

Datasheet

Durethan ECOBKV30FN04 000000

PA 6, 30% glass fibers, injection molding, halogen free flame retardant, heat-aging stabilized

ISO Shortname: ISO 16396-PA 6,GF30 FR(40) (R),GF2HR,S12-110

Property	Test Condition	Unit	Standard	guide value ¹	
				d.a.m.	cond.
Rheological properties					
C Melt volume-flow rate	260 °C; 5 kg	cm ³ /(10 min)	ISO 1133-1	17	
C Molding shrinkage, parallel	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.2	
C Molding shrinkage, transverse	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.7	
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	10300	6700
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	130	90
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	3	6
C Charpy impact strength	23 °C	kJ/m ²	ISO 179-1eU	60	68
C Charpy impact strength	-30 °C	kJ/m ²	ISO 179-1eU	55	50
C Charpy notched impact strength	23 °C	kJ/m ²	ISO 179-1eA	<10	13
C Charpy notched impact strength	-30 °C	kJ/m ²	ISO 179-1eA	<10	
Izod impact strength	23 °C	kJ/m ²	ISO 180-1U	55	65
Izod notched impact strength	23 °C	kJ/m ²	ISO 180-1A	<10	13
Flexural modulus	2 mm/min	MPa	ISO 178-A	10200	6600
Flexural strength	2 mm/min	MPa	ISO 178-A	230	158
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	3.1	5.2
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A		140
Ball indentation hardness		N/mm ²	ISO 2039-1	205	110
Thermal properties					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	220	
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	219	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	212	
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	1.5 mm	Class	UL 94	V-0	
C Burning behavior UL 94	0.75 mm	Class	UL 94	V-0	
C Burning behavior UL 94-5V	1.5 mm	Class	UL 94	5VA	
C Oxygen index	Method A	%	ISO 4589-2	32	
Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	209	
Glow wire test (GWI)	0.4 mm	°C	IEC 60695-2-12	960	

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Property	Test Condition	Unit	Standard	guide value ¹	
				d.a.m.	cond.
Glow wire test (GWFI)	0.75 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWFI)	1.5 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWFI)	3.0 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWIT)	0.4 mm	°C	IEC 60695-2-13	775	
Glow wire test (GWIT)	0.75 mm	°C	IEC 60695-2-13	775	
Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	775	
Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	800	
Electrical properties (23 °C/50 % r. h.)					
C Relative permittivity	100 Hz	-	IEC 60250	4.0	8
C Relative permittivity	1 MHz	-	IEC 60250	3.6	3.9
C Dissipation factor	100 Hz	10 ⁻⁴	IEC 60250	145	1125
C Dissipation factor	1 MHz	10 ⁻⁴	IEC 60250	155	655
C Volume resistivity		Ohm·m	IEC 62631-3	3.0E+13	2.1E+11
C Electric strength	1 mm	kV/mm	IEC 60243-1	40	37
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600	
Comparative tracking index CTI	Solution A	PLC	UL 746A	0	
Other properties (23 °C)					
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	4.6	
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	1.5	
C Density		kg/m ³	ISO 1183	1423	
Bulk density		kg/m ³	ISO 60	700	
Processing conditions for test specimens					
C Injection molding-Melt temperature		°C	ISO 294	270	
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	0.03-0.07	
Melt temperature (Tmin - Tmax)		°C	-	250-280	
Mold temperature		°C	-	70-90	

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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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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