

TECHNICAL DATA SHEET

Akulon® K224-TG9

Envalior
PA6-GF45

Processing

Injection molding

Delivery Form

Pellets

Product Text

Product Information

45% Glass Reinforced

ISO 1043 PA6-GF45

Processing/Physical Characteristics	Value	Unit	Standard
Molding shrinkage, parallel	0.15	%	ISO 294-4, 2577
Molding shrinkage, normal	0.95	%	ISO 294-4, 2577
Density of melt	1329	kg/m ³	
Thermal conductivity of melt	0.33	W/(m K)	
Spec. heat capacity of melt	1920	J/(kg K)	
Eff. thermal diffusivity	1.27E-7	m ² /s	
Mechanical Properties	Value	Unit	Standard
Tensile modulus	14500	MPa	ISO 527
Stress at break	223	MPa	ISO 527
Strain at break	4	%	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	100	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	95	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	20	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	13	kJ/m ²	ISO 179/1eA
Thermal Properties	Value	Unit	Standard
Melting temperature, 10°C/min	220	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.80 MPa	210	°C	ISO 75-1/-2

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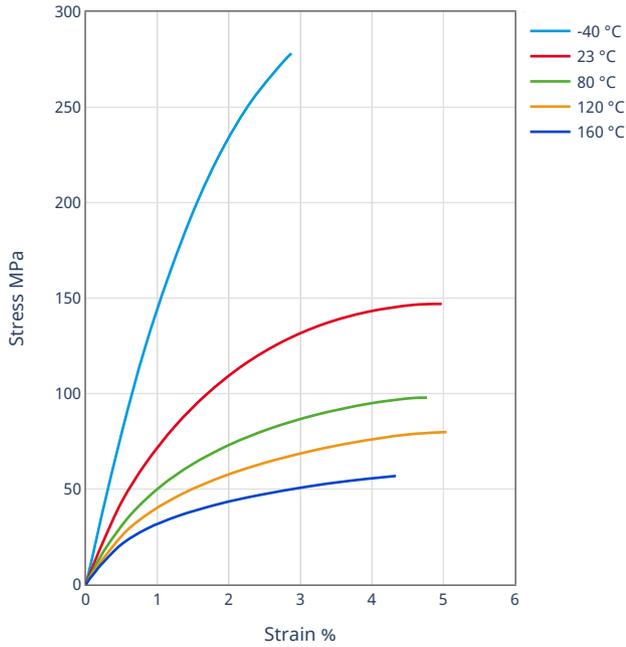
Thermal Properties	Value	Unit	Standard
Temp. of deflection under load, 0.45 MPa	220	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	20	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	50	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	
Yellow card available	yes		
Burning behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	3	mm	
Yellow card available	yes		
Electrical Properties	Value	Unit	Standard
Relative permittivity, 100Hz	3.5		IEC 62631-2-1
Relative permittivity, 1MHz	5.2		IEC 62631-2-1
Dissipation factor, 100Hz	50	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	150	E-4	IEC 62631-2-1
Volume resistivity	1E13	Ohm*m	IEC 62631-3-1
Surface resistivity	1E14	Ohm	IEC 62631-3-2
Electric strength	25	kV/mm	IEC 60243-1
Comparative tracking index	600		IEC 60112
Other Properties	Value	Unit	Standard
Water absorption	5	%	Sim. to ISO 62
Humidity absorption	1.5	%	Sim. to ISO 62
Density	1510	kg/m ³	ISO 1183

Diagrams

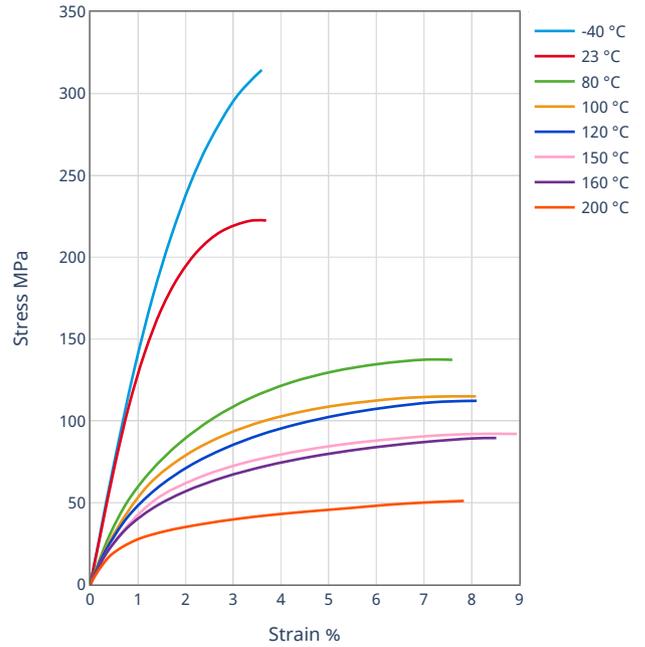
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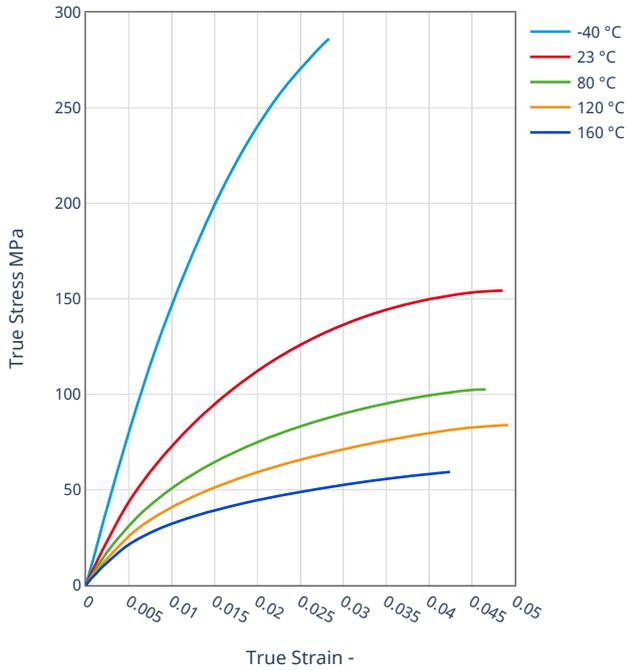
Stress-strain



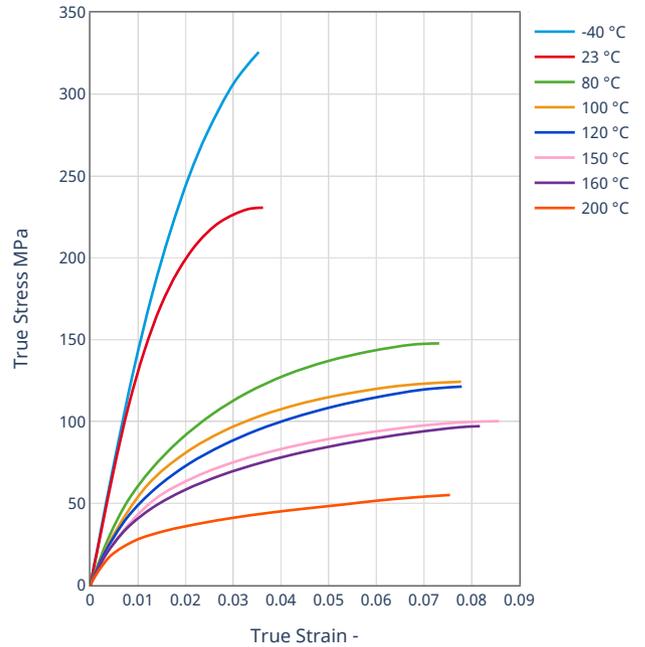
Stress-strain



True stress-true strain



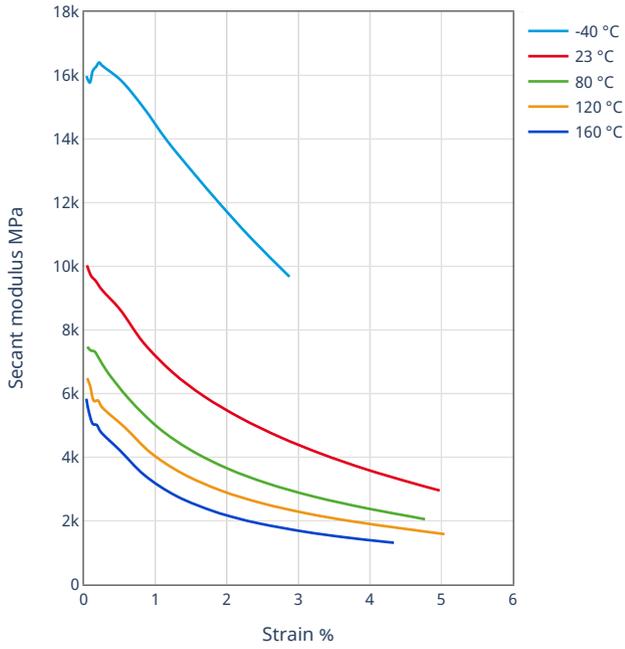
True stress-true strain



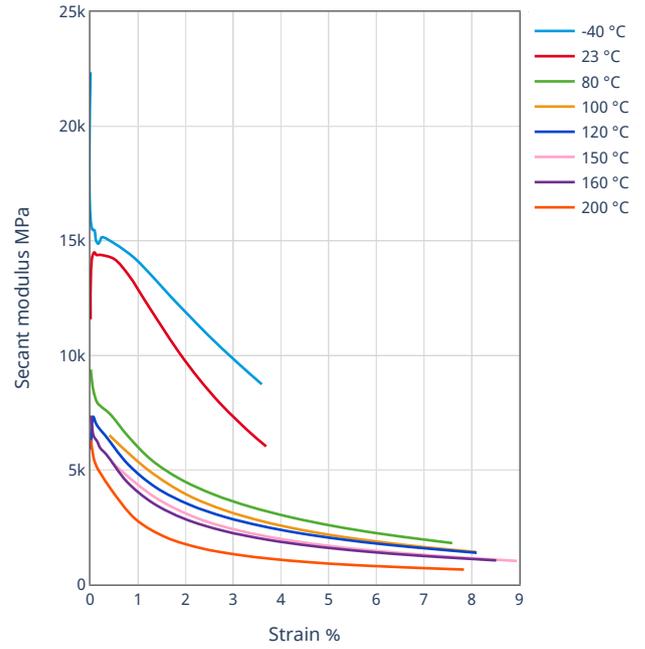
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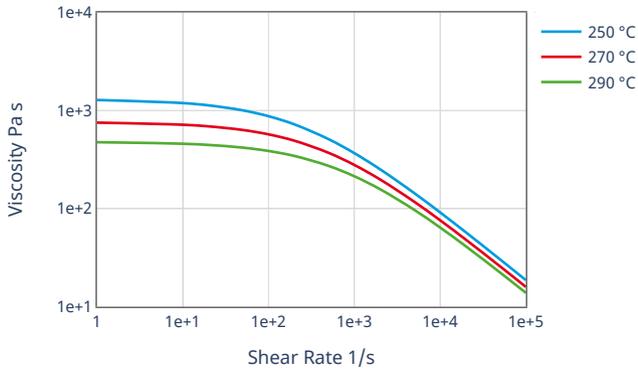
Secant modulus-strain



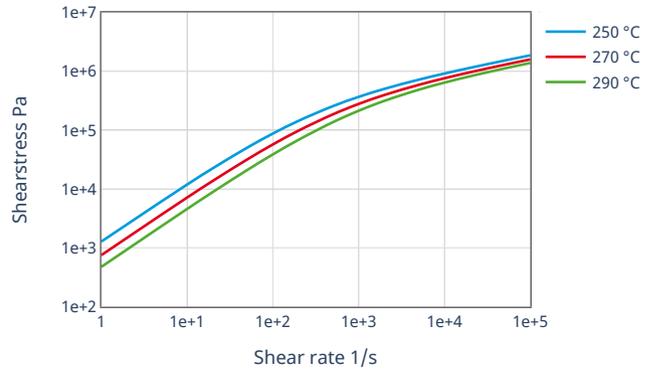
Secant modulus-strain



Viscosity-shear rate

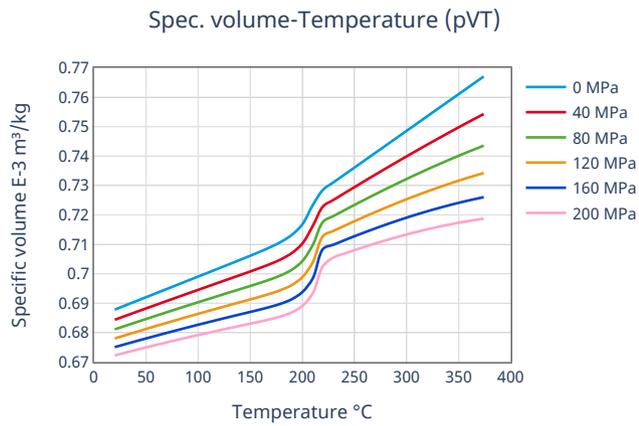


Shearstress-shear rate



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Processing Information

Injection molding

Injection Molding Recommendations

Steel recommendations for molds screws and barrels

Trouble shooting guideline for injection molding