

**Durethan AKV30GH2.0 900051 SR1**

PA 66, 30 % glass fibers, injection molding, heat-aging stabilized, improved surface finish

ISO/ ASTM

ISO Shortname: ISO 16396-PA 66,GF30,GHR,S14-100

Property	Test Condition	Unit	Standard	guide value	
				d.a.m.	cond.
<b>Rheological properties</b>					
Molding shrinkage, parallel	150x105x3; 290 °C / MT 80 °C; 500 % bar		acc. ISO 2577	0.25	
Molding shrinkage, transverse	150x105x3; 290 °C / MT 80 °C; 500 % bar		acc. ISO 2577	0.94	
Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.04	
Post- shrinkage, transverse	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.08	
<b>Mechanical properties (23 °C/50 % r. h.)</b>					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	9600	6500
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	180	120
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	3.0	6.0
C Charpy impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eU	70	75
C Charpy impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eU	60	60
C Charpy notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eA	10	15
C Charpy notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eA	< 10	< 10
Charpy notched impact strength	-40 °C	kJ/m <sup>2</sup>	ISO 179-1eA	< 10	< 10
Izod impact strength	23 °C	kJ/m <sup>2</sup>	ISO 180-1U	55	65
Izod impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-1U	50	50
Izod notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 180-1A	< 10	< 10
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	8400	5600
Flexural strength	2 mm/min	MPa	ISO 178-A	270	170
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	4.0	6.0
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	260	150
C Puncture maximum force	23 °C	N	ISO 6603-2	740	920
C Puncture maximum force	-30 °C	N	ISO 6603-2	680	
C Puncture energy	23 °C	J	ISO 6603-2	2.1	3.6
C Puncture energy	-30 °C	J	ISO 6603-2	1.9	
Ball indentation hardness		N/mm <sup>2</sup>	ISO 2039-1	220	120
<b>Thermal properties</b>					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	260	
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	220	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	250	
C Temperature of deflection under load	8.00 MPa	°C	ISO 75-1,-2	90	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	> 230	
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.2	
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	HB	
C Oxygen index	Method A	%	ISO 4589-2	26	
Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	650	
Burning behavior US-FMVSS302	>=1.0 mm		ISO 3795	passed	
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	> 230	
<b>Electrical properties (23 °C/50 % r. h.)</b>					
C Relative permittivity	100 Hz	-	IEC 60250	4.0	8.0
C Relative permittivity	1 MHz	-	IEC 60250	4.0	4.0
C Dissipation factor	100 Hz	10 <sup>-4</sup>	IEC 60250	90	1800
C Dissipation factor	1 MHz	10 <sup>-4</sup>	IEC 60250	170	600
C Volume resistivity		Ohm·m	IEC 60093	1E13	1E10
C Surface resistivity		Ohm	IEC 60093	1E15	1E13
C Electric strength	1 mm	kV/mm	IEC 60243-1	31	28
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	375	
<b>Other properties (23 °C)</b>					

C	Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	6.0
C	Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	2.0
C	Density		kg/m <sup>3</sup>	ISO 1183	1360
	Bulk density		kg/m <sup>3</sup>	ISO 60	700

**Processing conditions for test specimens**

C	Injection molding-Melt temperature		°C	ISO 294	290
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	-	280-300
	Mold temperature		°C	-	80-120

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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