Durethan A 30 S SR2 000000

PA 66, non-reinforced, injection molding

ISO Shortname: ISO 1874-PA 66, GHR, 14-030

Property	Test Condition	Unit	Standard	guide value d.a.m.	guide value cond.
Rheological properties					
C Molding shrinkage, parallel	60x60x2; 280 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.9	
C Molding shrinkage, transverse	60x60x2; 280 °C / MT 80 °C; 600 bar	%	ISO 294-4	1.2	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.2	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.5	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	3600	1600
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	95	60
C Yield strain	50 mm/min	%	ISO 527-1,-2	4.5	18
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	150	N
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	100	150
C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	< 10	12
C Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	< 10	< 10
Charpy notched impact strength	-40 °C	kJ/m²	ISO 179-1eA	< 10	< 10
Izod impact strength	23 °C	kJ/m²	ISO 180-1U	90	N
Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	75	95
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	< 10	< 10
Izod notched impact strength	-30 °C	kJ/m²	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	130	60
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	6.0	8.0
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	105	40
C Puncture maximum force	23 °C	N	ISO 6603-2	5400	4600
C Puncture maximum force	-30 °C	N	ISO 6603-2	6100	
C Puncture energy	23 °C	J	ISO 6603-2	30	27
C Puncture energy	-30 °C	J	ISO 6603-2	26	
Ball indentation hardness		N/mm²	ISO 2039-1	140	70
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	75	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	214	
C Temperature of deflection under load	8.00 MPa	°C	ISO 75-1,-2	55	
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	0.7	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.9	

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C Burning behavior UL 94 (1.6 mm)	1.6 mm	Class	UL 94	V-2	
Burning behavior UL 94	3.2 mm	Class	UL 94	V-2	
C Oxygen index	Method A	%	ISO 4589-2	26	
Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	240	
Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	700	
Burning behavior US-FMVSS302	>=1.0 mm		ISO 3795	passed	
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	3.8	10
C Relative permittivity	1 MHz	-	IEC 60250	3.4	4.0
C Dissipation factor	100 Hz	10^{-4}	IEC 60250	60	1400
C Dissipation factor	1 MHz	10^{-4}	IEC 60250	180	700
C Volume resistivity		Ohm·m	IEC 60093	1E13	1E10
C Surface resistivity		Ohm	IEC 60093	1E15	1E14
C Electric strength	1 mm	kV/mm	IEC 60243-1	30	30
C Comparative tracking index CTI	Solution A	V	IEC 60112	575	
Other properties (23 °C)					
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	8,5	
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	2,8	
C Density		kg/m³	ISO 1183	1136	
Bulk density		kg/m³	ISO 60	700	
Processing conditions for test specimens					
C Injection molding-Melt temperature		°C	ISO 294	280	
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	-	275-295	
Mold temperature		°C	-	80-100	

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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Disclaimer

Disclaimer for developmental products

This is a Sales Product at the developmental stage (a Trial Product). For this reason, no assurances can be given as to type conformity, processability, long-term performance characteristics or other production or application parameters. No definitive statements can be made regarding the behavior of the product during processing or use. The purchaser/user uses the product entirely at his own risk. The marketing and continued supply of this material are not assured and may be discontinued at any time. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.

Test values

Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the coloring.

Processing note

Under the recommended processing conditions small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded. Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.

Conditioning

Conditioning in accordance with ISO 1110 (70 °C; 62 % r.h.)

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