3; 280 °C / MT 80 °C; 400 bar	%	acc. ISO 294-4	0.42	
Molding shrinkage, transverse	150x105x3; 280 °C / MT 80 °C; 400 bar	%	acc. ISO 294-4	0.93	
Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 294-4	0.09	
Post- shrinkage, transverse	150x105x3; 120 °C; 4 h	%	acc. ISO 294-4	0.19	
C Molding shrinkage, parallel	60x60x2; 280 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.55	
C Molding shrinkage, transverse	60x60x2; 280 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.8	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	6300	3100
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	120	60
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	3.5	10
C Charpy impact strength	23 °C	kJ/m ²	ISO 179-1eU	35	70
C Charpy impact strength	-30 °C	kJ/m ²	ISO 179-1eU	35	35
C Charpy notched impact strength	23 °C	kJ/m ²	ISO 179-1eA	< 10	< 10
C Charpy notched impact strength	-30 °C	kJ/m ²	ISO 179-1eA	< 10	< 10
Charpy notched impact strength	-40 °C	kJ/m ²	ISO 179-1eA	< 10	< 10
Izod impact strength	23 °C	kJ/m ²	ISO 180-1U	30	50
Izod impact strength	-30 °C	kJ/m ²	ISO 180-1U	25	25
Izod notched impact strength	23 °C	kJ/m ²	ISO 180-1A	<10	12
Izod notched impact strength	-30 °C	kJ/m ²	ISO 180-1A	< 10	<10
Flexural modulus	2 mm/min	MPa	ISO 178-A	5800	2700
Flexural strength	2 mm/min	MPa	ISO 178-A	185	95
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	4.5	7.5
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	170	75
C Puncture maximum force	23 °C	N	ISO 6603-2	650	1800
C Puncture maximum force	-30 °C	N	ISO 6603-2	600	725
C Puncture energy	23 °C	J	ISO 6603-2	1.8	3.5
C Puncture energy	-30 °C	J	ISO 6603-2	1.3	1.6
Ball indentation hardness		N/mm ²	ISO 2039-1	185	75
Thermal properties					

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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	190
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	210
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
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.9
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
Electrical properties (23 °C/50 % r. h.)				
C Relative permittivity	100 Hz	-	IEC 60250	4.5
C Relative permittivity	1 MHz	-	IEC 60250	4.0
C Dissipation factor	100 Hz	10 ⁻⁴	IEC 60250	223
C Dissipation factor	1 MHz	10 ⁻⁴	IEC 60250	189
C Volume resistivity		Ohm·m	IEC 62631-3	1E13
C Surface resistivity		Ohm	IEC 62631-3	1E14
C Electric strength	1 mm	kV/mm	IEC 60243-1	33
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	325
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	2.2
C Density		kg/m ³	ISO 1183	1350
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

Notes

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

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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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Property data is provided as general information only. Property values are approximate and are not part of the product specifications.

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