

## Durethan BM240 000000

PA 6, 40 % mineral, injection molding, isotropic properties, low tendency to warp

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; 280 °C / MT 80 °C; 500 bar	%	acc. ISO 2577	1.25	
Molding shrinkage, transverse	150x105x3; 280 °C / MT 80 °C; 500 bar	%	acc. ISO 2577	1.22	
Post- shrinkage, parallel	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.17	
Post- shrinkage, transverse	150x105x3; 120 °C; 4 h	%	acc. ISO 2577	0.2	
C Molding shrinkage, parallel	60x60x2; 290 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.85	
C Molding shrinkage, transverse	60x60x2; 290 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.85	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.2	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	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	5800	2200
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	85	55
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	10	40
C Charpy impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eU	140	N
C Charpy impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eU	80	80
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	2000
Flexural strength	2 mm/min	MPa	ISO 178-A	150	65
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	145	60
C Puncture maximum force	23 °C	N	ISO 6603-2	3031	
C Puncture maximum force	-30 °C	N	ISO 6603-2	728	
C Puncture energy	23 °C	J	ISO 6603-2	20	65
C Puncture energy	-30 °C	J	ISO 6603-2	3	
Ball indentation hardness		N/mm <sup>2</sup>	ISO 2039-1	205	85
<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	
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	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.7	



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Property	Test Condition	Unit	Standard	guide value <sup>1</sup> d.a.m. cond.
Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	650
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	> 200
<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	-	270-290
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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