

# Datasheet

## Durethan ECOAKV50H2.0 901510

PA 66, 50% glass fibers, injection molding, heat-aging stabilized

ISO Shortname: ISO 16396-PA 66,GF50 (R),GHR,S14-160

Property	Test Condition	Unit	Standard	guide value <sup>1</sup>	
				d.a.m.	cond.
<b>Rheological properties</b>					
C Molding shrinkage, parallel	60x60x2; 290 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.35	
C Molding shrinkage, transverse	60x60x2; 290 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.9	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.05	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1	
<b>Mechanical properties (23 °C/50 % r. h.)</b>					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	16000	10200
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	230	160
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	2.6	4
C Charpy impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eU	95	95
C Charpy impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eU	100	100
C Charpy notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eA	15	23
C Charpy notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eA	13	15
Izod impact strength	23 °C	kJ/m <sup>2</sup>	ISO 180-1U	90	90
Izod impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-1U	90	85
Izod notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 180-1A	15	20
Izod notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-1A	13	13
Flexural modulus	2 mm/min	MPa	ISO 178-A	14700	10000
Flexural strength	2 mm/min	MPa	ISO 178-A	360	250
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	3.2	4.5
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	230	
C Puncture maximum force	23 °C	N	ISO 6603-2	1100	1200
C Puncture maximum force	-30 °C	N	ISO 6603-2	1000	
C Puncture energy	23 °C	J	ISO 6603-2	4	5
C Puncture energy	-30 °C	J	ISO 6603-2	3	
Ball indentation hardness		N/mm <sup>2</sup>	ISO 2039-1	246	150
<b>Thermal properties</b>					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	261	
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	247	
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	>240	
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	0.8	
C Burning behavior UL 94	1.5 mm	Class	UL 94	HB	

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Property	Test Condition	Unit	Standard	guide value <sup>1</sup>	
				d.a.m.	cond.
C Burning behavior UL 94	0.75 mm	Class	UL 94	HB	
C Oxygen index	Method A	%	ISO 4589-2	27	
Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	258	
Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	600	
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	4.5	14
C Relative permittivity	1 MHz	-	IEC 60250	4	5
C Dissipation factor	100 Hz	10 <sup>-4</sup>	IEC 60250	90	3200
C Dissipation factor	1 MHz	10 <sup>-4</sup>	IEC 60250	150	850
C Volume resistivity		Ohm·m	IEC 62631-3	1E13	1E12
C Surface resistivity		Ohm	IEC 62631-3	1E13	1E12
C Electric strength	1 mm	kV/mm	IEC 60243-1	40	35
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	550	
<b>Other properties (23 °C)</b>					
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	4.5	
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	1.4	
C Density		kg/m <sup>3</sup>	ISO 1183	1570	
Bulk density		kg/m <sup>3</sup>	ISO 60	700	
<b>Processing conditions for test specimens</b>					
C Injection molding-Melt temperature		°C	ISO 294	290	
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	-	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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