

# Datasheet

## Durethan BM240H2.0 901510

PA 6, 40% mineral, injection molding, heat-aging stabilized, low tendency to warp, isotropic properties

ISO Shortname: ISO 16396-PA 6,MD40,GHR,S14-060

Property	Test Condition	Unit	Standard	guide value <sup>1</sup>	
				d.a.m.	cond.
<b>Rheological properties</b>					
Molding shrinkage, parallel	150x105x3; 290 °C / MT 80 °C; 500 bar	%	acc. ISO 294-4	1.25	
Molding shrinkage, transverse	150x105x3; 290 °C / MT 80 °C; 500 bar	%	acc. ISO 294-4	1.22	
Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 294-4	0.17	
Post- shrinkage, transverse	150x105x3; 120 °C; 4 h	%	acc. ISO 294-4	0.2	
<b>Mechanical properties (23 °C/50 % r. h.)</b>					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	6000	2200
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	85	50
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	7.0	40
C Charpy impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eU	120	N
C Charpy impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eU	90	90
C Charpy notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eA	< 10	12
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	100	N
Izod impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-1U	75	85
Izod notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-1A	< 10	< 10
Izod notched impact strength	-40 °C	kJ/m <sup>2</sup>	ISO 180-1A	< 10	< 10
Flexural modulus	2 mm/min	MPa	ISO 178-A	5500	2100
Flexural strength	2 mm/min	MPa	ISO 178-A	150	60
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	5.0	8.0
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	140	50
C Puncture maximum force	23 °C	N	ISO 6603-2	3052	
C Puncture maximum force	-30 °C	N	ISO 6603-2	825	
C Puncture energy	23 °C	J	ISO 6603-2	9.2	
C Puncture energy	-30 °C	J	ISO 6603-2	1.6	
Ball indentation hardness		N/mm <sup>2</sup>	ISO 2039-1	210	90
<b>Thermal properties</b>					
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	90	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	190	
C Temperature of deflection under load	8.00 MPa	°C	ISO 75-1,-2	50	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	> 200	
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.6	

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Property	Test Condition	Unit	Standard	guide value <sup>1</sup>	
				d.a.m.	cond.
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.7	
C Oxygen index	Method A	%	ISO 4589-2	26	
Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	700	
Burning behavior US-FMVSS302	2.0 mm		ISO 3795	passed	
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	200	
<b>Electrical properties (23 °C/50 % r. h.)</b>					
C Relative permittivity	100 Hz	-	IEC 60250	4.4	15
C Relative permittivity	1 MHz	-	IEC 60250	4.0	4.7
C Dissipation factor	100 Hz	10 <sup>-4</sup>	IEC 60250	110	2500
C Dissipation factor	1 MHz	10 <sup>-4</sup>	IEC 60250	150	1000
C Volume resistivity		Ohm·m	IEC 62631-3	1E13	1E09
C Surface resistivity		Ohm	IEC 62631-3	1E15	1E13
C Electric strength	1 mm	kV/mm	IEC 60243-1	35	38
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	525	
<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	1.9	
C Density		kg/m <sup>3</sup>	ISO 1183	1460	
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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