

Datasheet

Durethan ECOBKV25F30 000000

PA 6, 25% glass fibers, injection molding, flame retardant, heat-aging stabilized

ISO Shortname: ISO 16396-PA 6,GF25 FR(17) (R),GF2HR,S14-110

Property	Test Condition	Unit	Standard	guide value ¹ d.a.m. cond.	
Rheological properties					
C Molding shrinkage, parallel	60x60x2; 280 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.3	
C Molding shrinkage, transverse	60x60x2; 280 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.6	
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	11000	7300
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	150	90
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	2.3	4.4
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	55	55
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	45	50
C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	10	15
C Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	<10	<10
Izod impact strength	23 °C	kJ/m²	ISO 180-1U	50	55
Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	45	50
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	10	15
Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	<10	<10
Flexural modulus	2 mm/min	MPa	ISO 178-A	10000	7000
Flexural strength	2 mm/min	MPa	ISO 178-A	230	155
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	2.5	4.0
C Puncture maximum force	23 °C	N	ISO 6603-2	1000	
C Puncture maximum force	-30 °C	N	ISO 6603-2	900	
C Puncture energy	23 °C	J	ISO 6603-2	3.0	
C Puncture energy	-30 °C	J	ISO 6603-2	1.9	
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	205	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	215	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	205	
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	0.9	
C Burning behavior UL 94	1.5 mm	Class	UL 94	V-0	
C Burning behavior UL 94	0.4 mm	Class	UL 94	V-0	
C Burning behavior UL 94-5V	1.5 mm	Class	UL 94	5VA	

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Burning behavior UL 94-5V	1.0 mm	Class	UL 94	5VA
Burning behavior UL 94-5V	3.0 mm	Class	UL 94	5VA
Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	200
Glow wire test (GWFI)	0.4 mm	°C	IEC 60695-2-12	960
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	850
Glow wire test (GWIT)	0.75 mm	°C	IEC 60695-2-13	850
Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	850
Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	850
Burning behavior US-FMVSS302	>=1.0 mm		ISO 3795	passed
Electrical properties (23 °C/50 % r. h.)				
C Volume resistivity		Ohm·m	IEC 62631-3	3.4E12
C Surface resistivity		Ohm	IEC 62631-3	4.1E13
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	400
Other properties (23 °C)				
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	4.3
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	1.3
C Density		kg/m³	ISO 1183	1600
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	-	80-100

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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