

Durethan® AKV 30
PA66-GF30

Envalior

 PA 66, 30 % glass fibres, injection moulding
 ISO Shortname: ISO 1874-PA 66,GR,14-110,GF30

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Molding shrinkage, parallel	0.3 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.5 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	10600 / 7000	MPa	ISO 527
Stress at Break	185 / 125	MPa	ISO 527
Strain at Break	3 / 6	%	ISO 527
Impact Strength (Charpy), +23°C	90 / 90	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy), -30°C	70 / 70	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	10 / 15	kJ/m ²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	10 / 10	kJ/m ²	ISO 179/1eA
Flexural Modulus (23°C)	8400 / 5900	MPa	ISO 178
Notched Impact Strength (Izod)	10 / 10	kJ/m ²	ISO 180/1A
Temperature	-40	°C	-
Ball Indentation Hardness	230 / 130	MPa	ISO 2039-1

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	263 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	250 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	250 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	25 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	100 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB / *	class	UL 94
Thickness tested	1.6 / *	mm	-
Burning Behav. at thickness h	HB / *	class	UL 94
Thickness tested	3.2 / *	mm	-
Oxygen index	23 / *	%	ISO 4589-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	4 / 10	-	IEC 62631-2-1
Relative permittivity, 1MHz	4 / 4	-	IEC 62631-2-1
Dissipation Factor, 100Hz	90 / 2700	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	180 / 800	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	40 / 35	kV/mm	IEC 60243-1
Comparative tracking index	600 / -	-	IEC 60112

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	5.5 / *	%	Sim. to ISO 62
Humidity absorption	2 / *	%	Sim. to ISO 62
Density	1360 / -	kg/m ³	ISO 1183
Bulk density	700	kg/m ³	-

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	1160	kg/m ³	-
Thermal Conductivity of Melt	0.256	W/(m K)	-
Spec. heat capacity of melt	2280	J/(kg K)	-
Eff. thermal diffusivity	9.73E-8	m ² /s	-
Ejection temperature	185	°C	-

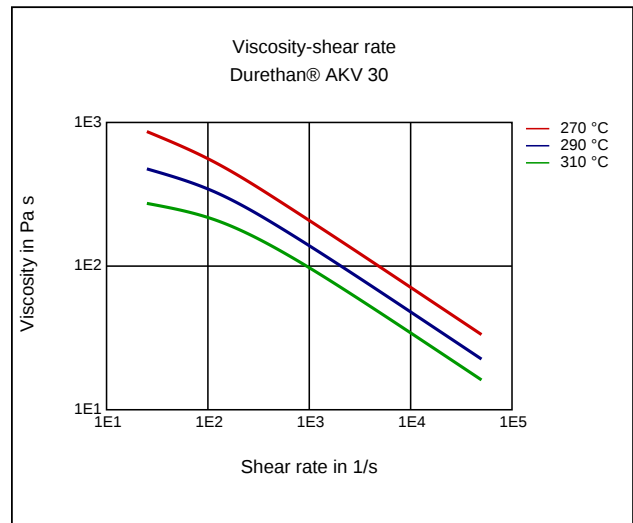
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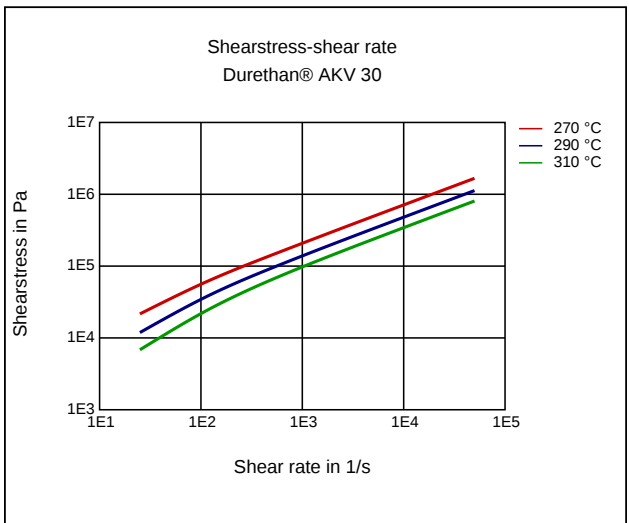
Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	290	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294

Diagrams

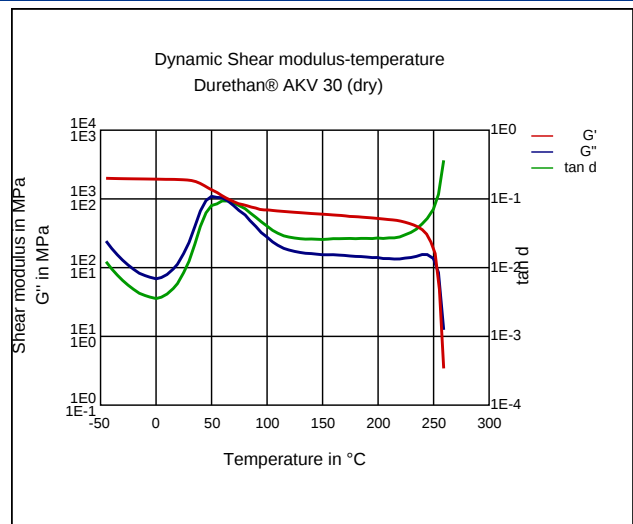
Viscosity-shear rate



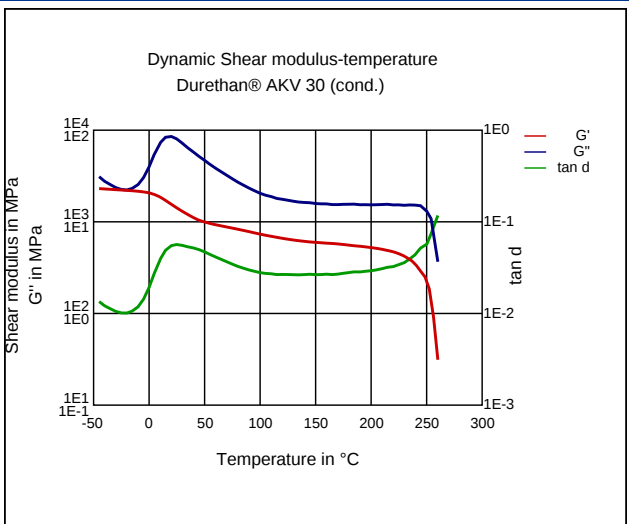
Shearstress-shear rate



Dynamic Shear modulus-temperature



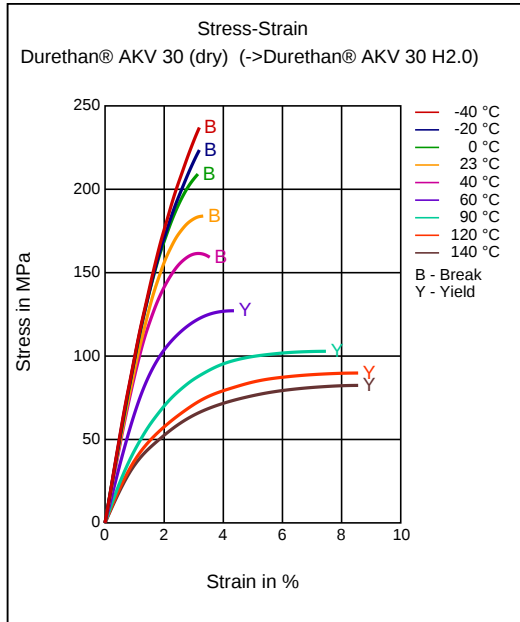
Dynamic Shear modulus-temperature



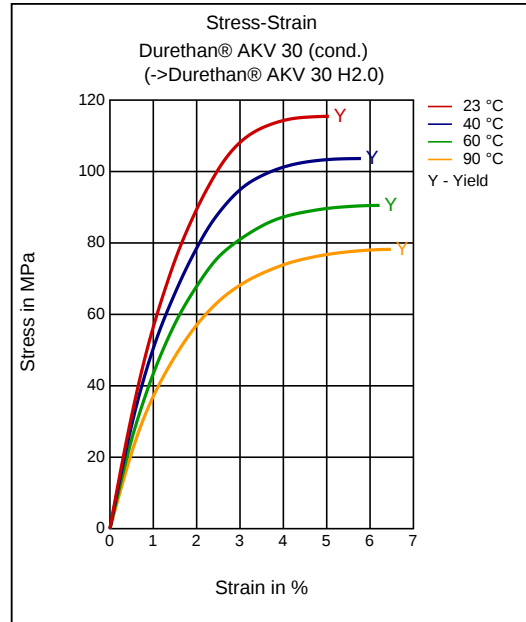
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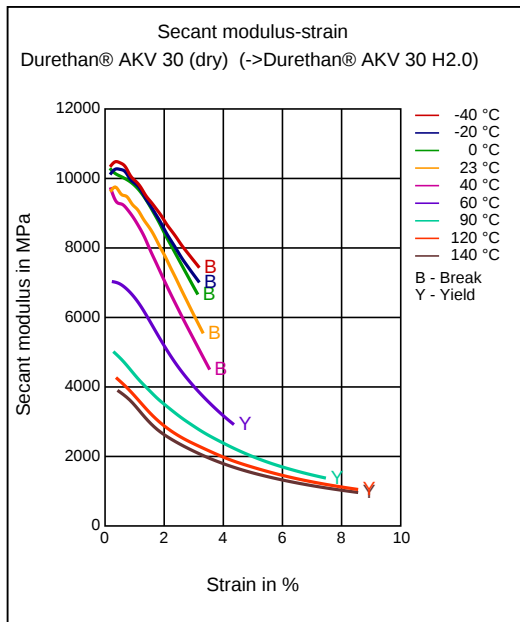
Stress-strain



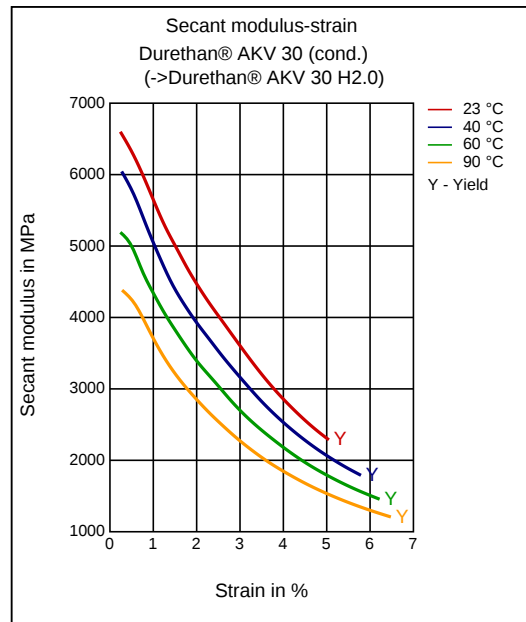
Stress-strain



Secant modulus-strain



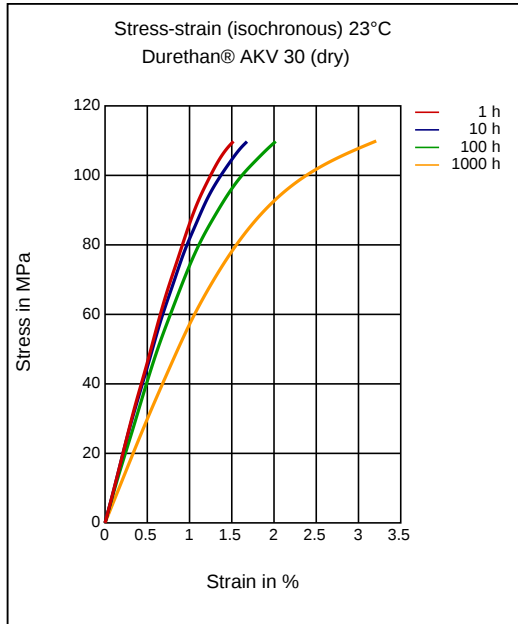
Secant modulus-strain



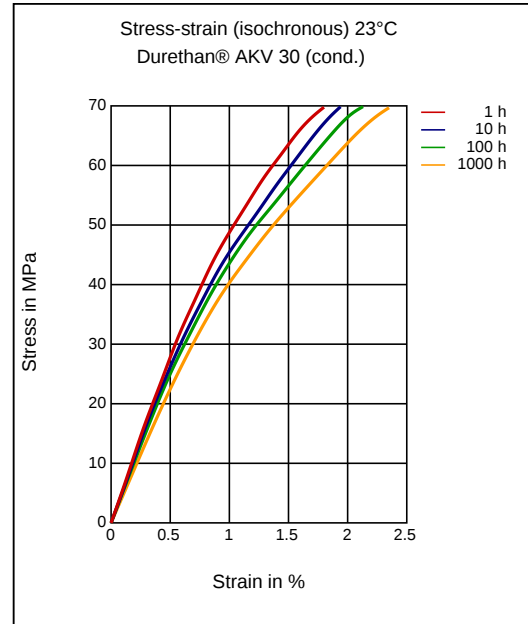
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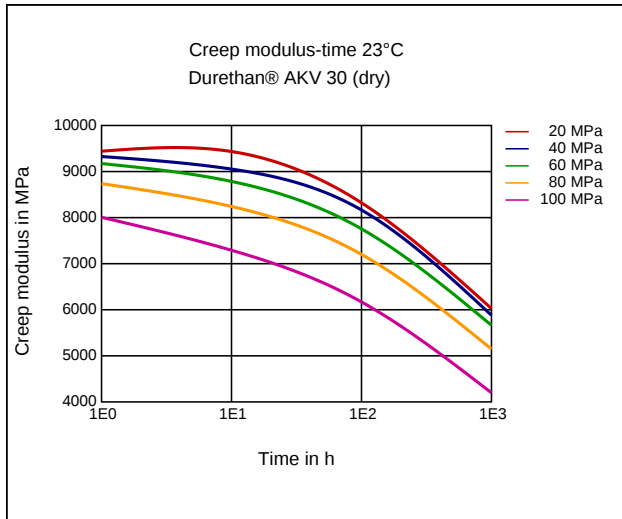
Stress-strain (isochronous) 23°C



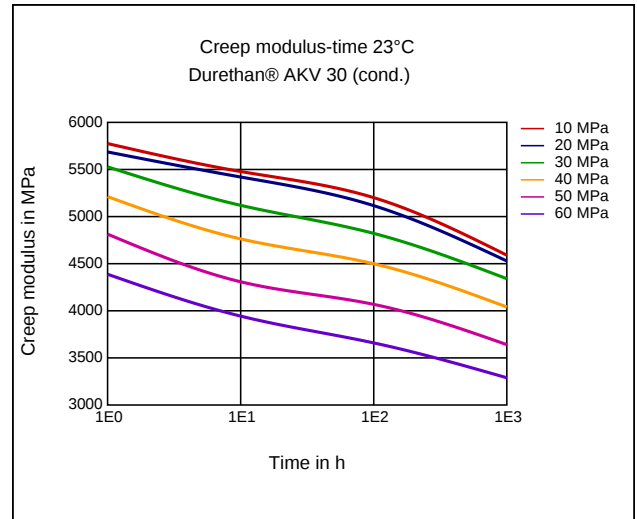
Stress-strain (isochronous) 23°C



Creep modulus-time 23°C



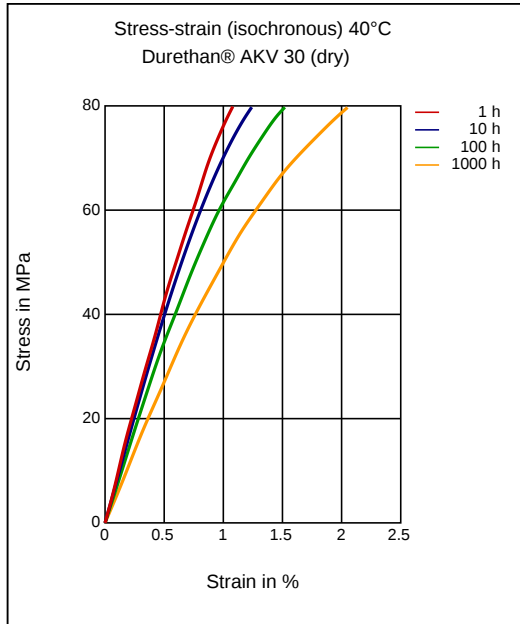
Creep modulus-time 23°C



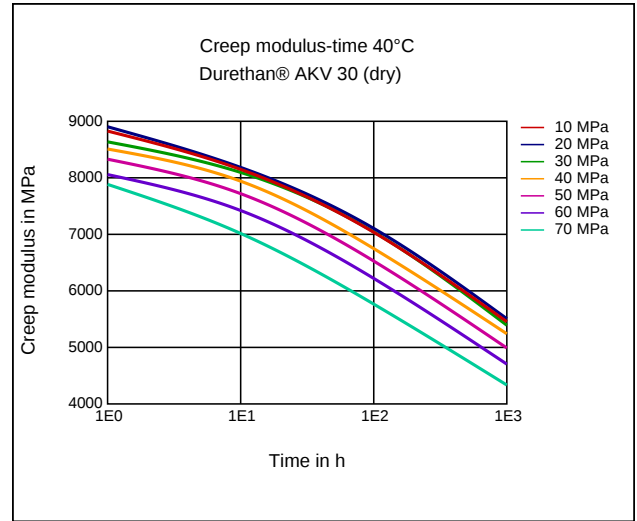
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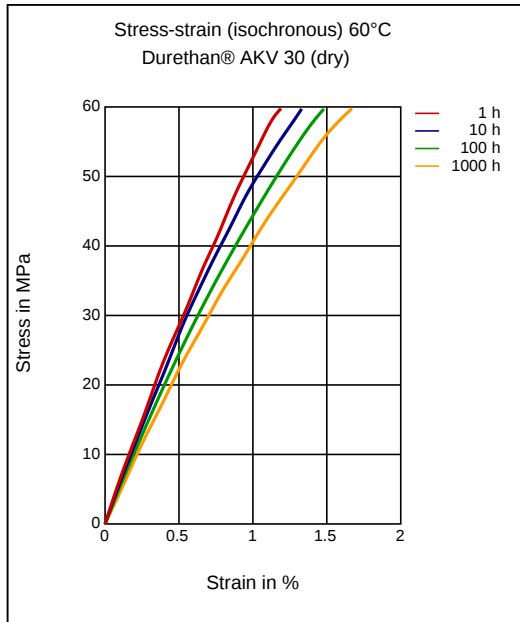
Stress-strain (isochronous) 40 °C



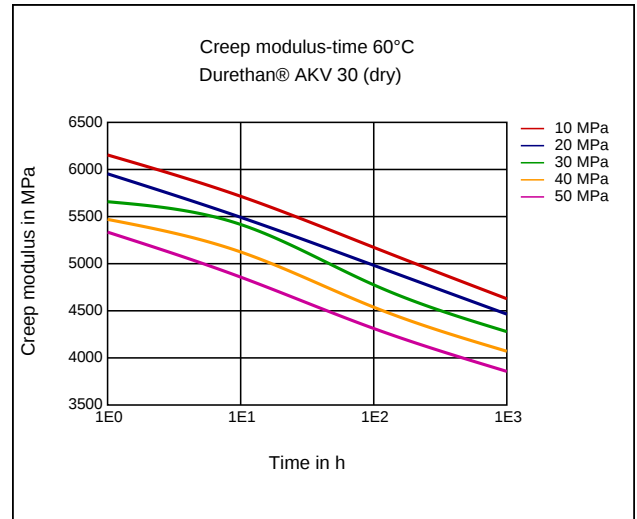
Creep modulus-time 40 °C



Stress-strain (isochronous) 60 °C



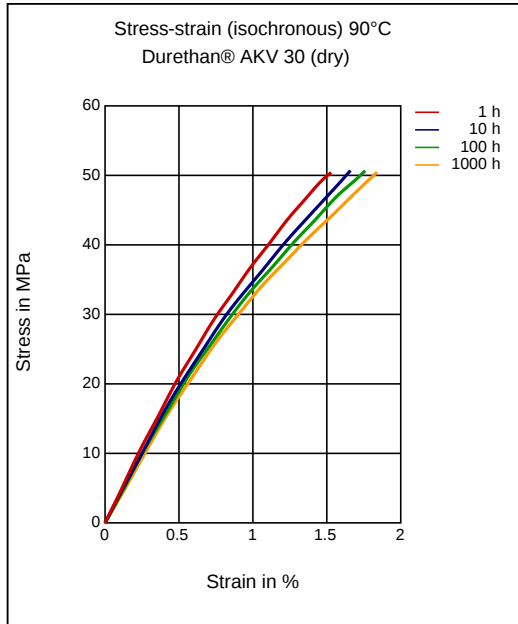
Creep modulus-time 60 °C



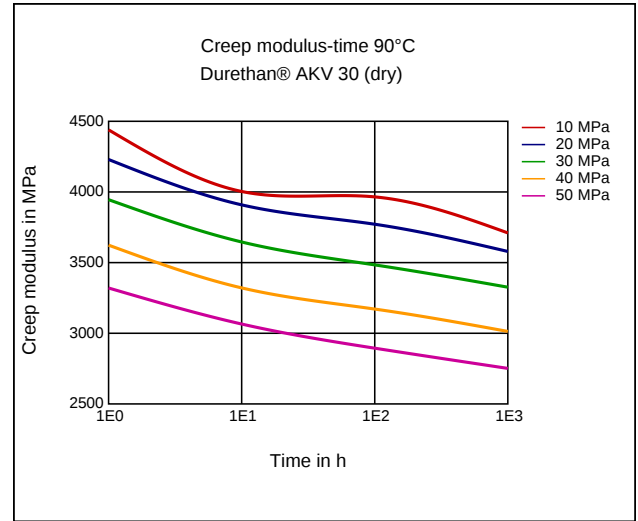
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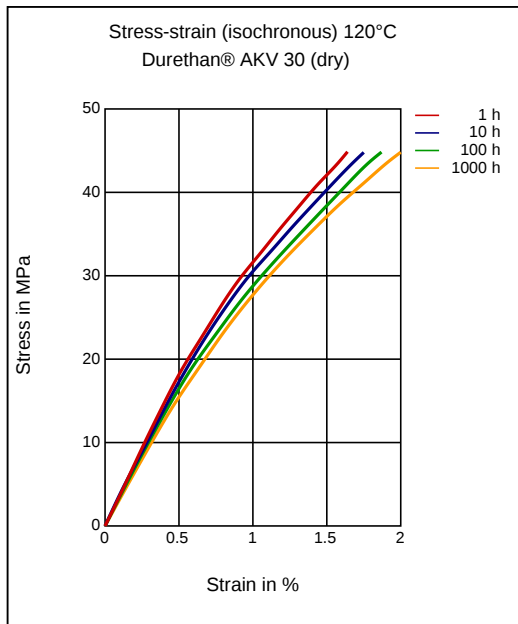
Stress-strain (isochronous) 90°C



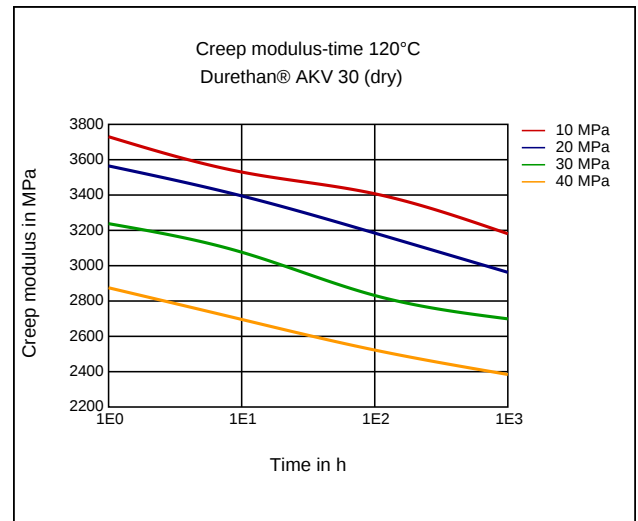
Creep modulus-time 90°C



Stress-strain (isochronous) 120°C



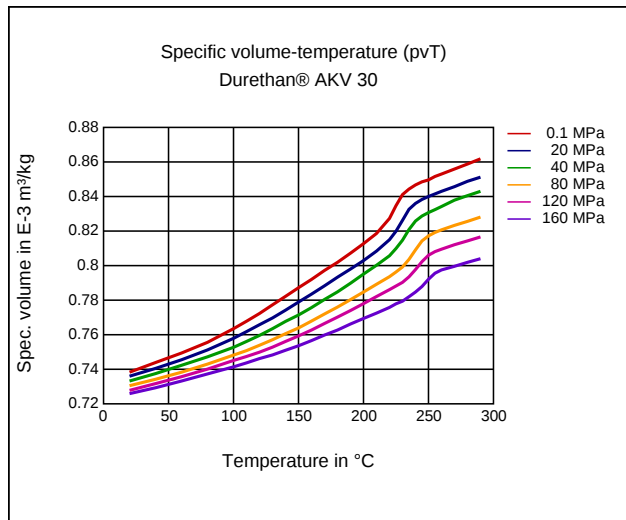
Creep modulus-time 120°C



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Specific volume-temperature (pvT)



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Additives

Release agent