

Data sheet

Durethan B31F 000000

PA 6, non-reinforced, extrusion, low viscosity, no additives, suitable for food-contact

ISO Shortname: ISO 16396-PA 6,,E,S14-030

Property	Test Condition	Unit	Standard	guide value	
				d.a.m.	cond.
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2800	800
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	75	35
C Yield strain	50 mm/min	%	ISO 527-1,-2	4	25
C Nominal strain at break	50 mm/min	%	ISO 527-1,-2	20	>50
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	N	N
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	N	55
C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	5	50
C Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	5	<5
Izod impact strength	23 °C	kJ/m²	ISO 180-1U	N	N
Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	N	N
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	7	50
Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	7	7,5
Flexural modulus	2 mm/min	MPa	ISO 178-A	2600	700
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	5	8
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	90	20
Ball indentation hardness		N/mm²	ISO 2039-1	140	50
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	50	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	150	
C Temperature of deflection under load	8.00 MPa	°C	ISO 75-1,-2	40	
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	0,8	
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	HB	
C Oxygen index	Method A	%	ISO 4589-2	24	
Electrical properties (23 °C/50 % r. h.)					
C Relative permittivity	100 Hz	-	IEC 60250	3,9	18
C Relative permittivity	1 MHz	-	IEC 60250	3,5	4,0
C Volume resistivity		Ohm·m	IEC 60093	1E12	1E10
C Surface resistivity		Ohm	IEC 60093	1E14	1E13
C Electric strength	1 mm	kV/mm	IEC 60243-1	30	35
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600	
Other properties (23 °C)					
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	10	
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	3	
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	40	
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	-	260-280	
Mold temperature		°C	-	80-100	

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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Color and Visual Effects

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

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