

## Durethan B31SKH3.0LT 904040

PA 6, non-reinforced, injection molding, heat-ageing stabilized, improved laser-transparency, NIR-laser transparent coloring (black)

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

Property	Test Condition	Unit	Standard	guide value <sup>1</sup>	
				d.a.m.	cond.
<b>Rheological properties</b>					
C Molding shrinkage, parallel	60x60x2; 270 °C / WZ 80 °C; 600 bar	%	ISO 294-4	1	
C Molding shrinkage, transverse	60x60x2; 270 °C / WZ 80 °C; 600 bar	%	ISO 294-4	1.1	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.2	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.2	
<b>Mechanical properties (23 °C/50 % r. h.)</b>					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	3500	1000
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	80	45
C Yield strain	50 mm/min	%	ISO 527-1,-2	4	20
C Nominal strain at break	50 mm/min	%	ISO 527-1,-2	10	>50
C Charpy impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eU	N	N
C Charpy impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eU	N	N
C Charpy notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eA	<10	25
C Charpy notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eA	<10	<10
Izod impact strength	23 °C	kJ/m <sup>2</sup>	ISO 180-1U	N	N
Izod impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-1U	230	N
Izod notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 180-1A	<10	20
Izod notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-1A	<10	<10
Flexural modulus	2 mm/min	MPa	ISO 178-A	2900	900
Flexural strength	2 mm/min	MPa	ISO 178-A	115	35
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	6.5	7
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	100	30
C Puncture maximum force	23 °C	N	ISO 6603-2	5760	
C Puncture maximum force	-30 °C	N	ISO 6603-2	6120	
C Puncture energy	23 °C	J	ISO 6603-2	70	
C Puncture energy	-30 °C	J	ISO 6603-2	50	
Ball indentation hardness		N/mm <sup>2</sup>	ISO 2039-1	150	55
<b>Thermal properties</b>					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	221	
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	60	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	170	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	200	
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	1	
<b>Electrical properties (23 °C/50 % r. h.)</b>					
C Volume resistivity		Ohm-m	IEC 60093	1.00E+13	1.00E+10
Surface resistivity		Ohm	IEC 60167	1.00E+15	1.00E+14
<b>Other properties (23 °C)</b>					
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	10	



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Property	Test Condition	Unit	Standard	guide value <sup>1</sup> d.a.m. cond.
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	3
C Density		kg/m <sup>3</sup>	ISO 1183	1130
Bulk density		kg/m <sup>3</sup>	ISO 60	600
<b>Processing conditions for test specimens</b>				
C Injection molding-Melt temperature		°C	ISO 294	270
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	0.03-0.12
Melt temperature (Tmin - Tmax)		°C	-	260-280
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.

#### 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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