

Durethan® AKV50H2.0 901510

PA66-GF50

Envalior

Injection Molding, 50% Glass Reinforced, Heat Stabilized

ISO 1043 PA66-GF50

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Molding shrinkage, parallel	0.3 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	16000 / 10200	MPa	ISO 527
Stress at Break	230 / 160	MPa	ISO 527
Strain at Break	2.6 / 4	%	ISO 527
Impact Strength (Charpy), +23°C	95 / 95	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy), -30°C	100 / 100	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	15 / 23	kJ/m ²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	13 / 15	kJ/m ²	ISO 179/1eA
Puncture - maximum force, +23°C	1100 / 1200	N	ISO 6603-2
Puncture - maximum force, -30°C	1000 / -	N	ISO 6603-2
Puncture energy, +23°C	4 / 5	J	ISO 6603-2
Puncture energy, -30°C	3 / -	J	ISO 6603-2

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	261 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	247 / *	°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	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. Thickn.	HB / *	class	UL 94
Thickness tested	1.5 / *	mm	-
Oxygen index	27 / *	%	ISO 4589-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	4.5 / 14	-	IEC 62631-2-1
Relative permittivity, 1MHz	4 / 5	-	IEC 62631-2-1
Dissipation Factor, 100Hz	90 / 3200	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	150 / 850	E-4	IEC 62631-2-1
Volume Resistivity	1E13 / 1E12	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E12	Ohm	IEC 62631-3-2
Electric Strength	40 / 35	kV/mm	IEC 60243-1
Comparative tracking index	550 / -	-	IEC 60112

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	4.5 / *	%	Sim. to ISO 62
Humidity absorption	1.4 / *	%	Sim. to ISO 62
Density	1570 / -	kg/m ³	ISO 1183

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	146 / *	cm ³ /g	ISO 307, 1157, 1628

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

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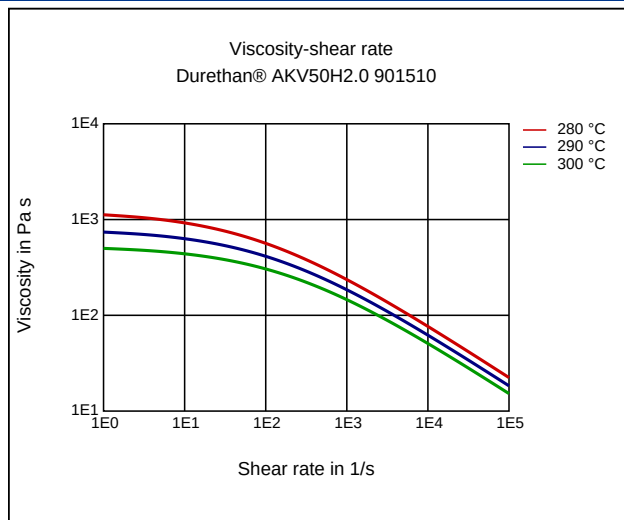
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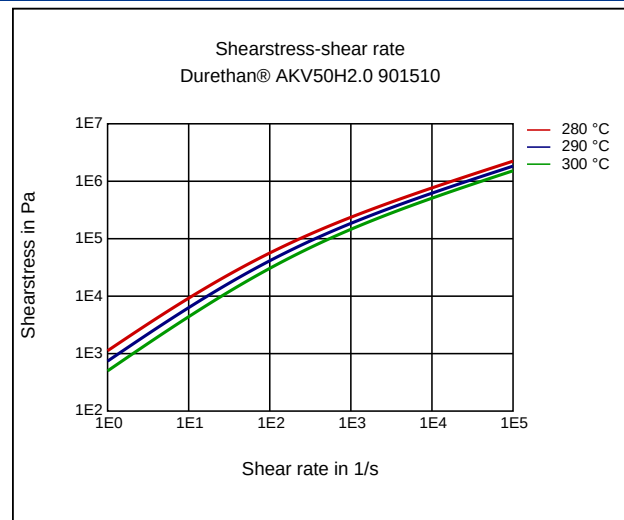
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 6	h	-
Processing humidity	≤0.12	%	-
Melt temperature	280 - 300	°C	-
Mold temperature	80 - 120	°C	-

Diagrams

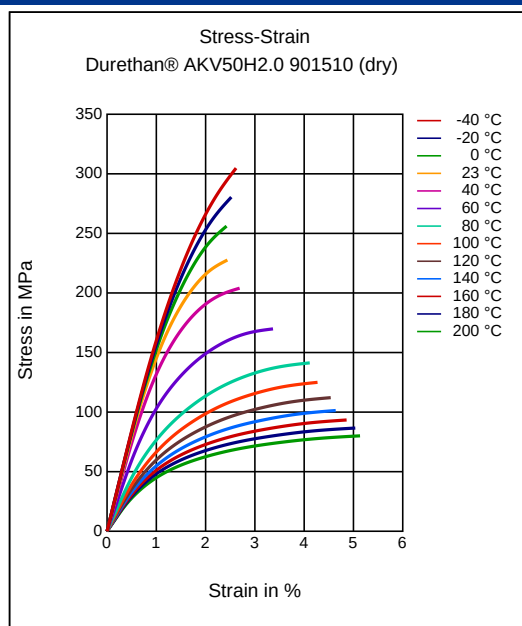
Viscosity-shear rate



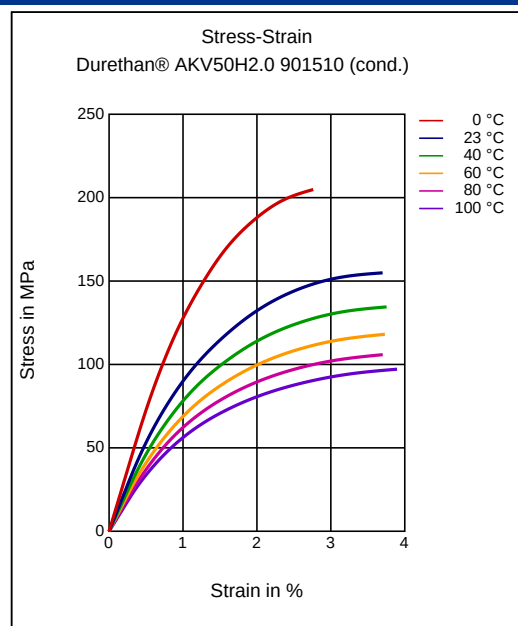
Shearstress-shear rate



Stress-strain



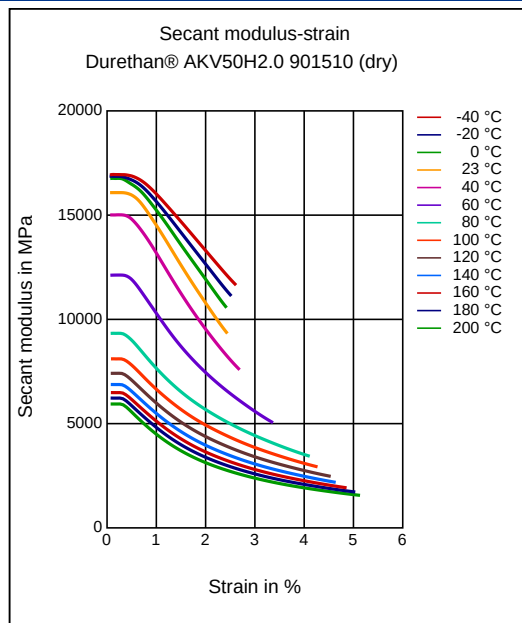
Stress-strain



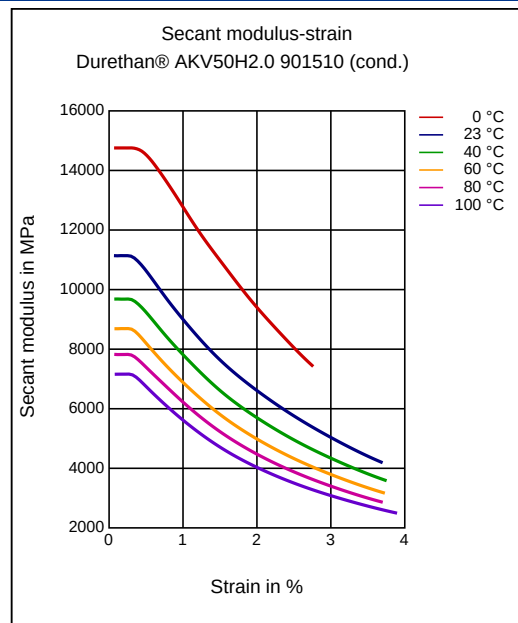
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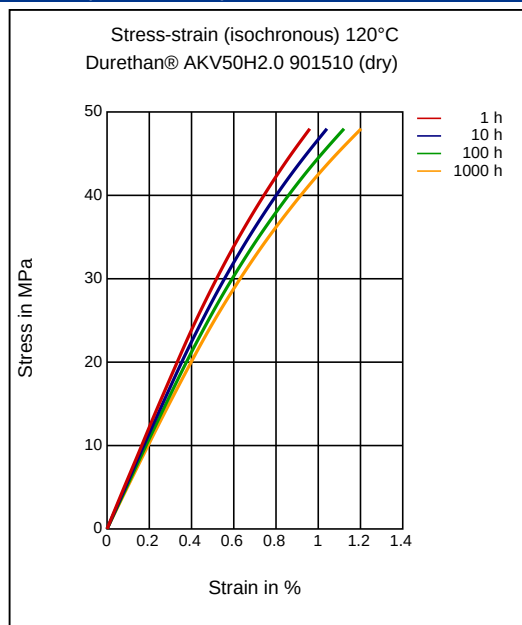
Secant modulus-strain



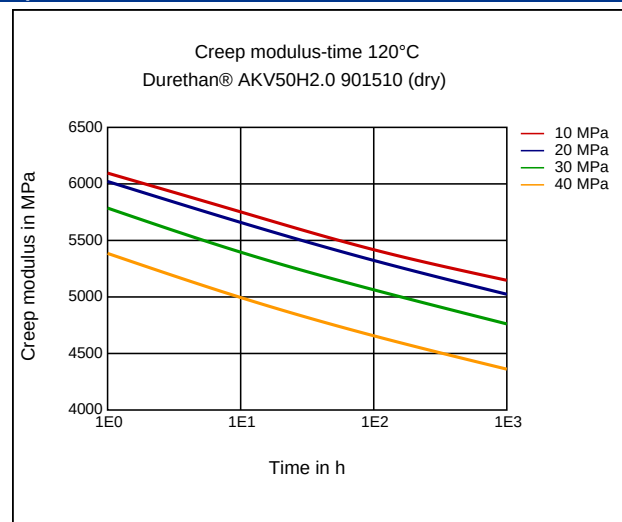
Secant modulus-strain



Stress-strain (isochronous) 120 °C



Creep modulus-time 120 °C



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Injection Molding

PREPROCESSING

Residual moisture content: 0.03 - 0.12%

Additives

Release agent

Special Characteristics

Heat aging stabilized

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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
