

Durethan® BKV30FN04 000000
PA6-GF30 FR(40)

Envalior

Injection Molding, 30% Glass Reinforced, Flame Retardant (halogen free), Heat Stabilized

ISO 1043 PA6-GF30 FR(40)

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	17 / *	cm ³ /10min	ISO 1133
Temperature	260 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.2 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.7 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	10300 / 6700	MPa	ISO 527
Stress at Break	130 / 90	MPa	ISO 527
Strain at Break	3 / 6	%	ISO 527
Impact Strength (Charpy), +23°C	60 / 68	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy), -30°C	55 / 50	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	- / 13	kJ/m ²	ISO 179/1eA
Flexural Modulus (23°C)	10200 / 6600	MPa	ISO 178
Notched Impact Strength (Izod), 23°C	10 / 13	kJ/m ²	ISO 180/1A
Impact Strength (Izod), 23°C	55 / 65	kJ/m ²	ISO 180/1U

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	220 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	205 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	219 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	20 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	80 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thicken.	V-0 / *	class	UL 94
UL recognition	yes / *	-	-
Burning Behav. at thickness h	V-0 / *	class	UL 94
Thickness tested	3.0 / *	mm	-
UL recognition	yes / *	-	-
Burning Behav. 5V at Thickness h	5VA / *	class	IEC 60695-11-20
Thickness tested	1.5 / *	mm	-
Oxygen index	32 / *	%	ISO 4589-1/-2
Glow Wire (GWFI, Flammability Index)	960	°C	IEC 60695-2-12
GWFI - thickness tested (1)	0.4	mm	-
Glow Wire (GWFI, Flammability Index)	960	°C	IEC 60695-2-12
GWFI - thickness tested (2)	0.75	mm	-
Glow Wire (GWFI, Flammability Index)	960	°C	IEC 60695-2-12
GWFI - thickness tested (3)	1.5	mm	-
Glow Wire Ignition Temperature	775	°C	IEC 60695-2-13
GWIT - thickness tested (1)	0.4	mm	-
Glow Wire Ignition Temperature	775	°C	IEC 60695-2-13
GWIT - thickness tested (2)	0.75	mm	-
Glow Wire Ignition Temperature	775	°C	IEC 60695-2-13
GWIT - thickness tested (3)	1.5	mm	-

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	4 / 8	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.6 / 3.9	-	IEC 62631-2-1
Dissipation Factor, 100Hz	145 / 1130	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	155 / 655	E-4	IEC 62631-2-1
Volume Resistivity	>1E13 / 2.1E11	Ohm*m	IEC 62631-3-1
Electric Strength	40 / 37	kV/mm	IEC 60243-1
Comparative tracking index	600 / -	-	IEC 60112

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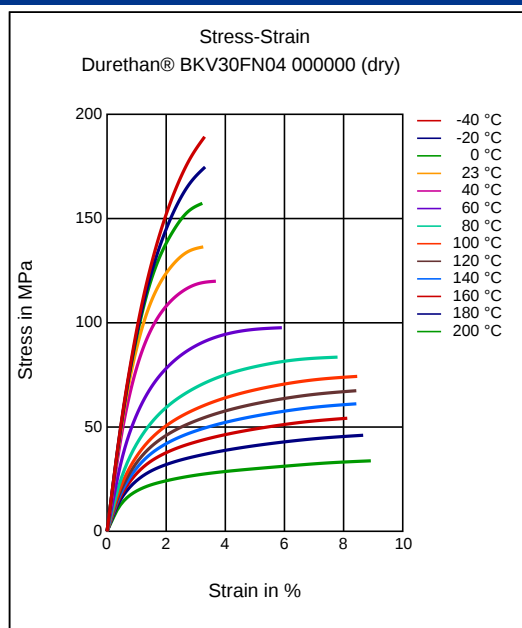
Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	4.6 / *	%	Sim. to ISO 62
Humidity absorption	1.5 / *	%	Sim. to ISO 62
Density	1420 / -	kg/m³	ISO 1183

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	270	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294

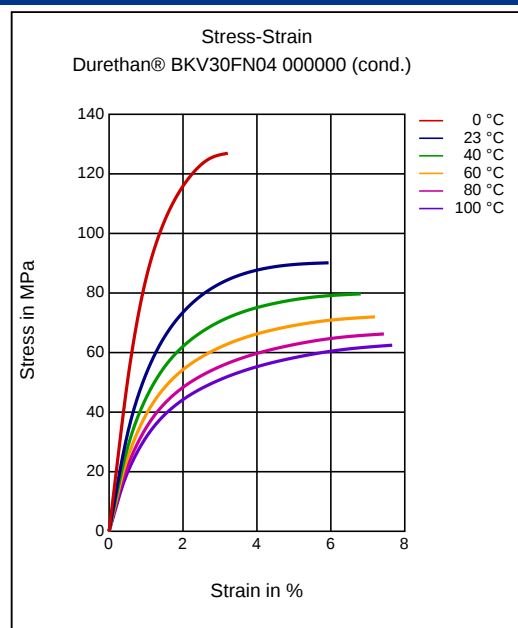
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 6	h	-
Processing humidity	≤0.07	%	-
Melt temperature	250 - 280	°C	-
Mold temperature	70 - 90	°C	-

Diagrams

Stress-strain



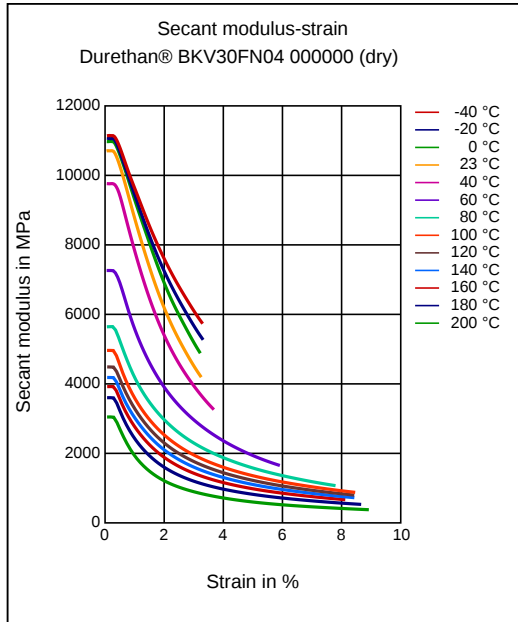
Stress-strain



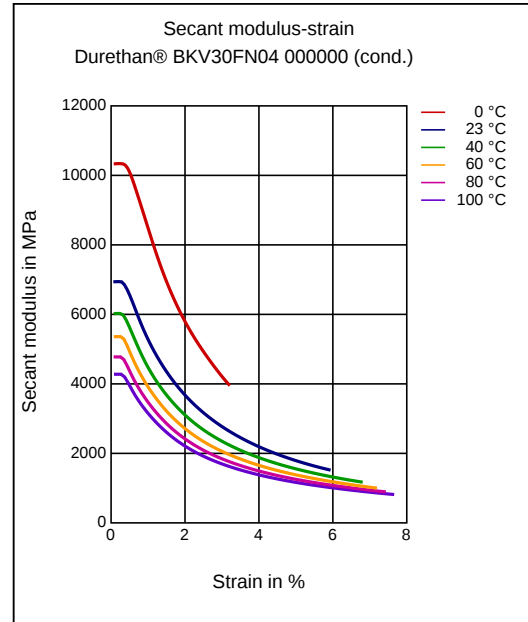
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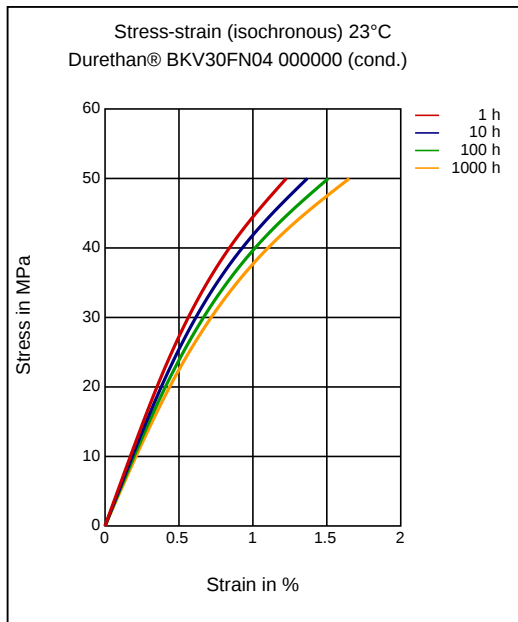
Secant modulus-strain



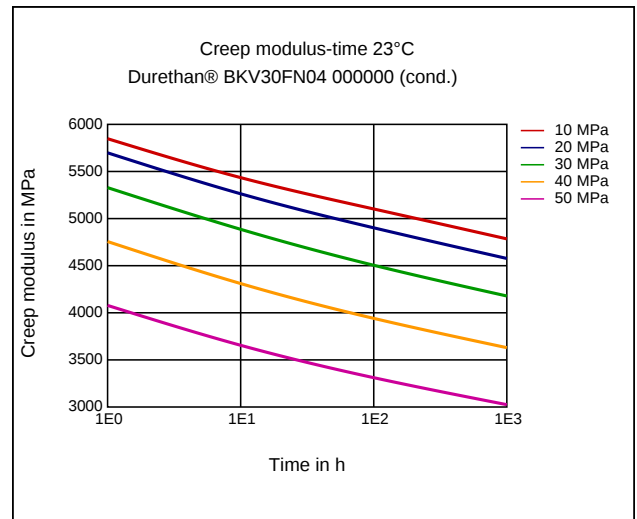
Secant modulus-strain



Stress-strain (isochronous) 23 °C



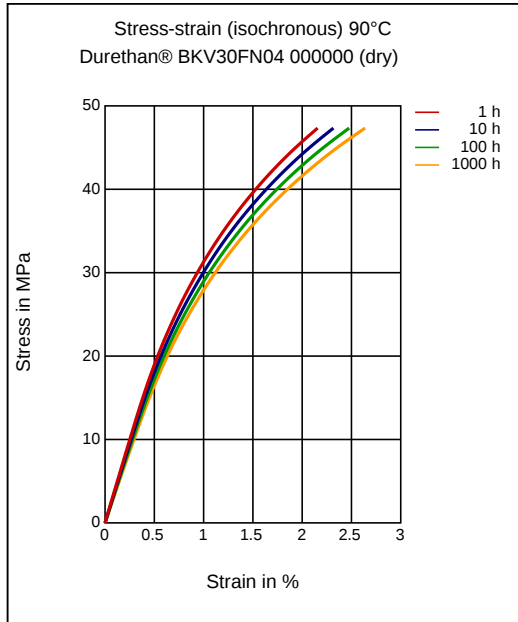
Creep modulus-time 23 °C



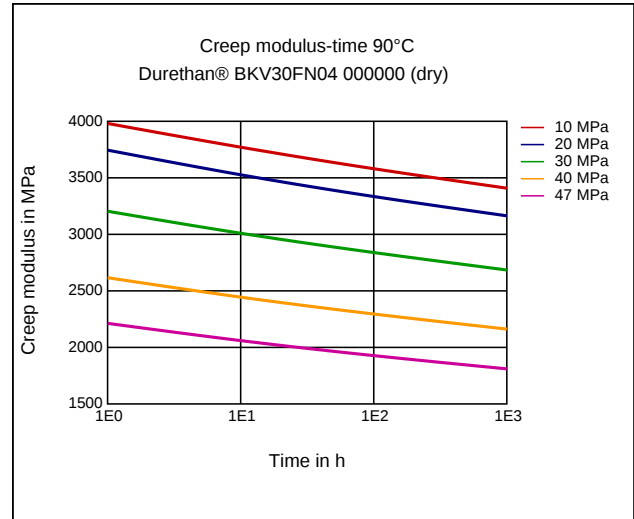
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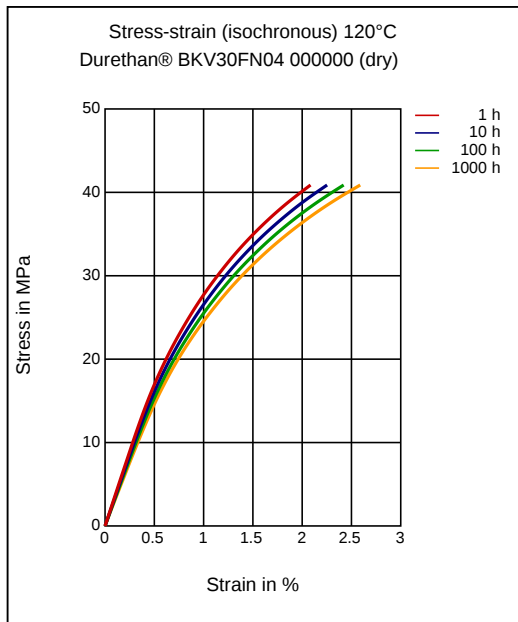
Stress-strain (isochronous) 90 °C



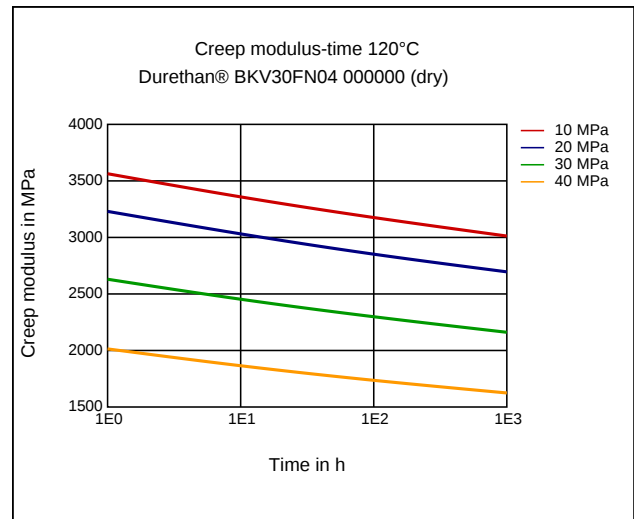
Creep modulus-time 90 °C



Stress-strain (isochronous) 120 °C



Creep modulus-time 120 °C



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Special Characteristics

Flame retardant, Halogen-free, Heat aging stabilized

Injection Molding

PREPROCESSING

Residual moisture content: 0.03 - 0.07%

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Drying temperature dry air dryer: 80 °C

Drying time dry air dryer 2 - 6 h

PROCESSING

Melt temperature (Tmin - Tmax): 250 - 280 °C

Mold temperature: 70 - 90 °C
