

Durethan B30S 000000

PA 6, non-reinforced, injection molding

ISO/ ASTM

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

Property	Test Condition	Unit	Standard	guide value	
				d.a.m.	cond.
Rheological properties					
Molding shrinkage, parallel	150x105x3; 270 °C / WZ 80 °C; 500% bar		acc. ISO 2577	1.02	
Molding shrinkage, transverse	150x105x3; 270 °C / WZ 80 °C; 500% bar		acc. ISO 2577	1.16	
Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.32	
Post- shrinkage, transverse	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.4	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	3200	1000
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	80	40
C Yield strain	50 mm/min	%	ISO 527-1,-2	4.0	20
C Nominal strain at break	50 mm/min	%	ISO 527-1,-2	20	> 50
C Tensile creep modulus	1 h	MPa	ISO 899-1		800
C Tensile creep modulus	1000 h	MPa	ISO 899-1		600
C Charpy impact strength	23 °C	kJ/m ²	ISO 179-1eU	N	N
C Charpy impact strength	-30 °C	kJ/m ²	ISO 179-1eU	N	N
C Charpy notched impact strength	23 °C	kJ/m ²	ISO 179-1eA	< 10	20
C Charpy notched impact strength	-30 °C	kJ/m ²	ISO 179-1eA	<10	<10
Izod impact strength	23 °C	kJ/m ²	ISO 180-1U	N	N
Izod impact strength	-30 °C	kJ/m ²	ISO 180-1U	N	N
Izod notched impact strength	23 °C	kJ/m ²	ISO 180-1A	< 10	30
Flexural modulus	2 mm/min	MPa	ISO 178-A	2900	850
Flexural strength	2 mm/min	MPa	ISO 178-A	110	35
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	6.0	8.0
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	95	25
C Puncture maximum force	23 °C	N	ISO 6603-2	5900	
C Puncture maximum force	-30 °C	N	ISO 6603-2	7300	
C Puncture energy	23 °C	J	ISO 6603-2	90	
C Puncture energy	-30 °C	J	ISO 6603-2	85	
Ball indentation hardness		N/mm ²	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	55	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	160	
C Temperature of deflection under load	8.00 MPa	°C	ISO 75-1,-2	45	
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	1.0	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	1.1	
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	26	
Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	750	
Burning behavior US-FMVSS302	>=1.0 mm		ISO 3795	passed	
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	200	
Electrical properties (23 °C/50 % r. h.)					
C Relative permittivity	100 Hz	-	IEC 60250	4.0	15
C Relative permittivity	1 MHz	-	IEC 60250	3.5	4.0
C Dissipation factor	100 Hz	10 ⁻⁴	IEC 60250	170	2000
C Dissipation factor	1 MHz	10 ⁻⁴	IEC 60250	200	1200
C Volume resistivity		Ohm · m	IEC 60093	1E13	1E10
C Surface resistivity		Ohm	IEC 60093	1E14	1E13
C Electric strength	1 mm	kV/mm	IEC 60243-1	30	30
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600	

Comparative tracking index CTI M	Solution B	Rating	IEC 60112	600 M
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/m ³	ISO 1183	1140
Bulk density		kg/m ³	ISO 60	700
Processing conditions for test specimens				
C Injection molding-Melt temperature		°C	ISO 294	270
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	-	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.

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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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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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