Durethan BG 30 X H2.0 901510

PA 6, 30 % glass fibres/glass spheres, injection moulding, heat-ageing stabilized, low tendency to warp

ISO Shortname: ISO 1874-PA 6,GHR,14-060, (GB+GF)30

Property	Test Condition	Unit	Standard	guide value d.a.m.	guide value cond.
Rheological properties					
Molding shrinkage, parallel	150x105x3; 280 °C / MT 80 °C; 400 bar	%	acc. ISO 2577	0.42	
Molding shrinkage, transverse	150x105x3; 280 °C / MT 80 °C; 400 bar	%	acc. ISO 2577	0.93	
Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.09	
Post- shrinkage, transverse	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.19	
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/m²	ISO 179-1eU	35	70
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	20	50
Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	20	20
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	5600	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	680	
C Puncture maximum force	-30 °C	N	ISO 6603-2	650	
C Puncture energy	23 °C	J	ISO 6603-2	2.3	
C Puncture energy	-30 °C	J	ISO 6603-2	2.0	
Ball indentation hardness		N/mm²	ISO 2039-1	185	75
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	190	
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	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	0.3	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.9	

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Property	Test Condition	Unit	Standard	guide value d.a.m.	guide value cond.
C Burning behavior UL 94 (1.6 mm)	1.6 mm	Class	UL 94	HB	
C Burning behavior UL 94	3.2 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			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 60093	1E13	
C Surface resistivity		Ohm	IEC 60093	1E14	
C Electric strength	1 mm	kV/mm	IEC 60243-1	33	
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	325 - 0,2	
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/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	-	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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