

Durethan® AKV35H2.0 901510
PA66-GF35 FR(40+30)

Envalior

Injection Molding, 35% Glass Reinforced, Heat Stabilized

ISO 1043 PA66-GF35

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Molding shrinkage, parallel	0.4 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9 / *	%	ISO 294-4, 2577
Mechanical Properties			
ISO Data			
Tensile Modulus	11200 / 7500	MPa	ISO 527
Stress at Break	200 / 125	MPa	ISO 527
Strain at Break	3.1 / 6.4	%	ISO 527
Tensile Creep Modulus, 1h	* / 7000	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	* / 5800	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	85 / 90	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	70 / 75	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	12 / 17	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	10 / 10	kJ/m²	ISO 179/1eA
Puncture - maximum force, +23°C	900 / 1260	N	ISO 6603-2
Puncture - maximum force, -30°C	830 / -	N	ISO 6603-2
Puncture energy, +23°C	3.2 / 5.9	J	ISO 6603-2
Puncture energy, -30°C	2.6 / -	J	ISO 6603-2
Thermal Properties			
ISO Data			
Melting Temperature (10°C/min)	263 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	244 / *	°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	30 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	90 / *	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	25 / *	%	ISO 4589-1/-2
Electrical Properties			
ISO Data			
Relative permittivity, 100Hz	4 / 10	-	IEC 62631-2-1
Relative permittivity, 1MHz	4 / 4	-	IEC 62631-2-1
Dissipation Factor, 100Hz	110 / 2100	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	150 / 650	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 / 30	kV/mm	IEC 60243-1
Comparative tracking index	425 / -	-	IEC 60112
Other Properties			
ISO Data			
Water Absorption	5 / *	%	Sim. to ISO 62
Humidity absorption	1.7 / *	%	Sim. to ISO 62
Density	1410 / -	kg/m³	ISO 1183
Material Specific Properties			
ISO Data			
Viscosity number	146 / *	cm³/g	ISO 307, 1157, 1628
Test specimen production			
ISO Data			
Injection Molding, melt temperature	290	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294

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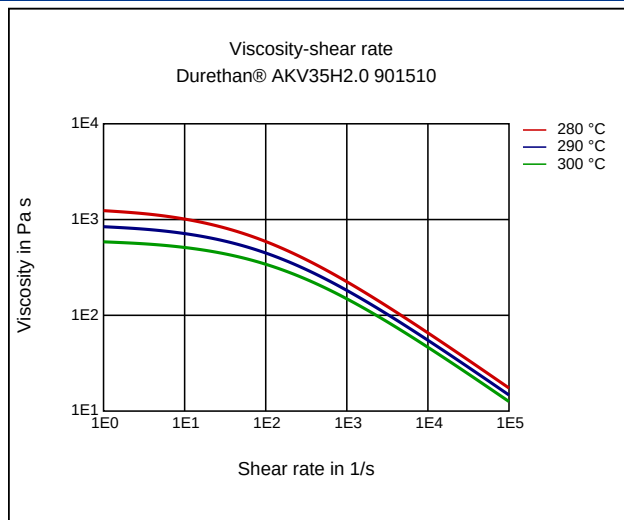
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Processing Recommendation Injection Molding

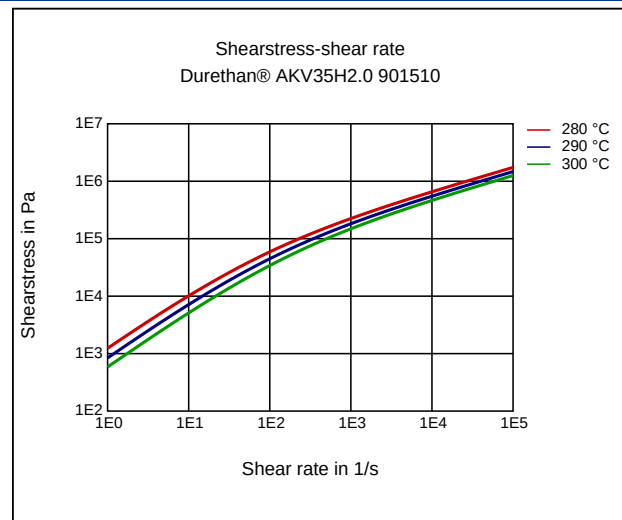
	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 6	h	-
Processing humidity	≤0.12	%	-
Melt temperature	280 - 300	°C	-
Mold temperature	80 - 120	°C	-

Diagrams

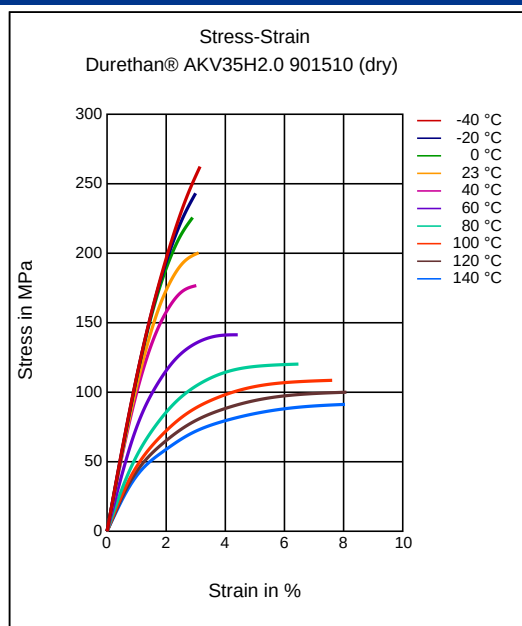
Viscosity-shear rate



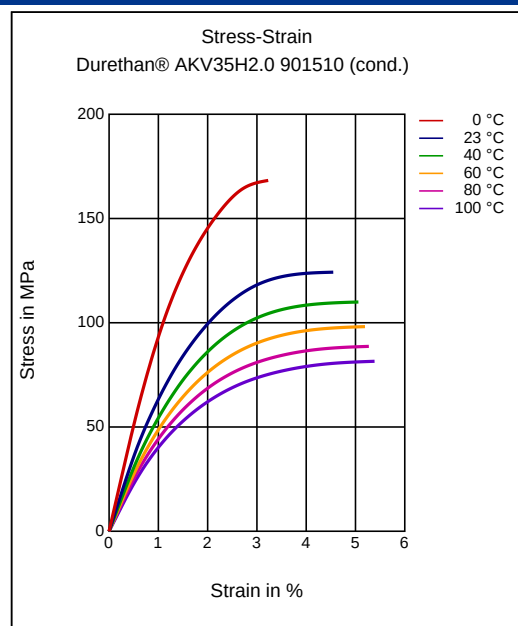
Shearstress-shear rate



Stress-strain



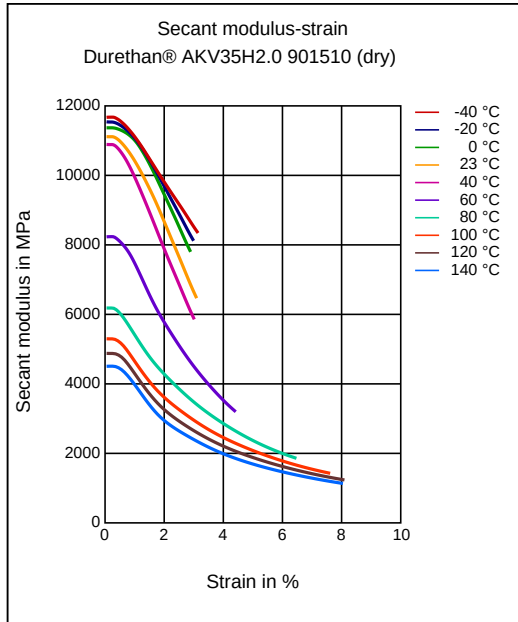
Stress-strain



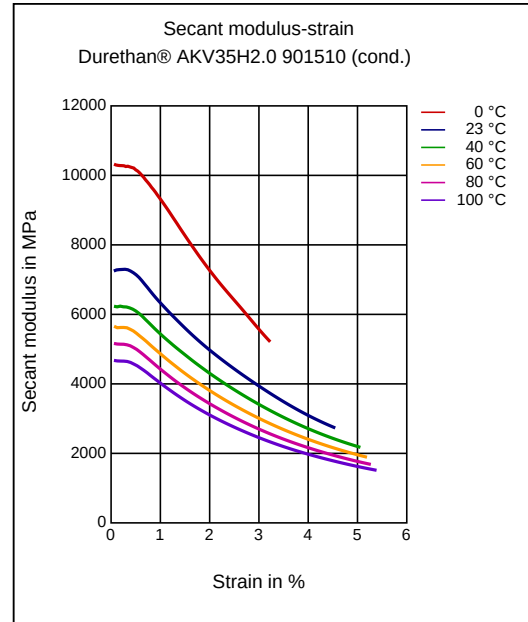
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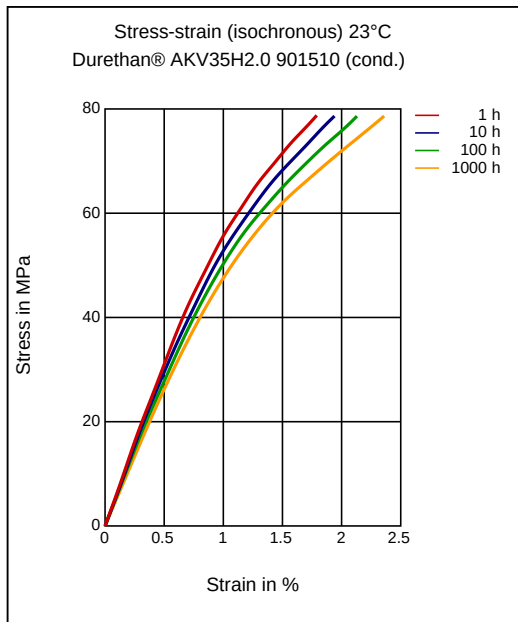
Secant modulus-strain



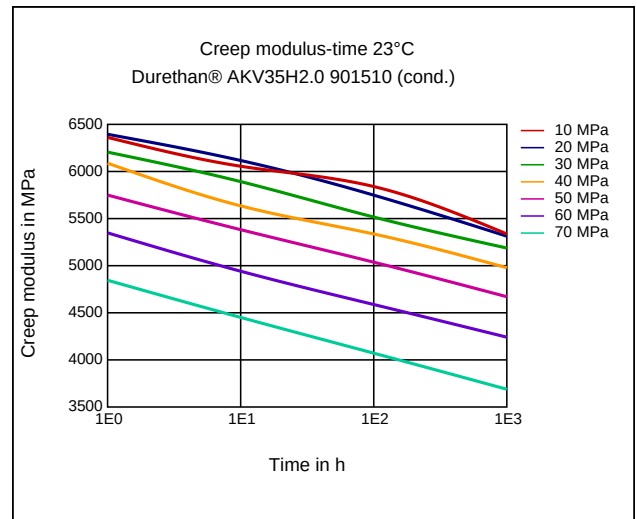
Secant modulus-strain



Stress-strain (isochronous) 23 °C



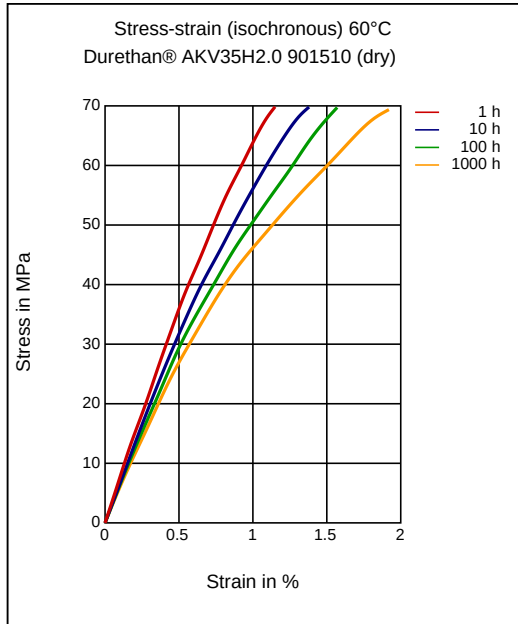
Creep modulus-time 23 °C



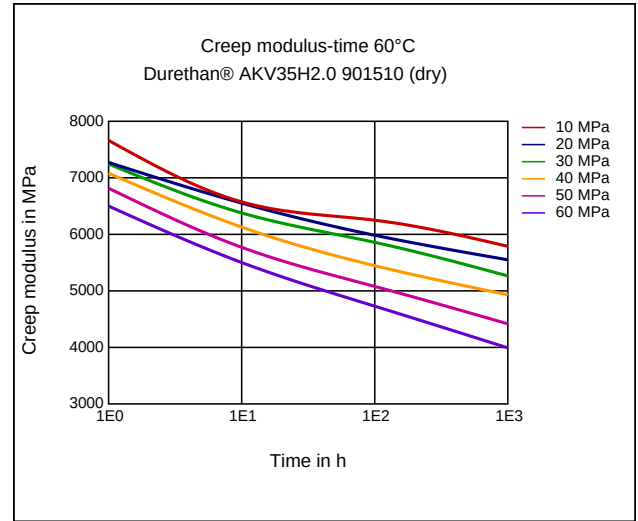
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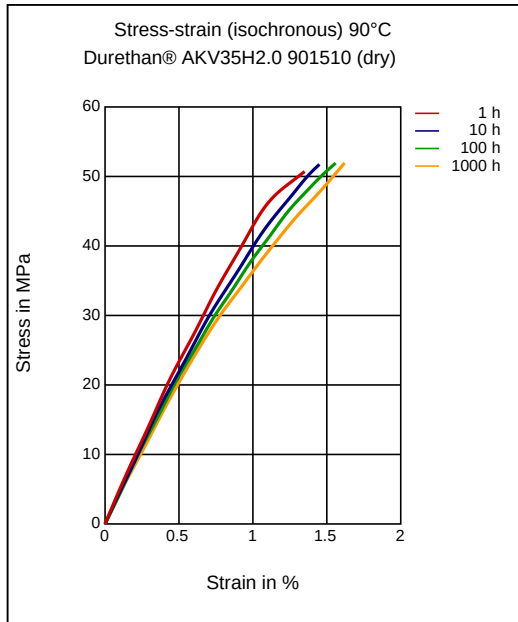
Stress-strain (isochronous) 60 °C



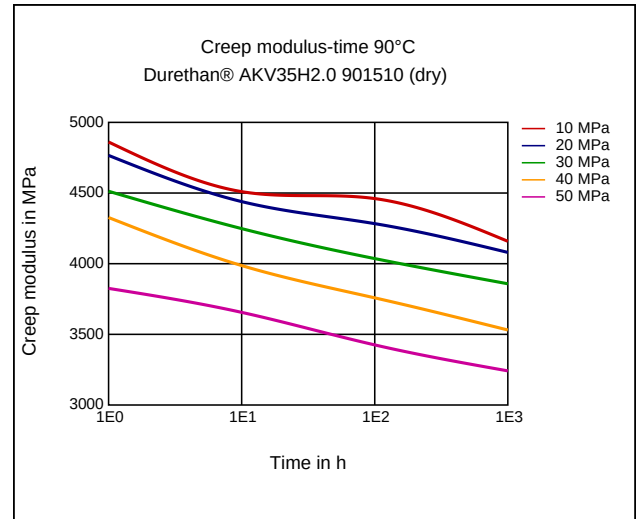
Creep modulus-time 60 °C



Stress-strain (isochronous) 90 °C



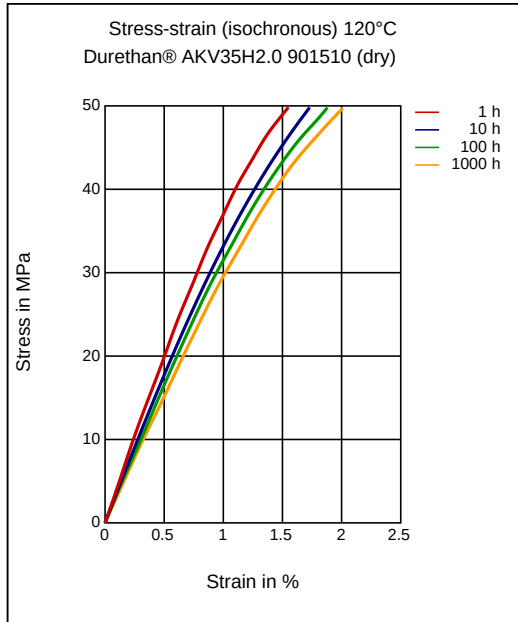
Creep modulus-time 90 °C



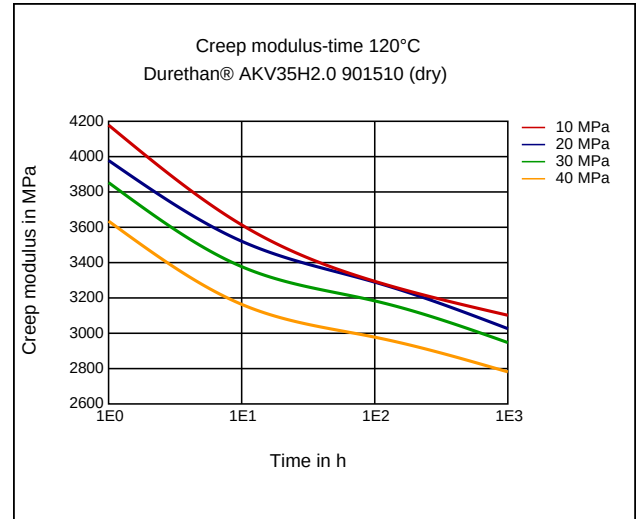
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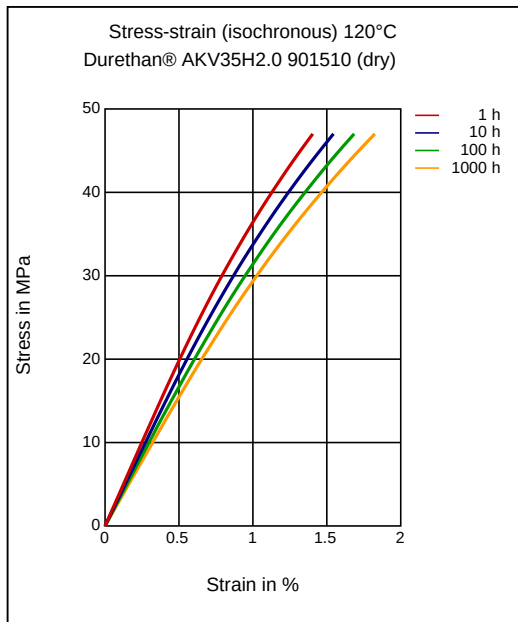
Stress-strain (isochronous) 120°C



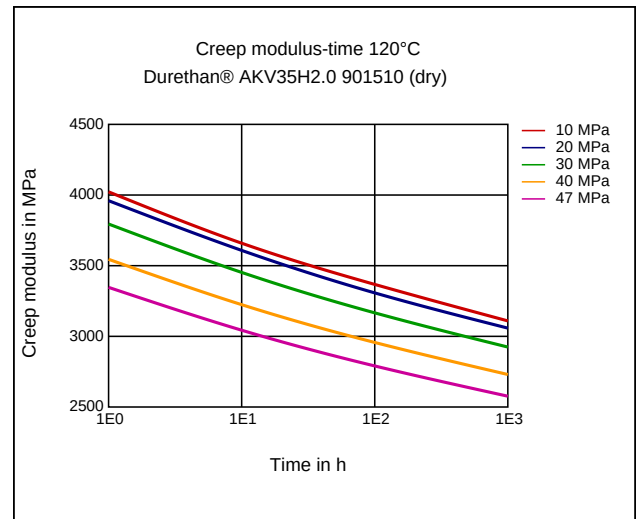
Creep modulus-time 120°C



Stress-strain (isochronous) 120°C



Creep modulus-time 120°C

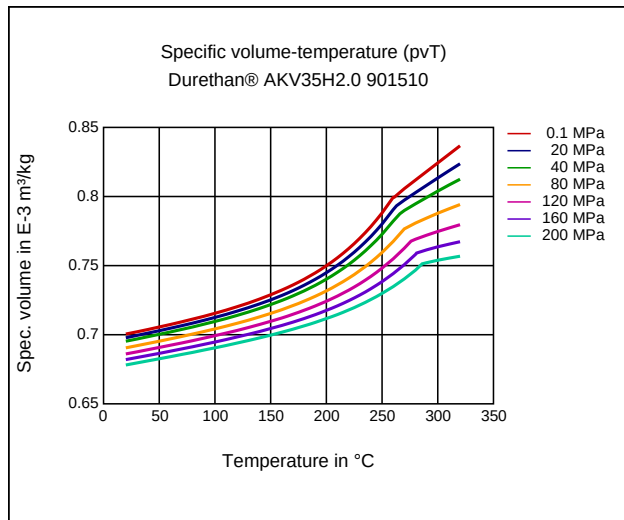


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Specific volume-temperature (pvT)



Characteristics

Processing

Injection Molding

Additives

Release agent

Delivery form

Pellets

Special Characteristics

Flame retardant, 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): 280 - 300 °C

Mold temperature: 80 - 120 °C