

# Datasheet

## Durethan DP2801 000000

PA 66, non-reinforced, injection molding, halogen free flame retardant

ISO Shortname: ISO 16396-PA 66,FR(30),GF2HR,S14-030

Property	Test Condition	Unit	Standard	guide value <sup>1</sup>	
				d.a.m.	cond.
<b>Rheological properties</b>					
C Molding shrinkage, parallel	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	1.14	
C Molding shrinkage, transverse	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	1.22	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.42	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.11	
<b>Mechanical properties (23 °C/50 % r. h.)</b>					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	3500	1400
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	94	55
C Yield strain	50 mm/min	%	ISO 527-1,-2	4.2	20
C Nominal strain at break	50 mm/min	%	ISO 527-1,-2	10	155
C Charpy impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eU	110	N
C Charpy impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eU	120	185
C Charpy notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eA	<10	15
C Charpy notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eA	<10	<10
Izod impact strength	23 °C	kJ/m <sup>2</sup>	ISO 180-1U	80	N
Izod impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-1U	110	130
Izod notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 180-1A	<10	10
Izod notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-1A	<10	<10
Flexural modulus	2 mm/min	MPa	ISO 178-A	3200	1300
Flexural strength	2 mm/min	MPa	ISO 178-A	127	49.0
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	6.2	8.0
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	105	36
C Puncture maximum force	23 °C	N	ISO 6603-2	3730	4630
C Puncture maximum force	-30 °C	N	ISO 6603-2	2396	
C Puncture energy	23 °C	J	ISO 6603-2	13.1	27.2
C Puncture energy	-30 °C	J	ISO 6603-2	5.1	
Ball indentation hardness		N/mm <sup>2</sup>	ISO 2039-1	151	70
<b>Thermal properties</b>					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	265	
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	75	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	210	
C Temperature of deflection under load	8.00 MPa	°C	ISO 75-1,-2	60	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	>230	
C Coefficient of linear thermal expansion, parallel	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.
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.9
C Burning behavior UL 94	1.5 mm	Class	UL 94	V-2
C Burning behavior UL 94	0.75 mm	Class	UL 94	V-2
C Oxygen index	Method A	%	ISO 4589-2	30
Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	249
Glow wire test (GWFI)	0.75 mm	°C	IEC 60695-2-12	960
Glow wire test (GWFI)	1.5 mm	°C	IEC 60695-2-12	960
Glow wire test (GWFI)	3.0 mm	°C	IEC 60695-2-12	960
Glow wire test (GWIT)	0.75 mm	°C	IEC 60695-2-13	775
Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	775
Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	775
Burning behavior US-FMVSS302	>=1.0 mm		ISO 3795	passed
<b>Electrical properties (23 °C/50 % r. h.)</b>				
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600
Comparative tracking index CTI	Solution A	PLC	UL 746A	0
Comparative tracking index CTI M	Solution B	Rating	IEC 60112	400 M
<b>Other properties (23 °C)</b>				
C Density		kg/m <sup>3</sup>	ISO 1183	1143
Bulk density		kg/m <sup>3</sup>	ISO 60	600
<b>Processing conditions for test specimens</b>				
C Injection molding-Melt temperature		°C	ISO 294	260
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	0.03-0.07
Melt temperature (Tmin - Tmax)		°C	-	260-270
admissible residence time at Tmax		min	-	<5
Mold temperature		°C	-	80-100

### 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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