

TECHNICAL DATA SHEET

# Akulon® K223-TP4

Envalior  
PA6-I

**Processing**

Injection molding

**Delivery Form**

Pellets

**Additives**

Release agent

**Special Characteristics**

High impact or impact modified

## Product Text

**Product Information**

Impact Modified

ISO 1043 PA6-I

Processing/Physical Characteristics	Value	Unit	Standard
Melt volume-flow rate, MVR	19	cm <sup>3</sup> /10min	ISO 1133
Temperature	250	°C	
Load	2.16	kg	
Molding shrinkage, parallel	1.4	%	ISO 294-4, 2577
Molding shrinkage, normal	1.7	%	ISO 294-4, 2577
Density of melt	869	kg/m <sup>3</sup>	
Thermal conductivity of melt	0.22	W/(m K)	
Spec. heat capacity of melt	2740	J/(kg K)	
Eff. thermal diffusivity	9.37E-8	m <sup>2</sup> /s	
Mechanical Properties	Value	Unit	Standard
Tensile modulus	2100	MPa	ISO 527
Yield stress	52	MPa	ISO 527
Yield strain	4	%	ISO 527
Nominal strain at break	>50	%	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	N	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	N	kJ/m <sup>2</sup>	ISO 179/1eU

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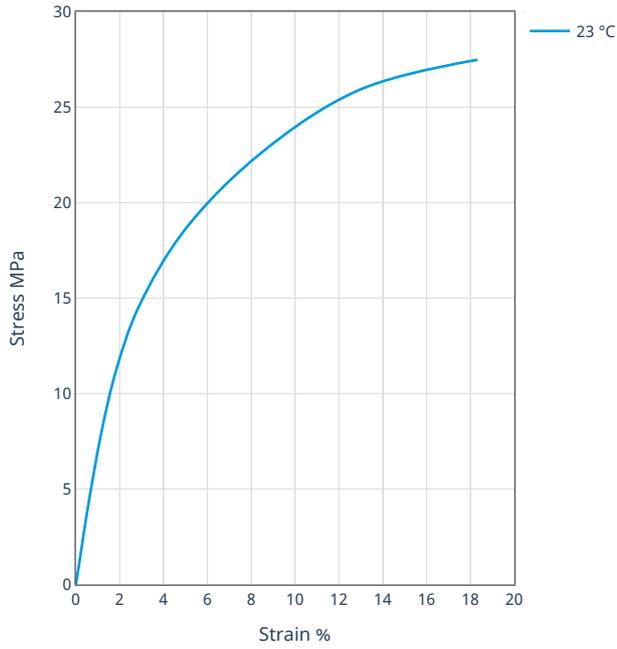
Mechanical Properties	Value	Unit	Standard
Charpy notched impact strength, +23°C	65	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	18	kJ/m <sup>2</sup>	ISO 179/1eA
Thermal Properties	Value	Unit	Standard
Temp. of deflection under load, 1.80 MPa	55	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	130	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	120	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	120	E-6/K	ISO 11359-1/-2
Burning rate, FMVSS, thickness 1 mm	30	mm/min	ISO 3795 (FMVSS 302)
Electrical Properties	Value	Unit	Standard
Relative permittivity, 100Hz	3.1		IEC 62631-2-1
Relative permittivity, 1MHz	2.7		IEC 62631-2-1
Dissipation factor, 100Hz	30	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	160	E-4	IEC 62631-2-1
Volume resistivity	1E13	Ohm*m	IEC 62631-3-1
Surface resistivity	5E14	Ohm	IEC 62631-3-2
Electric strength	27	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	1070	kg/m <sup>3</sup>	ISO 1183

## Diagrams

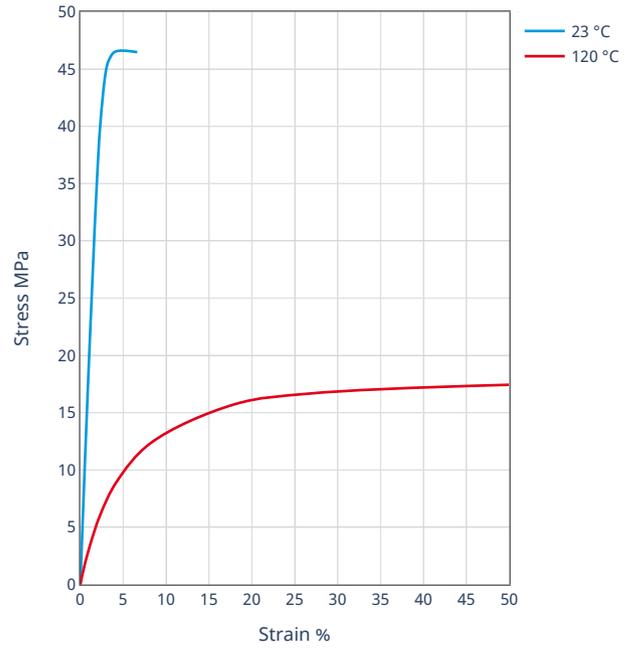
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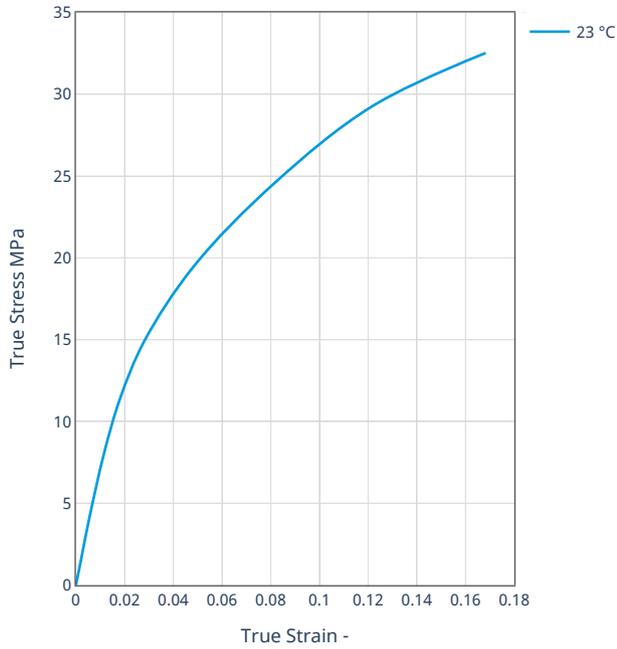
Stress-strain



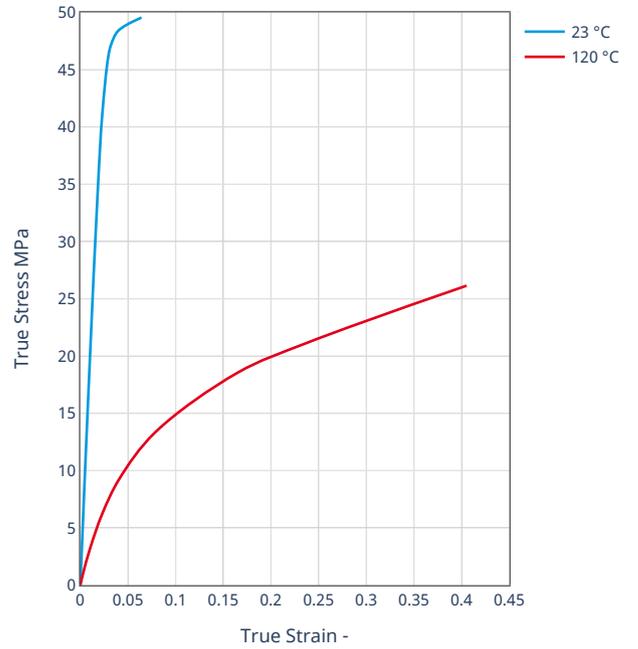
Stress-strain



True stress-true strain



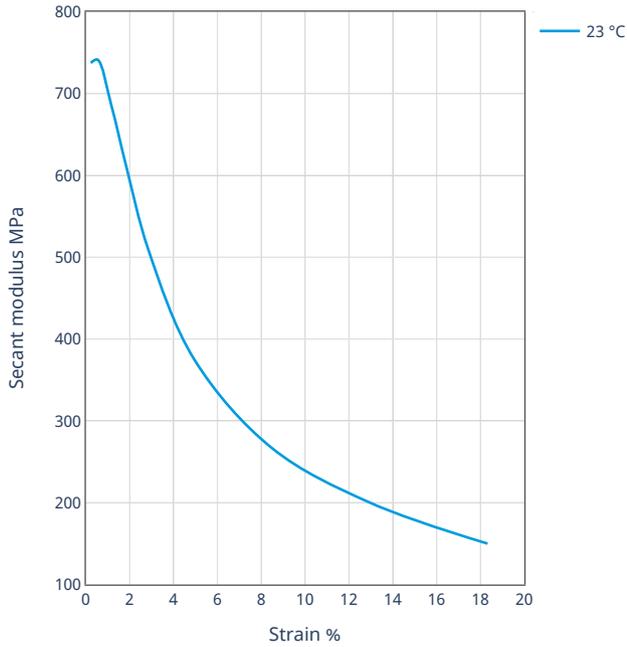
True stress-true strain



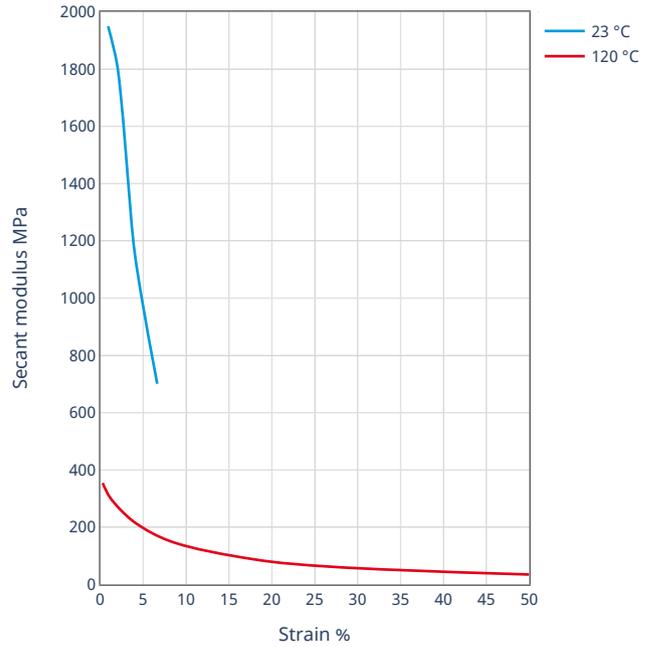
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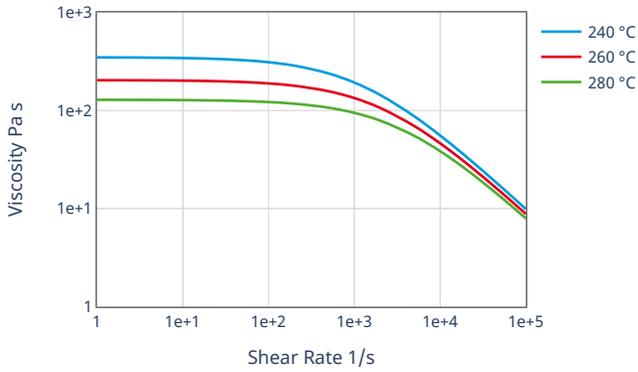
Secant modulus-strain



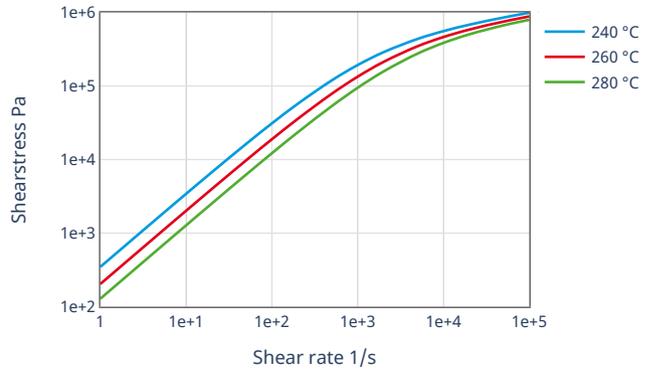
Secant modulus-strain



Viscosity-shear rate

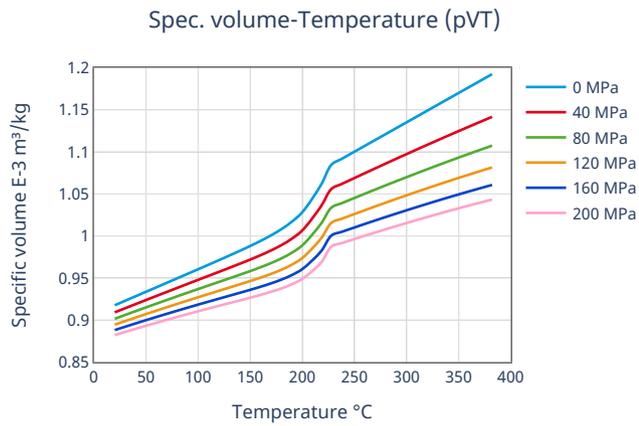


Shearstress-shear rate



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## Processing Information

### Injection molding

Injection Molding Recommendations

Steel recommendations for molds screws and barrels

Trouble shooting guideline for injection molding