

Data sheet

Durethan AKV15H3.0 000000

PA 66, 15% glass fibers, injection molding, heat-aging stabilized

ISO/ ASTM

ISO Shortname: ISO 16396-PA 66,GF15,GHR,S14-060

Property	Test Condition	Unit	Standard	guide value	
				d.a.m.	cond.
Rheological properties					
C Molding shrinkage, parallel	60x60x2; 290 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.7	
C Molding shrinkage, transverse	60x60x2; 290 °C / MT 80 °C; 600 bar	%	ISO 294-4	1.0	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.2	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	6200	3300
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	125	75
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	2.8	18
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	35	60
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	35	40
C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	< 10	< 10
C Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	< 10	< 10
Charpy notched impact strength		kJ/m²	ISO 179-1eA	< 10	< 10
Izod impact strength	23 °C	kJ/m²	ISO 180-1U	30	75
Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	30	30
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	< 10	< 10
Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	< 10	< 10
Flexural modulus	2 mm/min	MPa	ISO 178-A	5300	3200
Flexural strength	2 mm/min	MPa	ISO 178-A	200	125
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	4.5	7.0
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	180	90
C Puncture maximum force	23 °C	N	ISO 6603-2	610	1380
C Puncture maximum force	-30 °C	N	ISO 6603-2	580	
C Puncture energy	23 °C	J	ISO 6603-2	1.7	2.3
C Puncture energy	-30 °C	J	ISO 6603-2	1.5	
Ball indentation hardness		N/mm²	ISO 2039-1	190	90
Thermal properties					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	263	
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	230	
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	70	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	> 230	
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10-4/K	ISO 11359-1,-2	0.4	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10-4/K	ISO 11359-1,-2	0.9	
C Burning behavior UL 94	1.5 mm	Class	UL 94	HB	
C Burning behavior UL 94	0.75 mm	Class	UL 94	HB	
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	
Electrical properties (23 °C/50 % r. h.)					
C Relative permittivity	100 Hz	-	IEC 60250	4.2	9.0
C Relative permittivity	1 MHz	-	IEC 60250	3.8	4.0
C Dissipation factor	100 Hz	10-4	IEC 60250	230	
C Dissipation factor	1 MHz	10-4	IEC 60250	250	3300
C Volume resistivity		Ohm ·m	IEC 60093	1E13	1E10
C Surface resistivity		Ohm	IEC 60093	1E15	1E12
C Electric strength	1 mm	kV/mm	IEC 60243-1	38	
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	550	
Other properties (23 °C)					

C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	7
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	2.4
C Density		kg/m ³	ISO 1183	1240
Bulk density		kg/m ³	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.

LANXESS Corporation | Pittsburgh, PA 15275

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