

TECHNICAL DATA SHEET

Akulon® S223-E

Envalior
PA66

Processing

Injection molding

Delivery Form

Pellets

Additives

Lubricants

Product Text

Product Information

Low/Medium Viscosity

ISO 1043 PA66

Processing/Physical Characteristics	Value	Unit	Standard
Density of melt	969	kg/m ³	
Thermal conductivity of melt	0.13	W/(m K)	
Spec. heat capacity of melt	2750	J/(kg K)	
Eff. thermal diffusivity	4.87E-8	m ² /s	
Mechanical Properties	Value	Unit	Standard
Tensile modulus	3500	MPa	ISO 527
Yield stress	95	MPa	ISO 527
Yield strain	3.5	%	ISO 527
Nominal strain at break	10	%	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	N	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	N	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	6	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	6	kJ/m ²	ISO 179/1eA
Thermal Properties	Value	Unit	Standard
Melting temperature, 10°C/min	260	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.80 MPa	80	°C	ISO 75-1/-2

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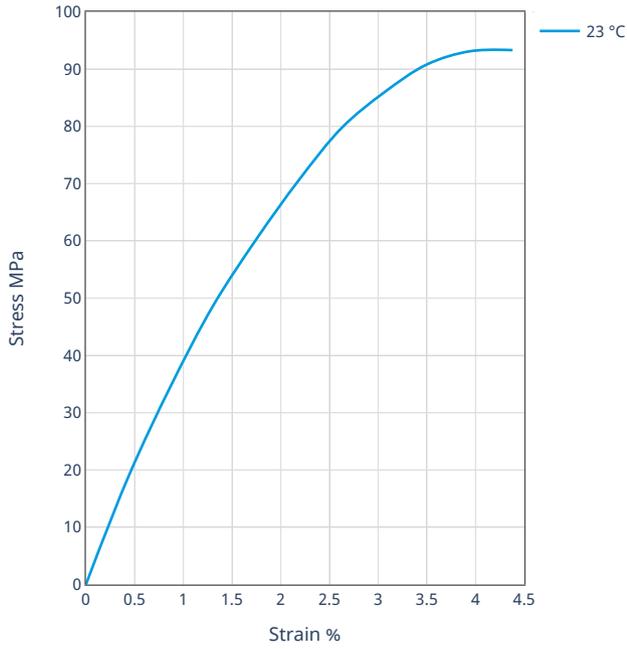
Thermal Properties	Value	Unit	Standard
Temp. of deflection under load, 0.45 MPa	225	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	100	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	100	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	V-2	class	IEC 60695-11-10
Thickness tested	1.5	mm	
Yellow card available	yes		
Burning behav. at thickness h	V-2	class	IEC 60695-11-10
Thickness tested	3	mm	
Yellow card available	yes		
Electrical Properties	Value	Unit	Standard
Relative permittivity, 100Hz	3.2		IEC 62631-2-1
Relative permittivity, 1MHz	3		IEC 62631-2-1
Dissipation factor, 100Hz	60	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	170	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	8.5	%	Sim. to ISO 62
Humidity absorption	2.3	%	Sim. to ISO 62
Density	1140	kg/m ³	ISO 1183

Diagrams

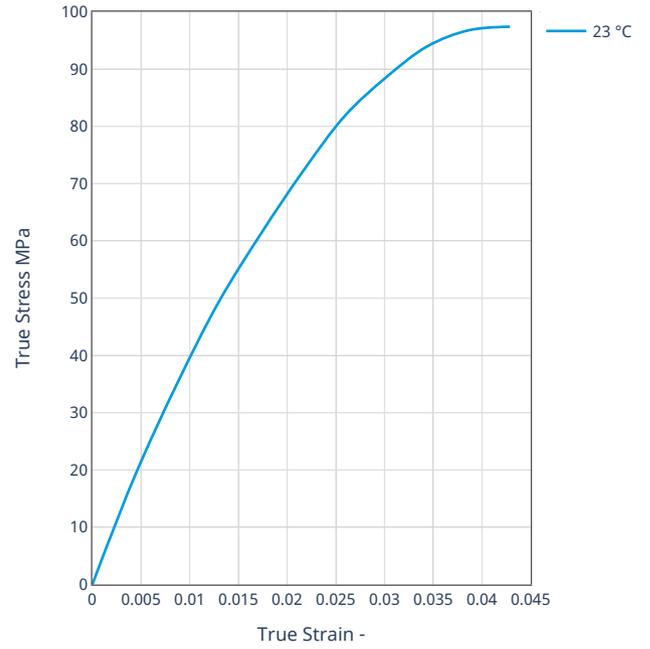
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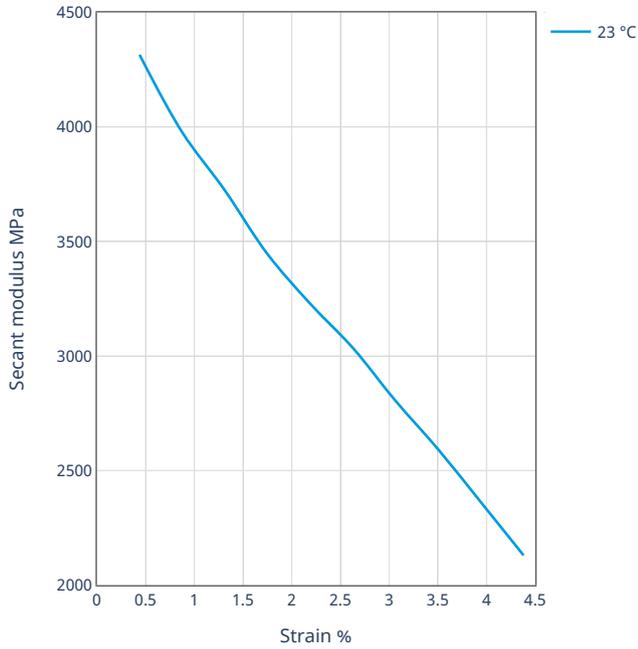
Stress-strain



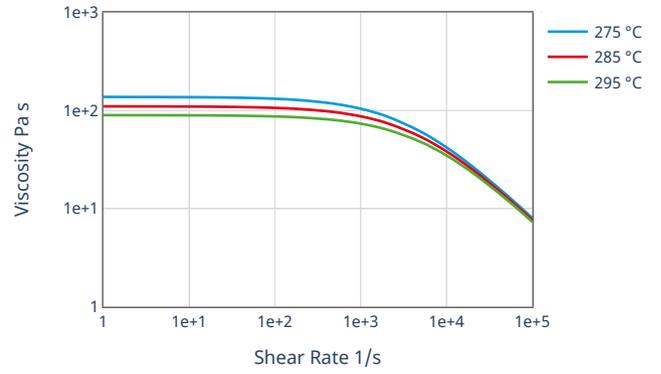
True stress-true strain



Secant modulus-strain



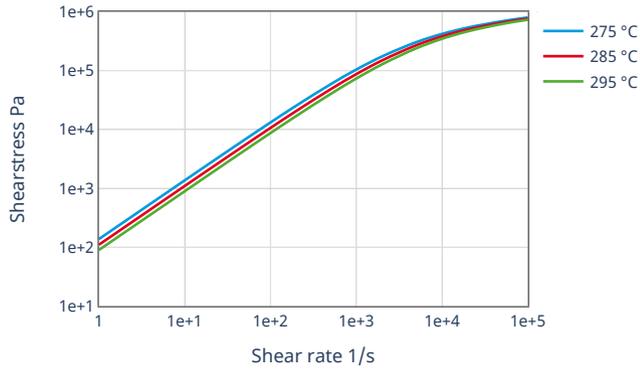
Viscosity-shear rate



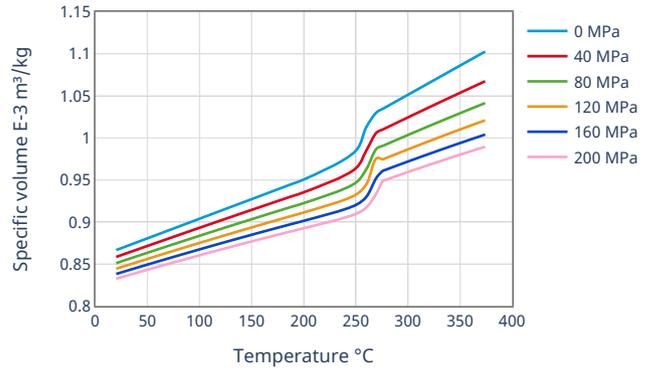
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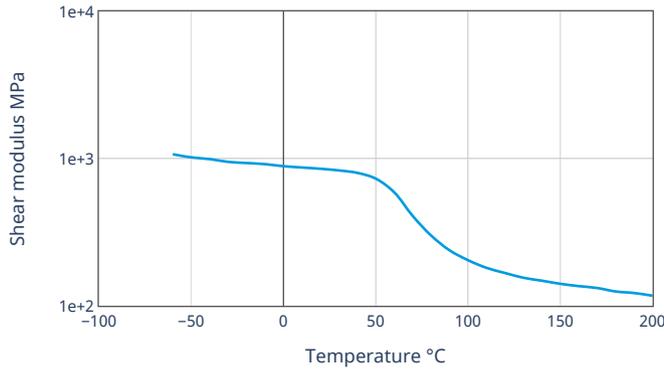
Shearstress-shear rate



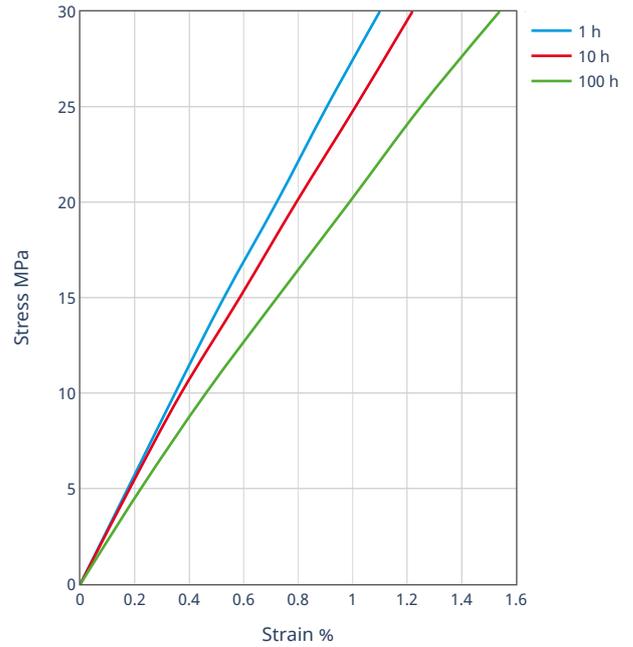
Spec. volume-Temperature (pVT)



Dynamic shear modulus-temperature



Stress-strain (isochronous) 23°C



Processing Information

Injection molding

Injection Molding Recommendations

Steel recommendations for molds screws and barrels

Trouble shooting guideline for injection molding