Durethan BKV 30 H2.0 901510

Durethan B (PA 6) Glass fiber reinforced / Standard injection moulding grade PA 6, injection molding grade, 30 % glass fibers, heat-stabilized

ISO Shortname ISO 1874-PA 6,MHR,14-090,GF30

	Property	Test Condition	Unit	Standard	Value d.a.m.	Value cond.
Rheological properties						
C	Melt volume-flow rate	260 °C; 5 kg	cm³/(10 min)	ISO 1133	14	
	Molding shrinkage, parallel	150x105x3; 280 °C / MT 80 °C; 500 bar	%	acc. ISO 2577	0.18	
	Molding shrinkage, normal	150x105x3; 280 °C / MT 80 °C; 500 bar	%	acc. ISO 2577	0.85	
	Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.04	
	Post- shrinkage, normal	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.11	
Mechanical properties (23 °C/50 % r.h.)						
C	Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	9500	5900
C	Stress at break	5 mm/min	MPa	ISO 527-1,-2	170	100
C	Strain at break	5 mm/min	%	ISO 527-1,-2	3.0	6.0
C	Tensile creep modulus	1 h	MPa	ISO 899-1		5100
C	Tensile creep modulus	1000 h	MPa	ISO 899-1		4100
C	Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	80	90
C	Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	70	70
C	Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	10	20
C	Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	< 10	< 10
	Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	< 10	< 10
	Flexural modulus	2 mm/min	MPa	ISO 178	8300	5000
	Flexural strength	2 mm/min	MPa	ISO 178	270	160
	Flexural strain at flexural strength	2 mm/min	%	ISO 178	4.0	6.0
	Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178		140
C	Puncture energy	23 °C	J	ISO 6603-2	6	10
C	Puncture energy	-30 °C	J	ISO 6603-2	4	
	Ball indentation hardness		N/mm²	ISO 2039-1	210	100
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	~200	
C	Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	~215	
C	Temperature of deflection under load	8.00 MPa	°C	ISO 75-1,-2	~110	
	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	0.8	
C	Burning behavior UL 94 (1.6 mm)		Class	UL 94	HB	
C	Burning behavior UL 94		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	600	
	Thermal conductivity	23 °C	W/(m·K)	ISO 8302	0.3	
	Specific heat	23 °C	kJ/(kg·K)	-	1.0	
	Temperature index (Tensile strength)	5000 h	°C	IEC 60216-1	170	
	Temperature index (Tensile strength)	20000 h	°C	IEC 60216-1	145	
	Halving interval (Tensile strength)		°C	IEC 60216-1	8.3	
	Relative temperature index (Tensile strength)		°C	UL 746 B	130	
	Temperature index (Tensile impact strength)	5000 h	°C	IEC 60216-1	125	
	Temperature index (Tensile impact strength)	20000 h	°C	IEC 60216-1	105	
	Halving interval (Tensile impact strength)		°C	IEC 60216-1	9.3	
	Relative temperature index (Tensile impact strength)		°C	UL 746 B	95	
	Temperature index (Electric strength)	5000 h	°C	IEC 60216-1	165	
	Temperature index (Electric strength)	20000 h	°C	IEC 60216-1	145	
	Halving interval (Electric strength)		°C	IEC 60216-1	11.9	
	Relative temperature index (Electric strength)		°C	UL 746 B	120	
	Burning rate (US-FMVSS)		mm/min	ISO 3795	passed	

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Electrical properties (23 °C/50 % r.h.)						
C	Relative permittivity	100 Hz	-	IEC 60250	4.2	12
C	Relative permittivity	1 MHz	-	IEC 60250	3.8	4.4
C	Dissipation factor	100 Hz	10^{-4}	IEC 60250	100	2550
C	Dissipation factor	1 MHz	10^{-4}	IEC 60250	170	780
C	Volume resistivity		Ohm·m	IEC 60093	1E13	1E10
C	Surface resistivity		Ohm	IEC 60093	1E14	1E13
C	Electric strength	1 mm	kV/mm	IEC 60243-1	40	35
C	Comparative tracking index CTI	Solution A	Rating	IEC 60112	425 - 0,1	
	Comparative tracking index CTI M	Solution B	Rating	IEC 60112	300 (200) M - 1.4	
	Electrolytic corrosion		Rating	IEC 60426	A/B 3	
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	~2.1	
C	Density		kg/m³	ISO 1183	1360	
	Glass fiber / glass bead / filler content		%	ISO 3451-1	30	
	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	
C	Injection molding-Injection velocity		mm/s	ISO 294	200	

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Disclaimer

Test values

Unless specified to the contrary, the values given have been established on standardised 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 colouring.

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.

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