

Durethan® BKV50H2.0 901510
 PA6-GF50

Envalior

Injection Molding, 50% Glass Reinforced, Heat Stabilized

ISO 1043 PA6-GF50

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	16300 / 9800	MPa	ISO 527
Stress at Break	220 / 140	MPa	ISO 527
Strain at Break	3 / 5	%	ISO 527
Tensile Creep Modulus, 1h	* / 8100	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	* / 6600	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	100 / 100	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy), -30°C	85 / 80	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	20 / 25	kJ/m ²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	15 / 13	kJ/m ²	ISO 179/1eA
Puncture - maximum force, +23°C	1200 / -	N	ISO 6603-2
Puncture - maximum force, -30°C	1060 / -	N	ISO 6603-2
Puncture energy, +23°C	4.2 / 8.9	J	ISO 6603-2
Puncture energy, -30°C	3.7 / -	J	ISO 6603-2

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	222 / *	°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)	215 / *	°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	70 / *	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	24 / *	%	ISO 4589-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	5.3 / 14.2	-	IEC 62631-2-1
Relative permittivity, 1MHz	4.3 / 5	-	IEC 62631-2-1
Dissipation Factor, 100Hz	360 / 3190	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	240 / 890	E-4	IEC 62631-2-1
Volume Resistivity	>1E13 / 1E11	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric Strength	35 / 26	kV/mm	IEC 60243-1
Comparative tracking index	550 / -	-	IEC 60112

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	5 / *	%	Sim. to ISO 62
Humidity absorption	1.5 / *	%	Sim. to ISO 62
Density	1570 / -	kg/m ³	ISO 1183

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	140 / *	cm ³ /g	ISO 307, 1157, 1628

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	280	°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	≤0.12	%	-

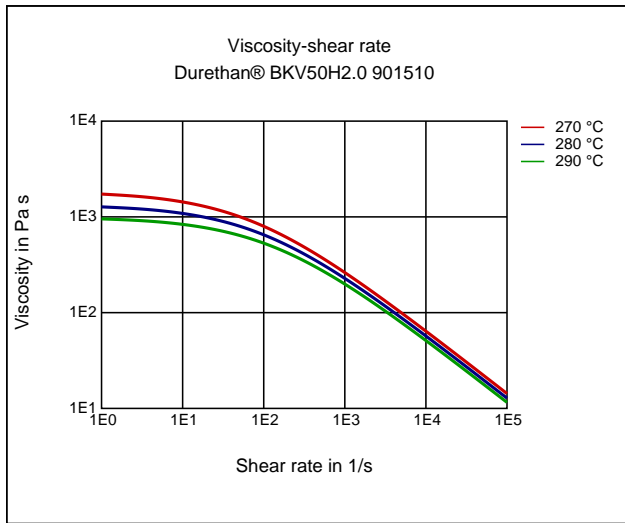
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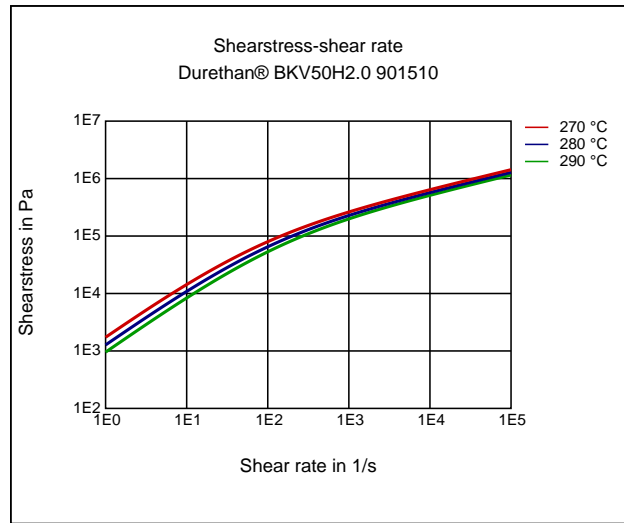
Melt temperature	270 - 290	°C	-
Mold temperature	80 - 120	°C	-

Diagrams

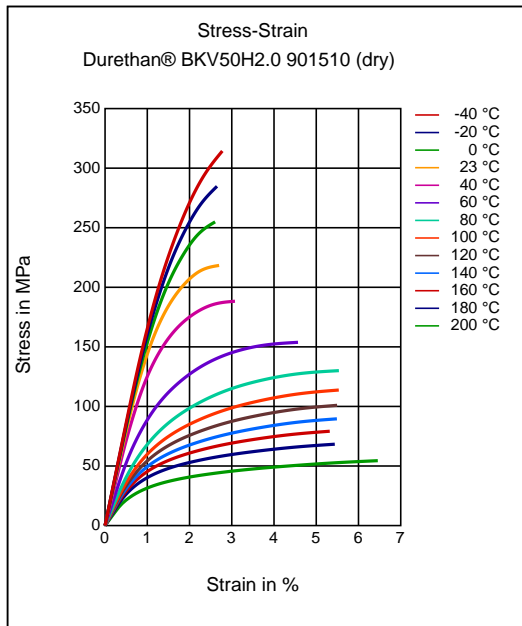
Viscosity-shear rate



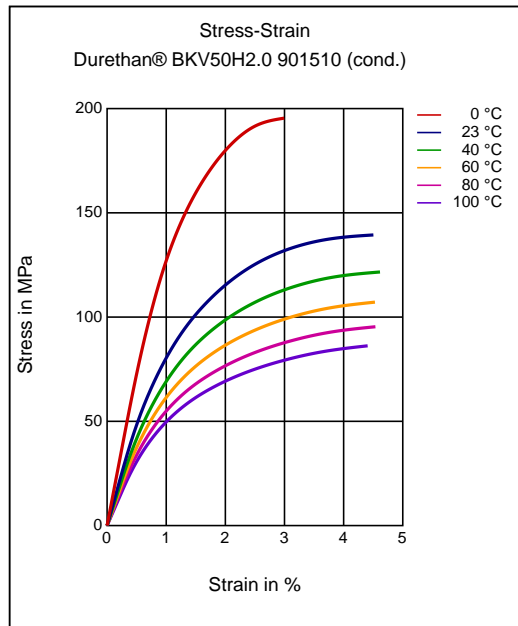
Shearstress-shear rate



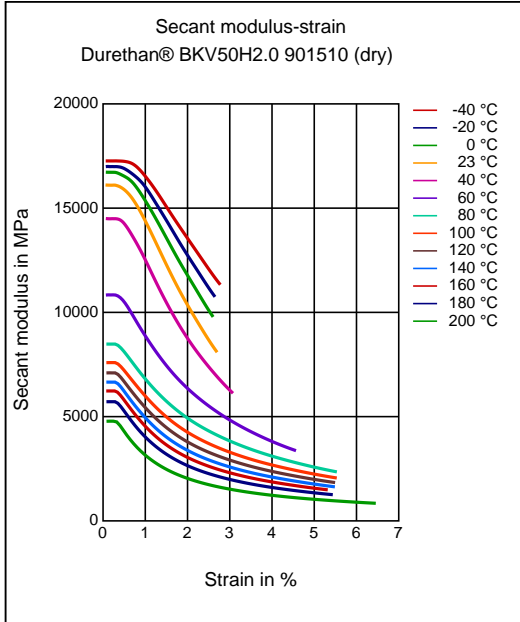
Stress-strain



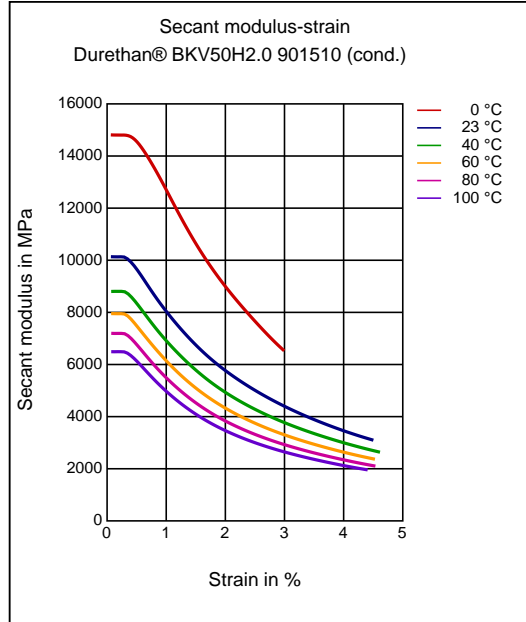
Stress-strain



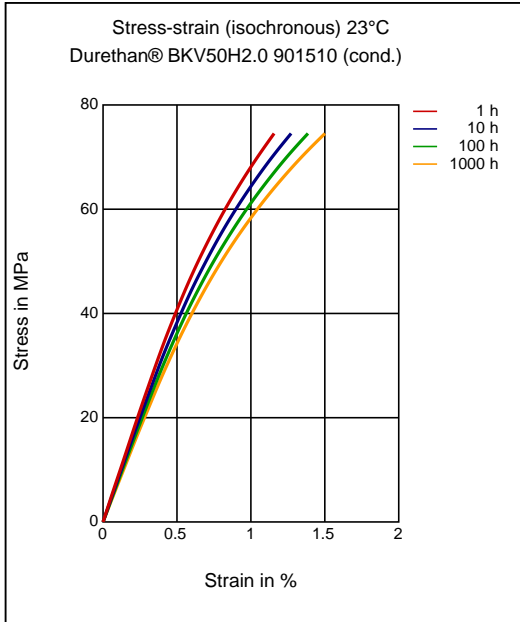
Secant modulus-strain



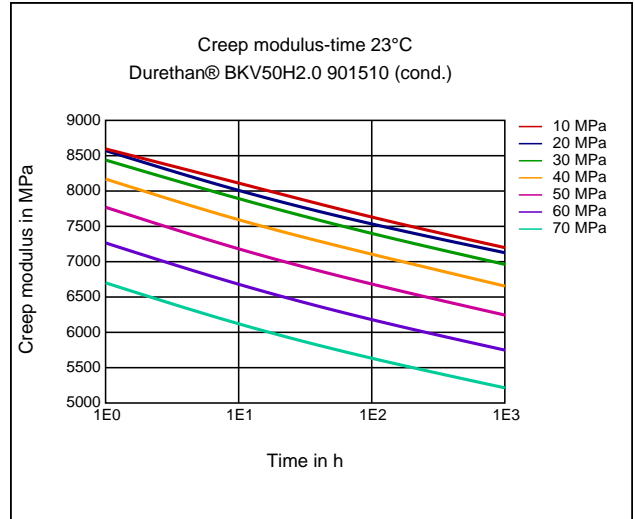
Secant modulus-strain



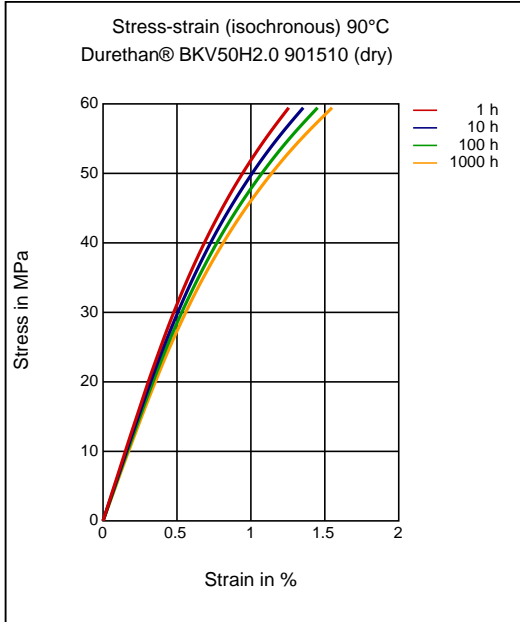
Stress-strain (isochronous) 23 °C



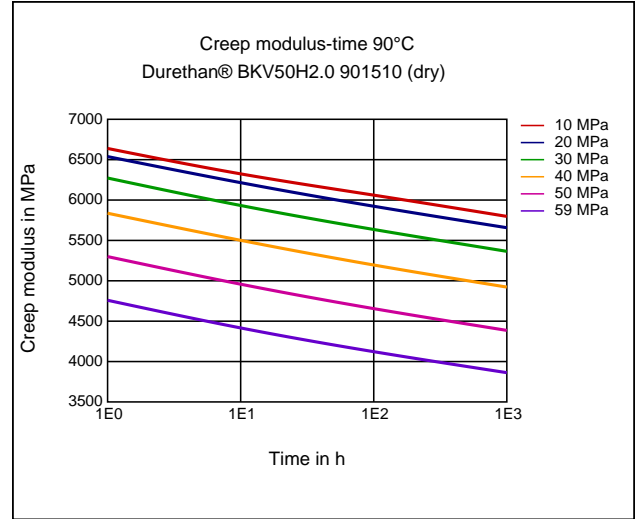
Creep modulus-time 23 °C



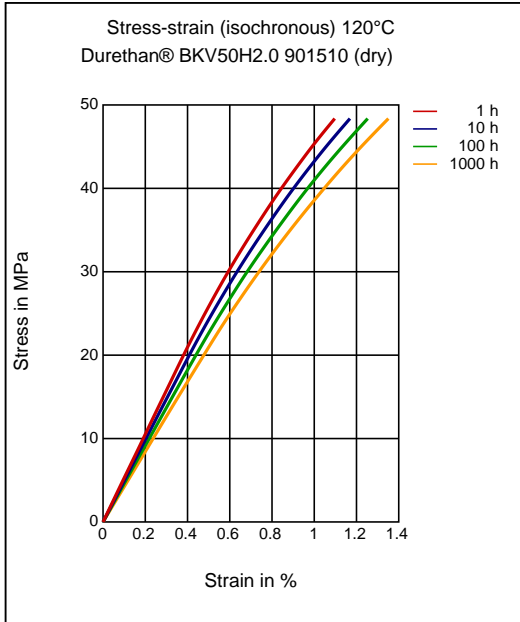
Stress-strain (isochronous) 90 °C



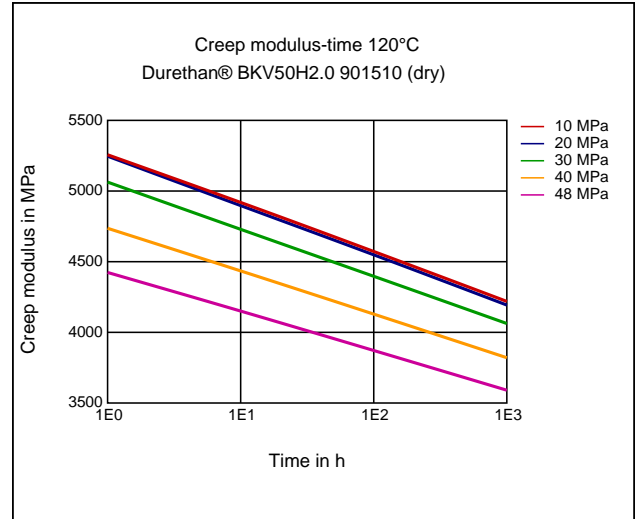
Creep modulus-time 90 °C



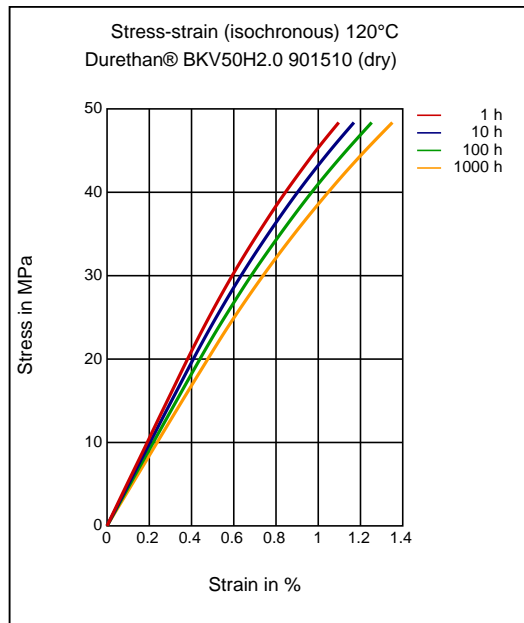
Stress-strain (isochronous) 120 °C



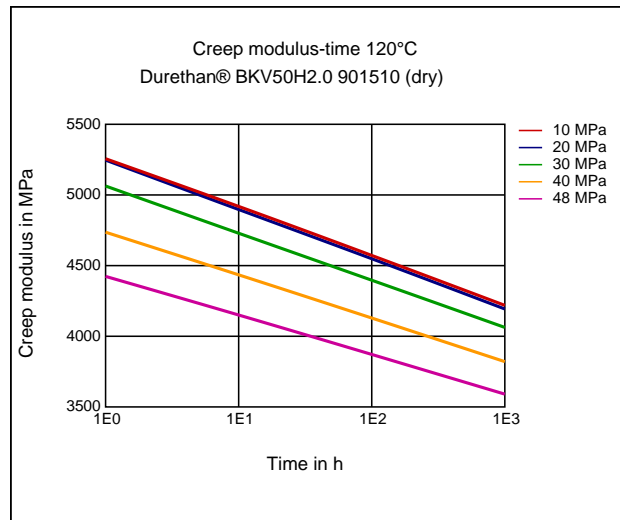
Creep modulus-time 120 °C



Stress-strain (isochronous) 120 °C



Creep modulus-time 120 °C



Characteristics

Processing

Injection Molding

Additives

Release agent

Delivery form

Pellets

Special Characteristics

Heat aging stabilized

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): 270 - 290 °C

Mold temperature: 80 - 120 °C