Durethan® BKV115

PA6-GF15 Envalior

PA 6-Copolymer, 15 % glass fibres, injection moulding, impact modified

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	28 / *	cm³/10min	ISO 1133
Temperature	260 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.4 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	5700 / 2800	MPa	ISO 527
Stress at Break	120 / 65	MPa	ISO 527
Strain at Break	4 / 12	%	ISO 527
Tensile Creep Modulus, 1h	* / 2600	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	* / 2000	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	65 / 80	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	45 / 40	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	10 / 20	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	10 / 10	kJ/m²	ISO 179/1eA
Puncture - maximum force, +23°C	737 / -	N	ISO 6603-2
Puncture - maximum force, -30°C	636 / -	N	ISO 6603-2
Puncture energy, +23°C	2.9 / -	J	ISO 6603-2
Puncture energy, -30°C	2.2 / 2.2	J	ISO 6603-2

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	213 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	190 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	205 / *	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	200 / *	°C	ISO 306
Burning Behav. at 1.5 mm Nom. Thickn.	HB / *	class	UL 94
Thickness tested	1.6 / *	mm	-
Oxygen index	22 / *	%	ISO 4589-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	4.1 / 8	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.7 / 4.8	-	IEC 62631-2-1
Dissipation Factor, 100Hz	80 / 2150	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	200 / 1300	E-4	IEC 62631-2-1
Volume Resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric Strength	35 / 35	kV/mm	IEC 60243-1
Comparative tracking index	600 / -	-	IEC 60112

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	8.5 / *	%	Sim. to ISO 62
Humidity absorption	2.5 / *	%	Sim. to ISO 62
Density	1230 / -	kg/m³	ISO 1183

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	134 / *	cm³/g	ISO 307, 1157, 1628

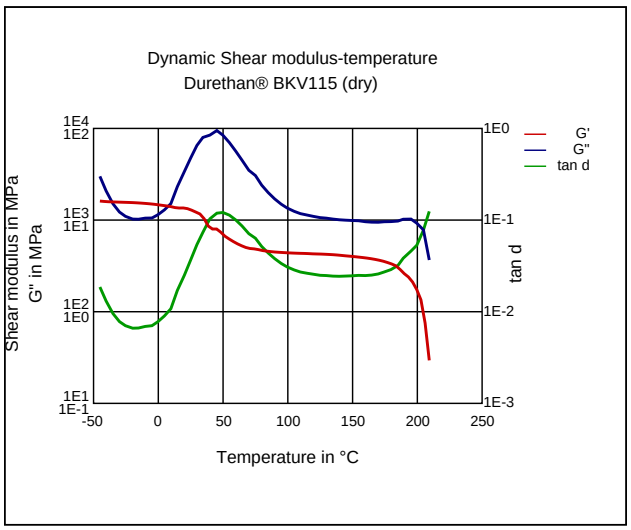
Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	1050	kg/m³	-
Thermal Conductivity of Melt	0.199	W/(m K)	-

Spec. heat capacity of melt	2400	J/(kg K)	-
Eff. thermal diffusivity	7.92E-8	m²/s	-
Ejection temperature	140	°C	-

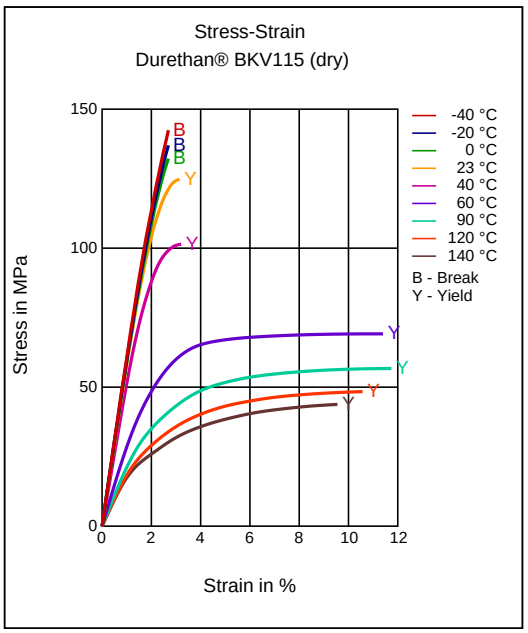
Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	280	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294

Diagrams

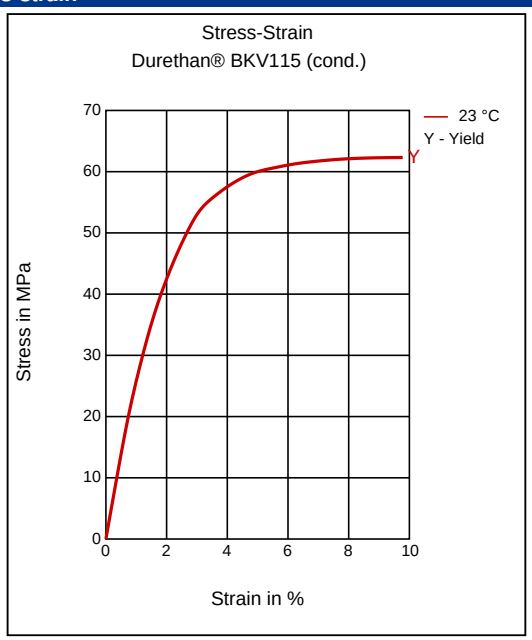
Dynamic Shear modulus-temperature



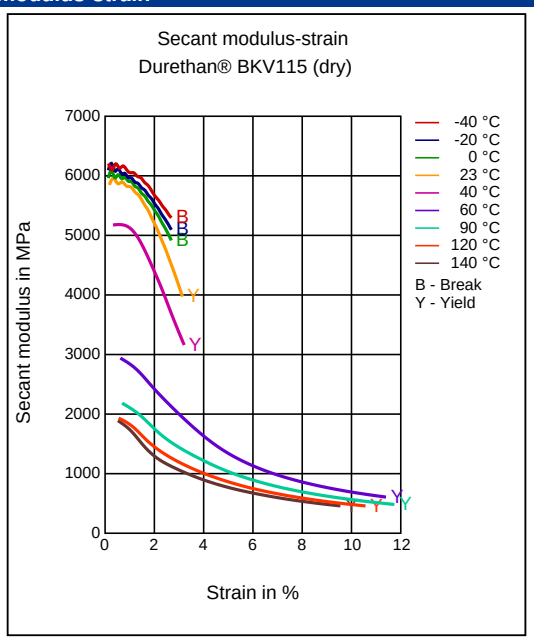
Stress-strain



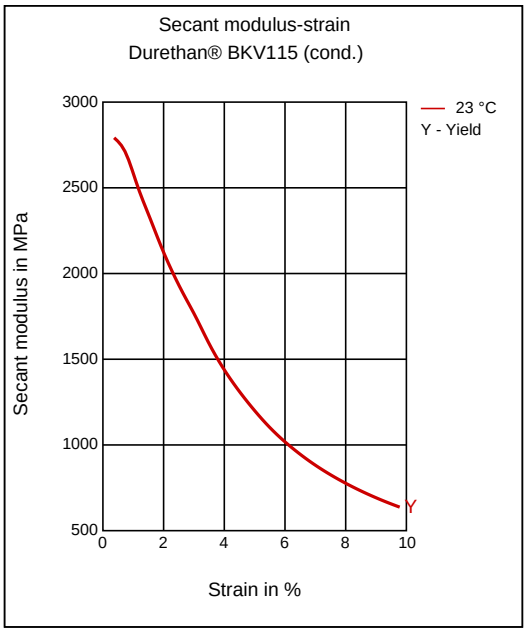
Stress-strain



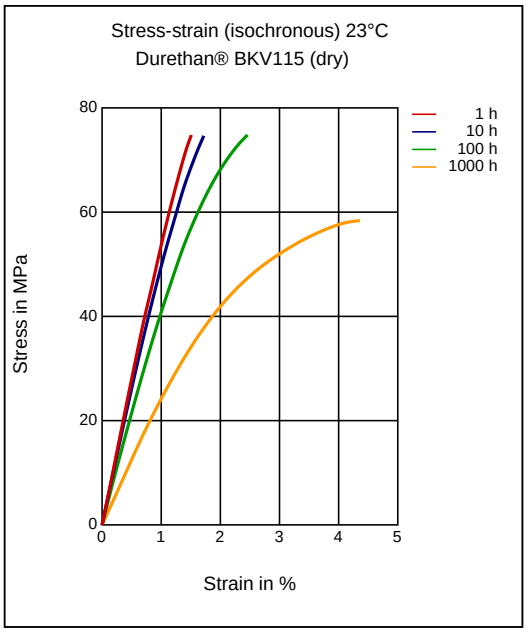
Secant modulus-strain



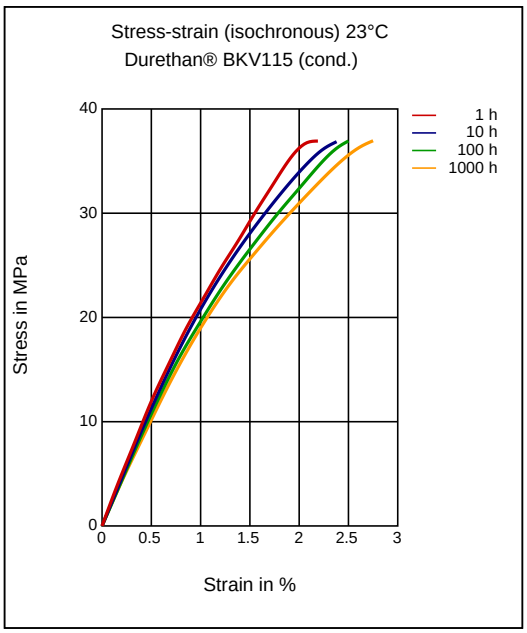
Secant modulus-strain



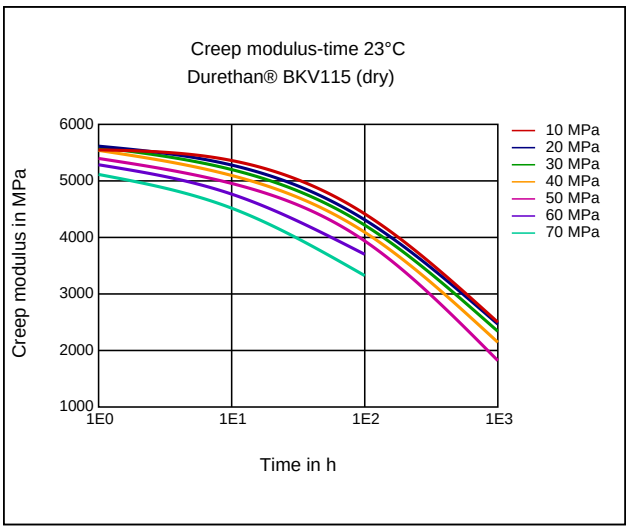
Stress-strain (isochronous) 23 °C



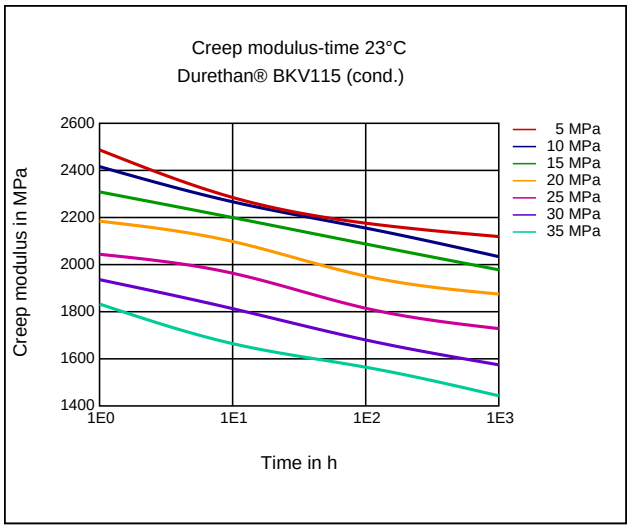
Stress-strain (isochronous) 23 °C



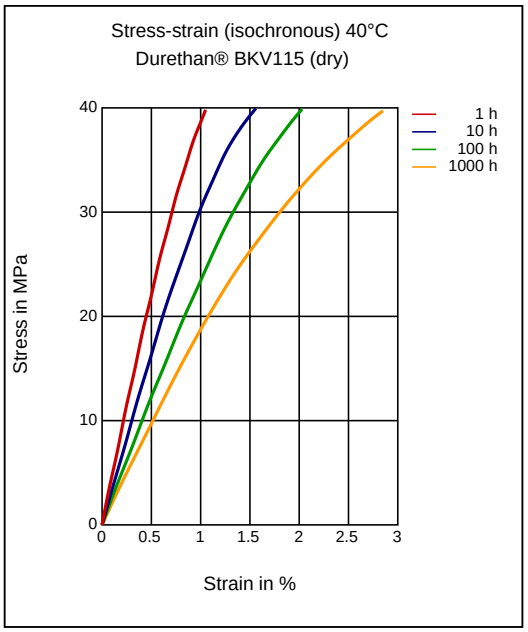
Creep modulus-time 23 °C



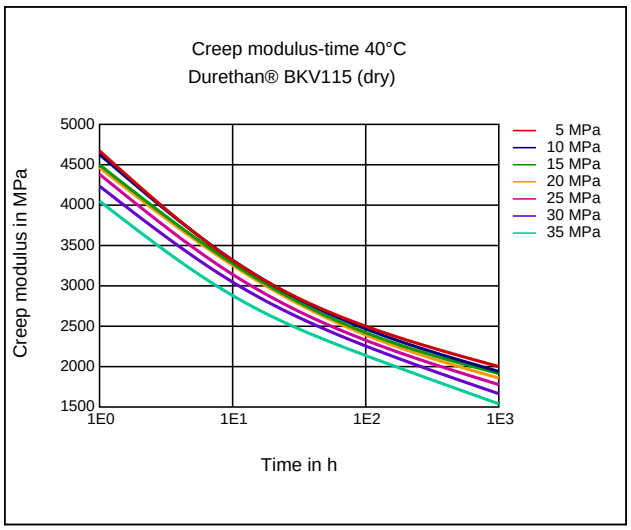
Creep modulus-time 23 °C



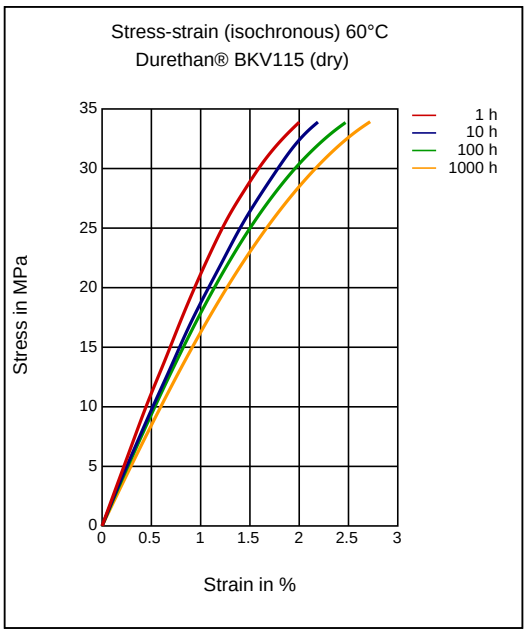
Stress-strain (isochronous) 40 °C



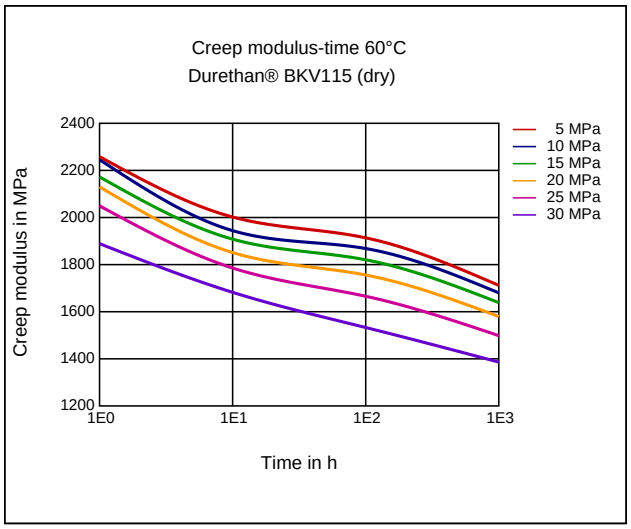
Creep modulus-time 40 °C



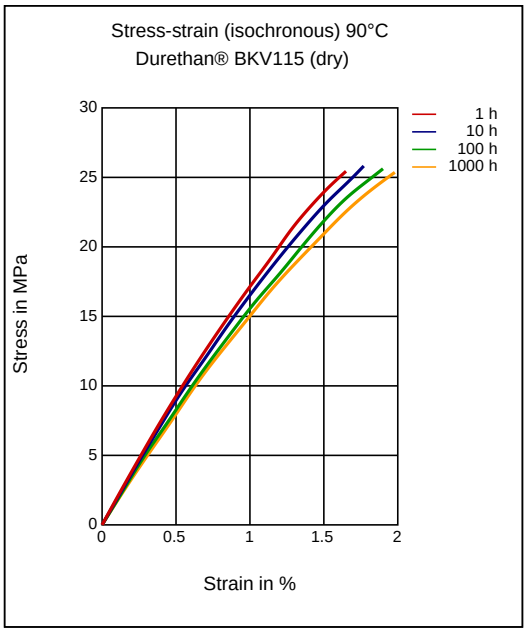
Stress-strain (isochronous) 60 °C



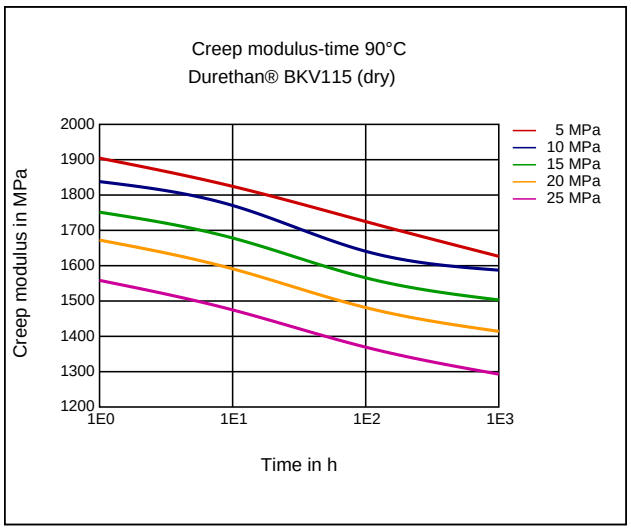
Creep modulus-time 60 °C



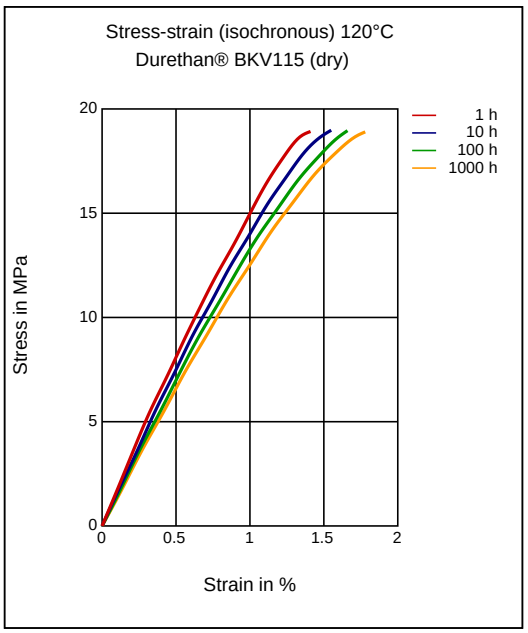
Stress-strain (isochronous) 90 °C



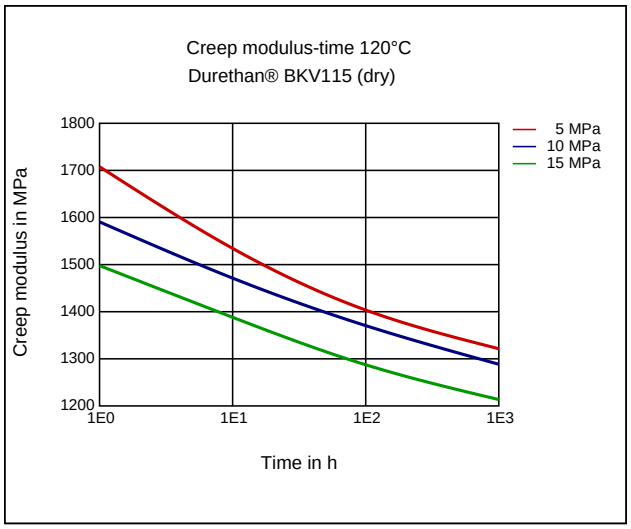
Creep modulus-time 90 °C



Stress-strain (isochronous) 120 °C



Creep modulus-time 120 °C



Characteristics

Processing
Injection Molding

Additives
Release agent

Delivery form
Pellets

Special Characteristics
UV stablized, Heat aging stabilized

Injection Molding

PREPROCESSING
Max. Water content: 0.1 %
Drying temperature: 80 °C

Drying time:
Dry air dryer 2-20 h (will depend on the initial moisture content)

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

Disclaimer