

Datasheet

Durethan B30SFN40 000000

PA 6, non-reinforced, injection molding, halogen free flame retardant, heat-aging stabilized

ISO Shortname: ISO 16396-PA 6,FR(30),GF2HR,S14-030

Property	Test Condition	Unit	Standard	guide value ¹ d.a.m. cond.	
Rheological properties					
Molding shrinkage, parallel	150x105x3; 260 °C / MT 80 °C; 500 bar	%	acc. ISO 294-4	0.9	
Molding shrinkage, transverse	150x105x3; 260 °C / MT 80 °C; 500 bar	%	acc. ISO 294-4	0.9	
Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 294-4	0.2	
Post- shrinkage, transverse	150x105x3; 120 °C; 4 h	%	acc. ISO 294-4	0.2	
C Molding shrinkage, parallel	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.9	
C Molding shrinkage, transverse	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.9	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.3	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.3	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	3400	1100
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	90	45
C Yield strain	50 mm/min	%	ISO 527-1,-2	4.0	22.5
C Nominal strain at break	50 mm/min	%	ISO 527-1,-2	9.6	265
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	N	N
Izod impact strength	23 °C	kJ/m²	ISO 180-1U	N	N
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	< 10	
Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	< 10	
Flexural modulus	2 mm/min	MPa	ISO 178-A	3000	900
Flexural strength	2 mm/min	MPa	ISO 178-A	120	35
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	5.9	8.1
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	100	26
Ball indentation hardness		N/mm²	ISO 2039-1	135	
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	66	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	166	
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.9	
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-2	
C Burning behavior UL 94	0.4 mm	Class	UL 94	V-2	
C Oxygen index	Method A	%	ISO 4589-2	28	

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Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	205
Glow wire test (GWFI)	0.4 mm	°C	IEC 60695-2-12	900
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	930
Glow wire test (GWIT)	0.75 mm	°C	IEC 60695-2-13	875
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	750
Electrical properties (23 °C/50 % r. h.)				
C Volume resistivity		Ohm·m	IEC 62631-3	4E+13
C Surface resistivity		Ohm	IEC 62631-3	3E+15
C Electric strength	1 mm	kV/mm	IEC 60243-1	29
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	10.0
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	3.0
C Density		kg/m³	ISO 1183	1140
Bulk density		kg/m³	ISO 60	700
Processing conditions for test specimens				
C Injection molding-Melt temperature		°C	ISO 294	260
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	-	250-270
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.

Health and Safety

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling Envalior products mentioned in this publication. Before working with these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets (MSDS) and product labels. Consult your Envalior representative or contact the Product Safety and Regulatory Affairs Department. For materials that are not Envalior products, appropriate industrial hygiene and other safety precautions recommended by their manufacturer(s) must be followed.

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Color and Visual Effects

Type and quantity of pigments or additives used to obtain certain colors and special visual effects can affect mechanical properties.