

# Datasheet

## Durethan B30SFN31 000000

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

ISO Shortname: ISO 16396-PA 6 + PA 66,FR(30),GF2HR,S13-030

Property	Test Condition	Unit	Standard	guide value <sup>1</sup> d.a.m. cond.	
Rheological properties					
C Molding shrinkage, parallel	60x60x2; 600 bar	%	ISO 294-4	1	
C Molding shrinkage, transverse	60x60x2; 600 bar	%	ISO 294-4	0.9	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.4	
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	3500	1200
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	80	45
C Yield strain	50 mm/min	%	ISO 527-1,-2	3.9	25
C Nominal strain at break	50 mm/min	%	ISO 527-1,-2	4.9	>25
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	70	n.g.
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	65	80
C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	<10	12
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	n.g.
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	<10	11
Flexural modulus	2 mm/min	MPa	ISO 178-A	3500	1300
Flexural strength	2 mm/min	MPa	ISO 178-A	120	45
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	5.7	7
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	105	33
Thermal properties					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	220-260	
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	75	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	185	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	203	
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.8	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 <sup>-4</sup> /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 Oxygen index	Method A	%	ISO 4589-2	36	
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	960	

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Property	Test Condition	Unit	Standard	guide value <sup>1</sup> d.a.m. cond.
Glow wire test (GWIT)	0.75 mm	°C	IEC 60695-2-13	960
Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	960
Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	725
<b>Electrical properties (23 °C/50 % r. h.)</b>				
C Relative permittivity	100 Hz	-	IEC 60250	3.6
C Relative permittivity	1 MHz	-	IEC 60250	3.5
C Dissipation factor	100 Hz	10 <sup>-4</sup>	IEC 60250	140
C Dissipation factor	1 MHz	10 <sup>-4</sup>	IEC 60250	195
C Volume resistivity		Ohm·m	IEC 62631-3	4.7E+13
C Surface resistivity		Ohm	IEC 62631-3	2.6E+15
C Electric strength	1 mm	kV/mm	IEC 60243-1	23
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600
Comparative tracking index CTI	Solution A	PLC	UL 746A	0
<b>Other properties (23 °C)</b>				
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	8.5
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	2.7
C Density		kg/m <sup>3</sup>	ISO 1183	1170
Bulk density		kg/m <sup>3</sup>	ISO 60	700
<b>Processing conditions for test specimens</b>				
C Injection molding-Melt temperature		°C	ISO 294	260
C Injection molding-Mold temperature		°C	ISO 294	80
<b>Processing recommendations</b>				
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	-	255-270
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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Property data is provided as general information only. Property values are approximate and are not part of the product specifications.

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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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