

Durethan® BC304 000000
PA6-I

Envalior

Injection Molding, Unreinforced, Improved Impact

ISO 1043 PA6-I

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Molding shrinkage, parallel	1.3 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.4 / *	%	ISO 294-4, 2577
Mechanical Properties			
ISO Data			
Tensile Modulus	1800 / 800	MPa	ISO 527
Yield stress	45 / 35	MPa	ISO 527
Yield strain	4.5 / 30	%	ISO 527
Nominal strain at break	>50 / >50	%	ISO 527
Impact Strength (Charpy), +23°C	no break / no break	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	no break / no break	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	85 / 120	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	20 / 20	kJ/m²	ISO 179/1eA
Puncture - maximum force, +23°C	4100 / -	N	ISO 6603-2
Puncture - maximum force, -30°C	4800 / -	N	ISO 6603-2
Puncture energy, +23°C	55 / -	J	ISO 6603-2
Puncture energy, -30°C	60 / -	J	ISO 6603-2
Thermal Properties			
ISO Data			
Melting Temperature (10°C/min)	222 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	50 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	90 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	150 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	160 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB / *	class	UL 94
Thickness tested	1.5 / *	mm	-
Oxygen index	21 / *	%	ISO 4589-1/-2
Electrical Properties			
ISO Data			
Relative permittivity, 100Hz	3.3 / 11	-	IEC 62631-2-1
Relative permittivity, 1MHz	3 / 3.5	-	IEC 62631-2-1
Dissipation Factor, 100Hz	70 / 1750	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	150 / 900	E-4	IEC 62631-2-1
Volume Resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E14	Ohm	IEC 62631-3-2
Electric Strength	35 / 35	kV/mm	IEC 60243-1
Comparative tracking index	600 / -	-	IEC 60112
Other Properties			
ISO Data			
Water Absorption	7.5 / *	%	Sim. to ISO 62
Humidity absorption	2.2 / *	%	Sim. to ISO 62
Density	1060 / -	kg/m³	ISO 1183
Test specimen production			
ISO Data			
Injection Molding, melt temperature	270	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294
Processing Recommendation Injection Molding			
Value			
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 6	h	-
Processing humidity	≤0.12	%	-

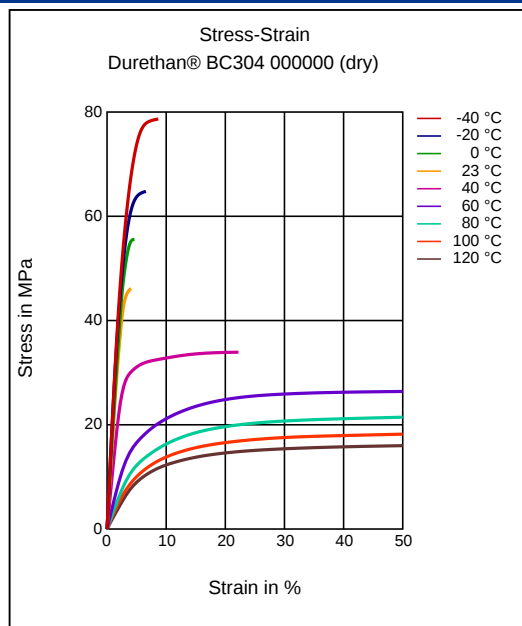
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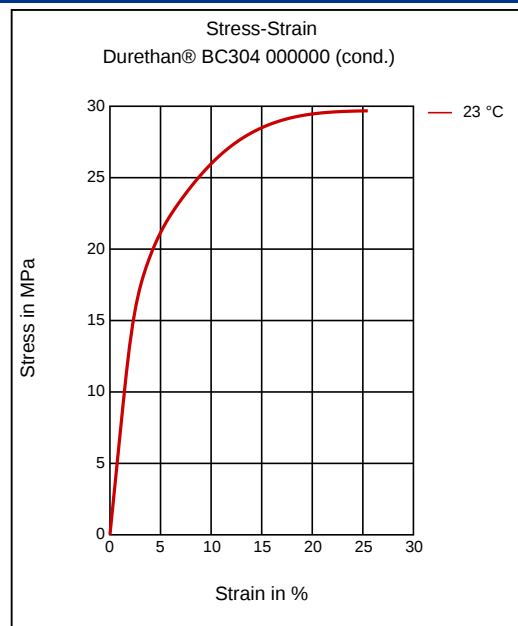
Melt temperature	260 - 280	°C	-
Mold temperature	80 - 90	°C	-

Diagrams

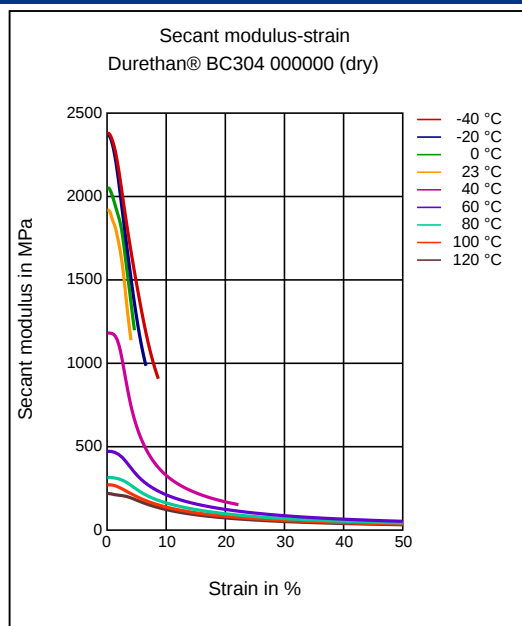
Stress-strain



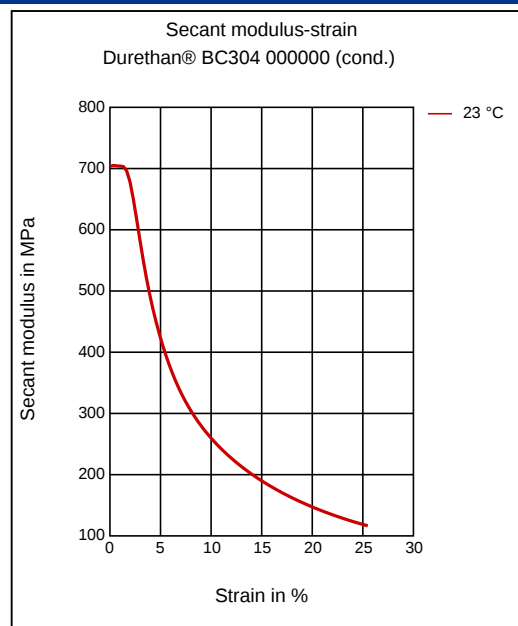
Stress-strain



Secant modulus-strain



Secant modulus-strain



Characteristics

Processing

Injection Molding

Additives

Release agent

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Delivery form

Pellets

Special Characteristics

Impact modified

Injection Molding

PREPROCESSING

Residual moisture content: 0.03 - 0.12%

Drying temperature dry air dryer: 80 °C

Drying time dry air dryer 2 - 6 h

PROCESSING

Melt temperature (Tmin - Tmax): 260 - 280 °C

Mold temperature: 80 - 90 °C
