

Durethan® AKV30HRH2.0 901510
PA66-GF30

Envalior

Injection Molding, 30% Glass Reinforced, Heat Stabilized, Hydrolysis resistant

ISO 1043 PA66-GF30

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	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	9700 / 6100	MPa	ISO 527
Stress at Break	180 / 120	MPa	ISO 527
Strain at Break	3.5 / 8	%	ISO 527
Impact Strength (Charpy), +23°C	75 / 85	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy), -30°C	65 / 75	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	10 / 20	kJ/m ²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	- / 10	kJ/m ²	ISO 179/1eA
Puncture - maximum force, +23°C	896 / 1070	N	ISO 6603-2
Puncture - maximum force, -30°C	776 / -	N	ISO 6603-2
Puncture energy, +23°C	3.1 / 4.7	J	ISO 6603-2
Puncture energy, -30°C	1.9 / -	J	ISO 6603-2
Flexural Modulus (23°C)	8600 / 5400	MPa	ISO 178
Notched Impact Strength (Izod)	10 / 10	kJ/m ²	ISO 180/1A
Temperature	-30	°C	-
Impact Strength (Izod), 23°C	70 / -	kJ/m ²	ISO 180/1U
Ball Indentation Hardness	205 / 105	MPa	ISO 2039-1
ASTM Data			
Tensile Modulus	9432 / 5929	MPa	ASTM D 638
Tensile Strength at Break	175 / 117	MPa	ASTM D 638
Elongation at Break	4 / 8	%	ASTM D 638
Flexural Modulus	8618 / 5412	MPa	ASTM D 790
Flexural Strength	281 / 181	MPa	ASTM D 790

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	262 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	245 / *	°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	26 / *	%	ISO 4589-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	4 / 12	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.6 / 4.5	-	IEC 62631-2-1
Dissipation Factor, 100Hz	80 / 3000	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	160 / 900	E-4	IEC 62631-2-1
Volume Resistivity	1E13 / 1E9	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	450 / -	-	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	-

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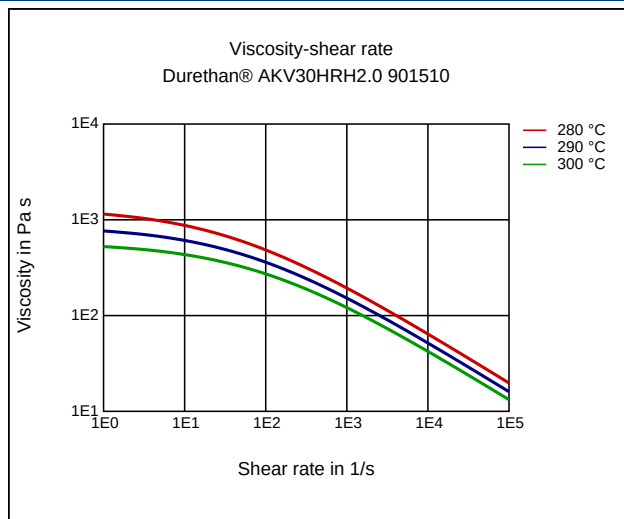
Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	153 / *	cm ³ /g	ISO 307, 1157, 1628

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

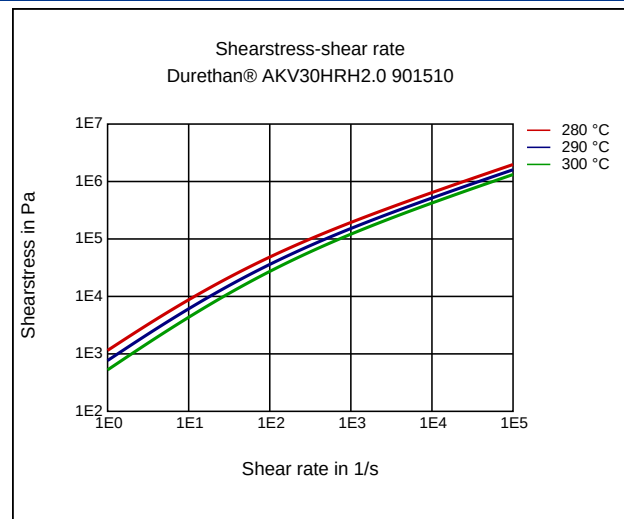
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 6	h	-
Processing humidity	≤0.12	%	-
Melt temperature	280 - 300	°C	-
Mold temperature	80 - 120	°C	-

Diagrams

Viscosity-shear rate



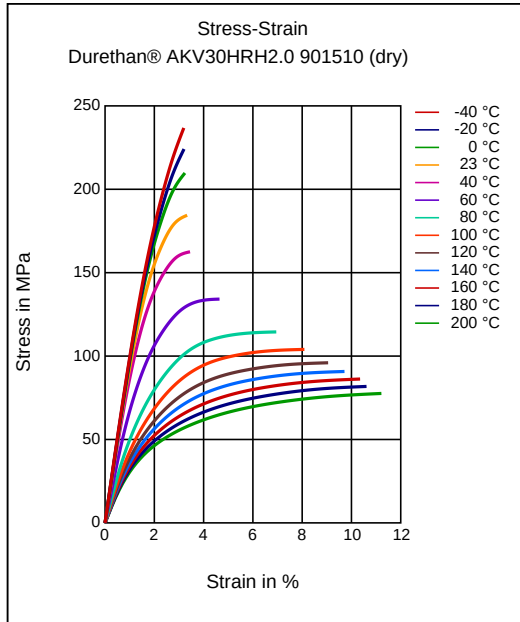
Shearstress-shear rate



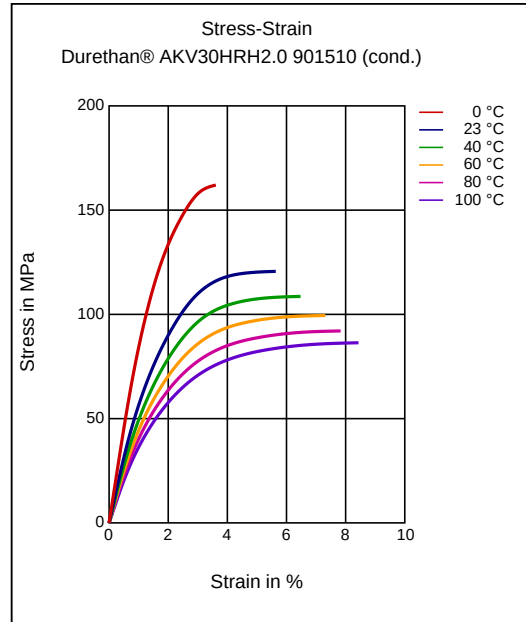
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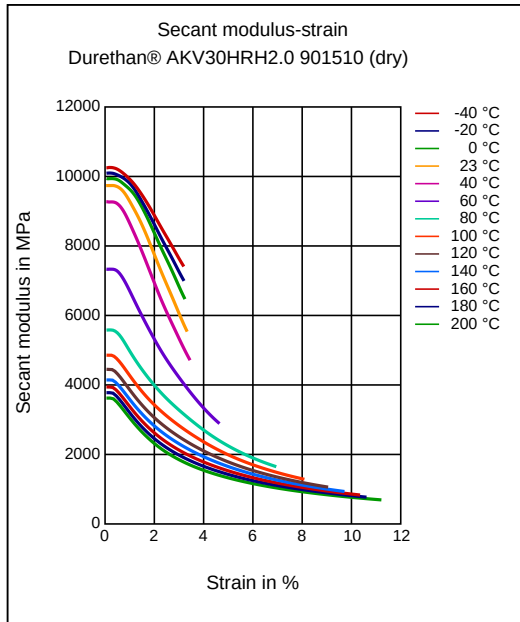
Stress-strain



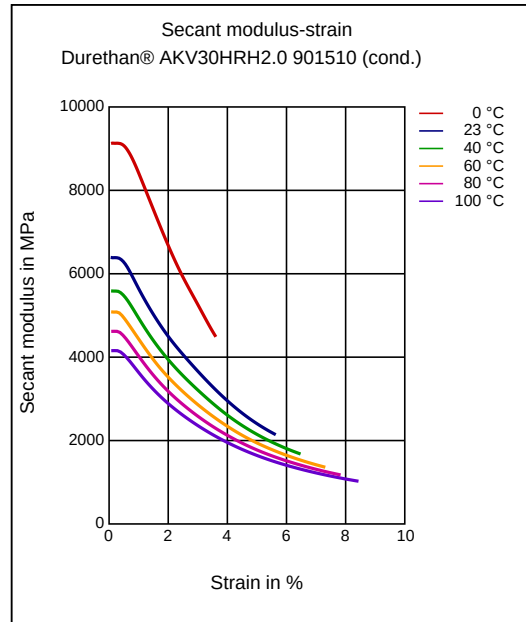
Stress-strain



Secant modulus-strain



Secant modulus-strain

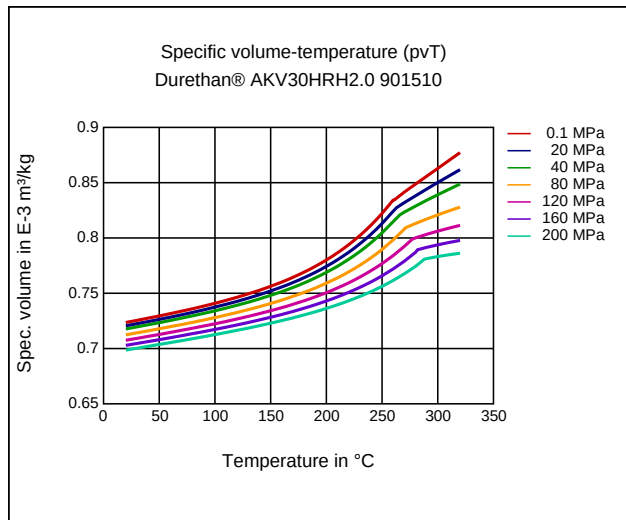


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Specific volume-temperature (pvT)



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Special Characteristics

Heat aging stabilized

Chemical Resistance

Hydrolysis

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