

Datasheet

Durethan AKV40H2.0 901510

PA 66, 40% glass fibers, injection molding, heat-aging stabilized

ISO Shortname: ISO 16396-PA 66,GF40,GHR,S14-120

Property	Test Condition	Unit	Standard	guide value ¹	
				d.a.m.	cond.
Rheological properties					
Molding shrinkage, parallel	150x105x3; 290 °C / MT 80 °C; 400 bar	%	acc. ISO 294-4	0.26	
Molding shrinkage, transverse	150x105x3; 290 °C / MT 80 °C; 400 bar	%	acc. ISO 294-4	1.33	
Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 294-4	0.03	
Post- shrinkage, transverse	150x105x3; 120 °C; 4 h	%	acc. ISO 294-4	0.03	
C Molding shrinkage, parallel	60x60x2; 290 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.34	
C Molding shrinkage, transverse	60x60x2; 290 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.94	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.05	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.05	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	13000	8800
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	210	145
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	3.0	5.0
C Tensile creep modulus	1 h	MPa	ISO 899-1		7700
C Tensile creep modulus	1000 h	MPa	ISO 899-1		6800
C Charpy impact strength	23 °C	kJ/m ²	ISO 179-1eU	90	100
C Charpy impact strength	-30 °C	kJ/m ²	ISO 179-1eU	80	90
C Charpy notched impact strength	23 °C	kJ/m ²	ISO 179-1eA	15	23
C Charpy notched impact strength	-30 °C	kJ/m ²	ISO 179-1eA	10	12
Izod notched impact strength	-30 °C	kJ/m ²	ISO 180-1A	10	10
Flexural modulus	2 mm/min	MPa	ISO 178-A	12000	8000
Flexural strength	2 mm/min	MPa	ISO 178-A	320	240
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	4.0	5.0
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A		210
Ball indentation hardness		N/mm ²	ISO 2039-1	270	150
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	250	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	250	
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	0.2	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.9	

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Property	Test Condition	Unit	Standard	guide value ¹	
				d.a.m.	cond.
C Burning behavior UL 94	1.5 mm	Class	UL 94	HB	
C Burning behavior UL 94	0.75 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	600	
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	4.0	10
C Relative permittivity	1 MHz	-	IEC 60250	4.0	4.5
C Dissipation factor	100 Hz	10 ⁻⁴	IEC 60250	110	2350
C Dissipation factor	1 MHz	10 ⁻⁴	IEC 60250	150	650
C Volume resistivity		Ohm·m	IEC 62631-3	1E15	1E12
C Surface resistivity		Ohm	IEC 62631-3	1E15	1E13
C Electric strength	1 mm	kV/mm	IEC 60243-1	40	35
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	525	
Other properties (23 °C)					
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	4.5	
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	1.7	
C Density		kg/m ³	ISO 1183	1460	
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	

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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