

TECHNICAL DATA SHEET

Akulon® F223-D

Envalior
PA6

Processing

Injection molding

Delivery Form

Pellets

Additives

Release agent

Certifications

Food contact

Applications

General purpose

Product Text

Product Information

Low/Medium Viscosity, General purpose, Injection Molding, Food Contact Quality

ISO 1043 PA6

Processing/Physical Characteristics	Value	Unit	Standard
Melt volume-flow rate, MVR	44	cm ³ /10min	ISO 1133
Temperature	260	°C	
Load	2.16	kg	
Molding shrinkage, parallel	1.1	%	ISO 294-4, 2577
Molding shrinkage, normal	1.1	%	ISO 294-4, 2577
Density of melt	960	kg/m ³	
Thermal conductivity of melt	0.23	W/(m K)	
Spec. heat capacity of melt	2680	J/(kg K)	
Eff. thermal diffusivity	8.82E-8	m ² /s	

Mechanical Properties	Value	Unit	Standard
Tensile modulus	3200	MPa	ISO 527
Yield stress	87	MPa	ISO 527
Yield strain	4	%	ISO 527
Nominal strain at break	20	%	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	N	kJ/m ²	ISO 179/1eU

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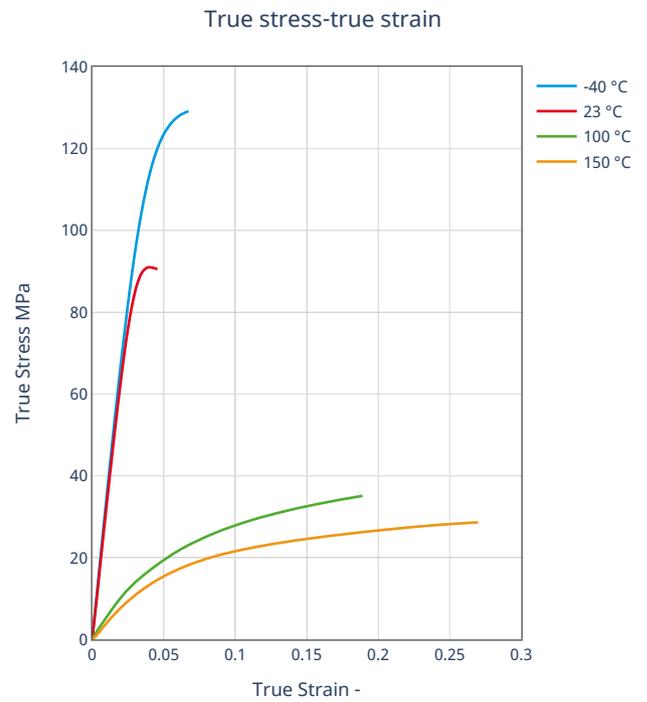
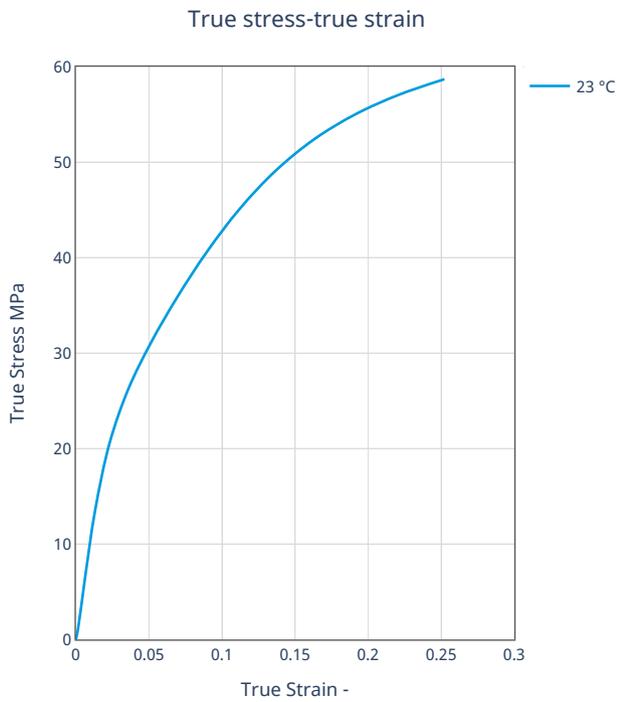
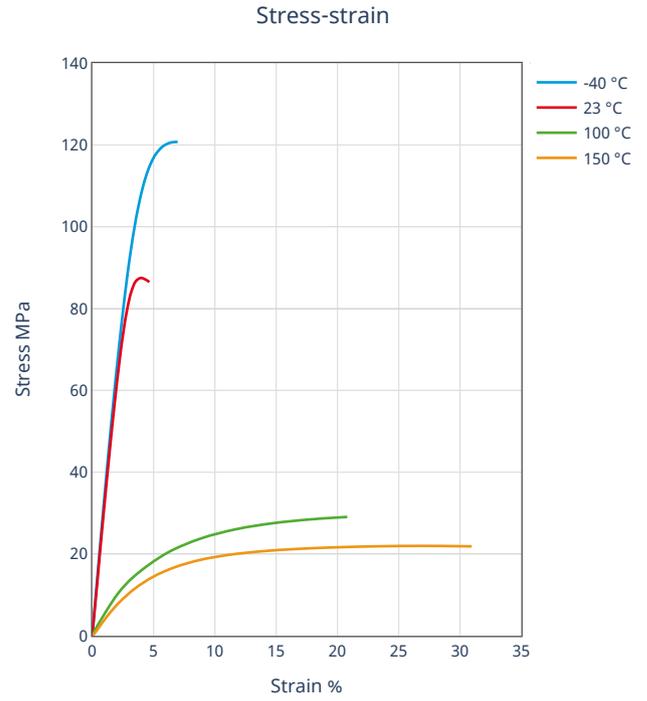
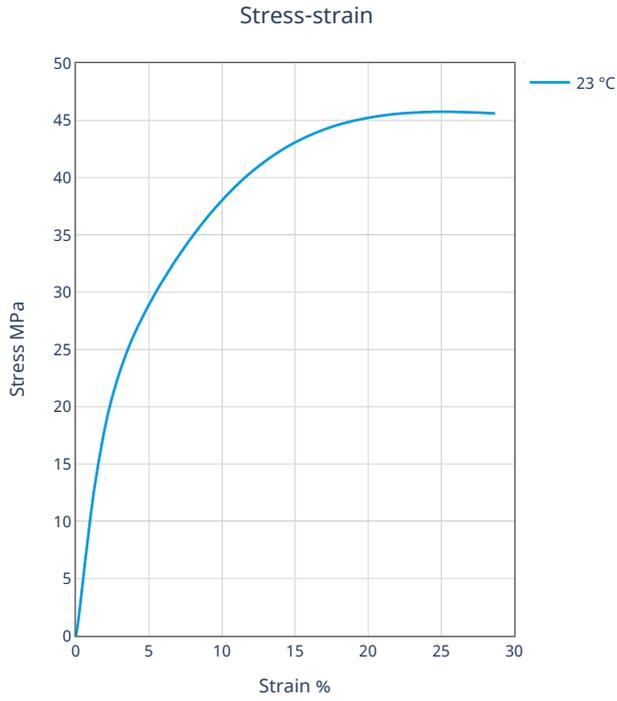
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Mechanical Properties	Value	Unit	Standard
Charpy impact strength, -30°C	N	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	4.5	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	2.5	kJ/m ²	ISO 179/1eA
Thermal Properties	Value	Unit	Standard
Melting temperature, 10°C/min	220	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.80 MPa	60	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	150	°C	ISO 75-1/-2
Vicat softening temperature, B	195	°C	ISO 306
Coeff. of linear therm. expansion, parallel	90	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.	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		
Oxygen index	26	%	ISO 4589-1/-2
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	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	28	kV/mm	IEC 60243-1
Comparative tracking index	600		IEC 60112
Other Properties	Value	Unit	Standard
Water absorption	10	%	Sim. to ISO 62
Humidity absorption	2.8	%	Sim. to ISO 62
Density	1130	kg/m ³	ISO 1183
Material Specific Properties	Value	Unit	Standard
Viscosity number	132	cm ³ /g	ISO 307, 1157, 1628

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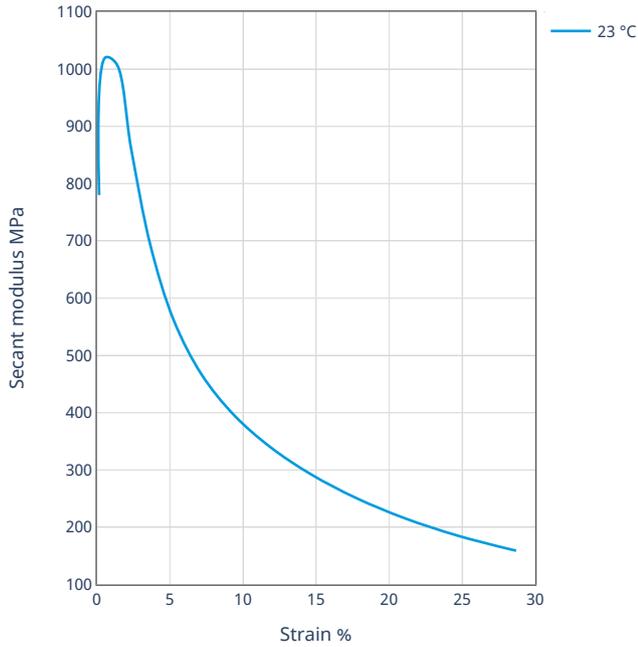
Diagrams



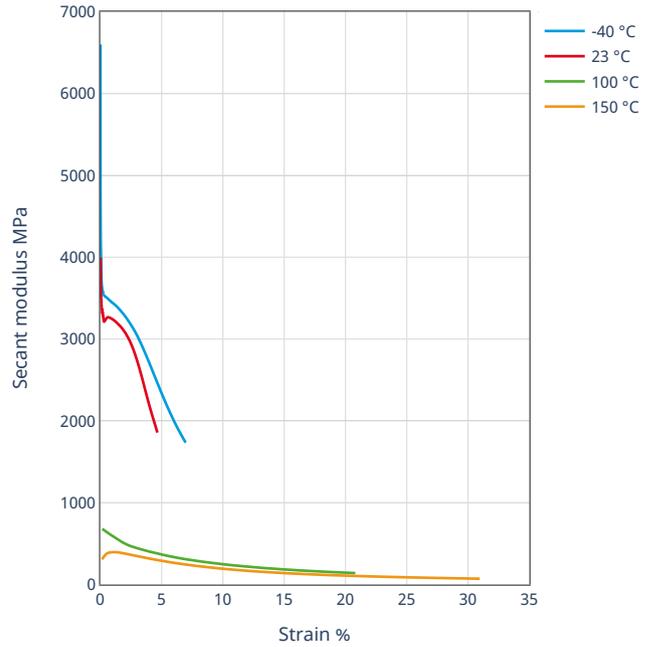
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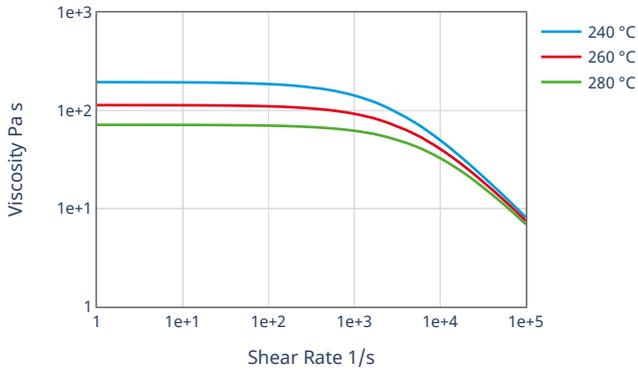
Secant modulus-strain



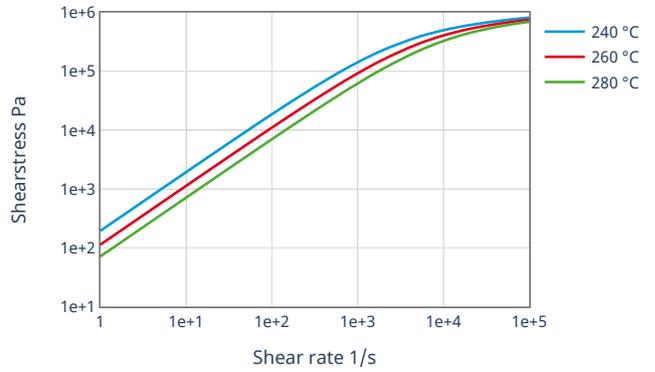
Secant modulus-strain



Viscosity-shear rate



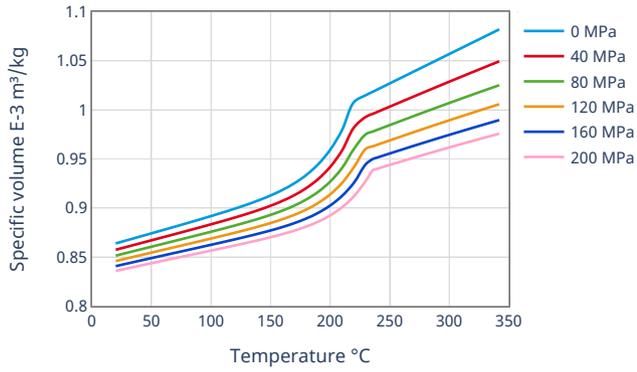
Shearstress-shear rate



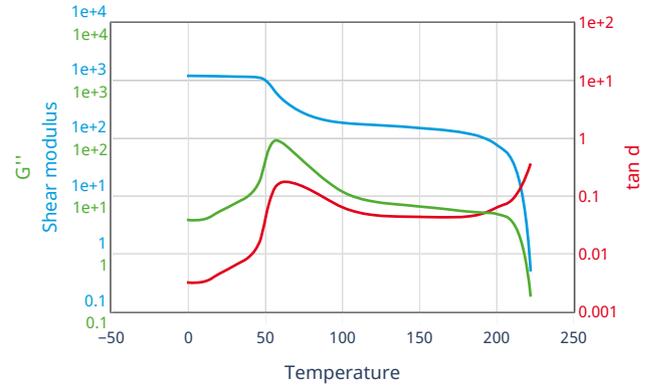
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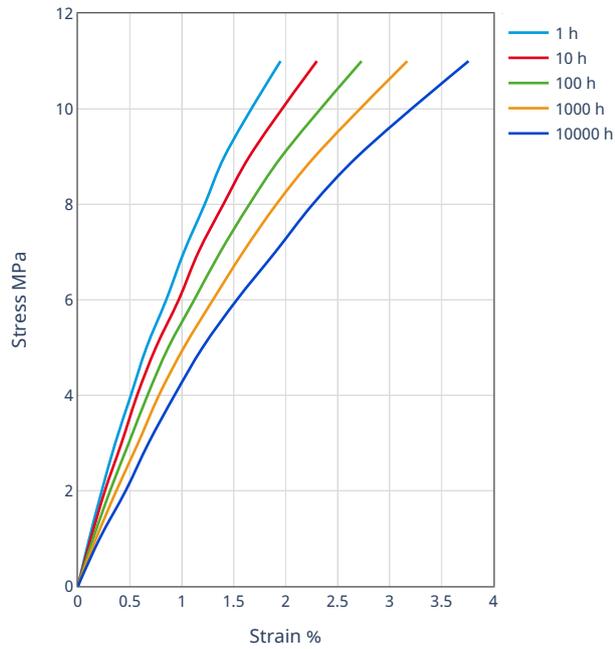
Spec. volume-Temperature (pVT)



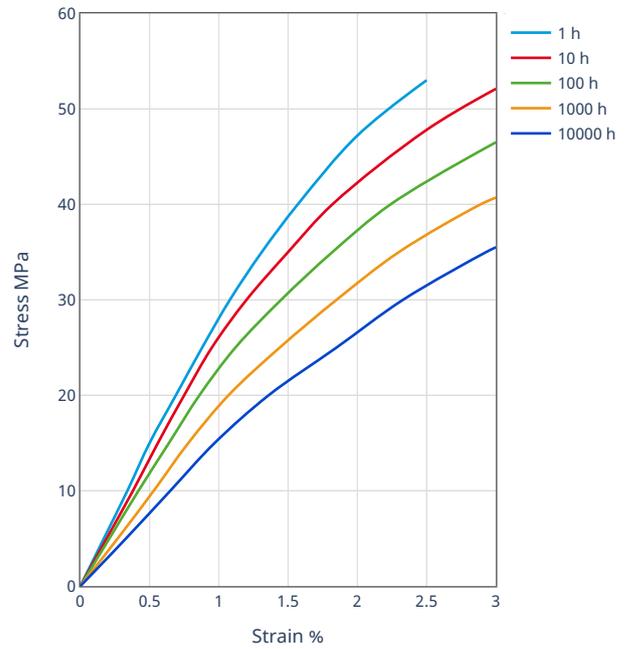
Dynamic shear modulus-temperature



Stress-strain (isochronous) 23°C



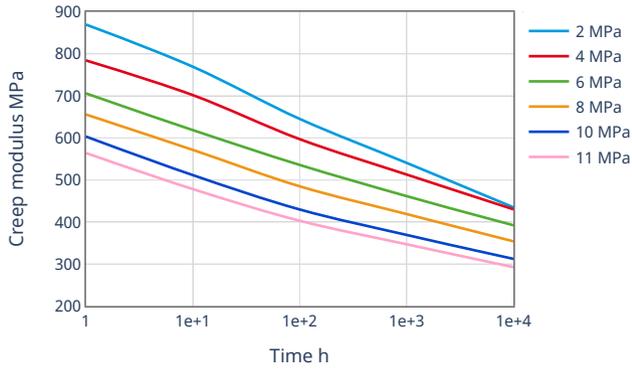
Stress-strain (isochronous) 23°C



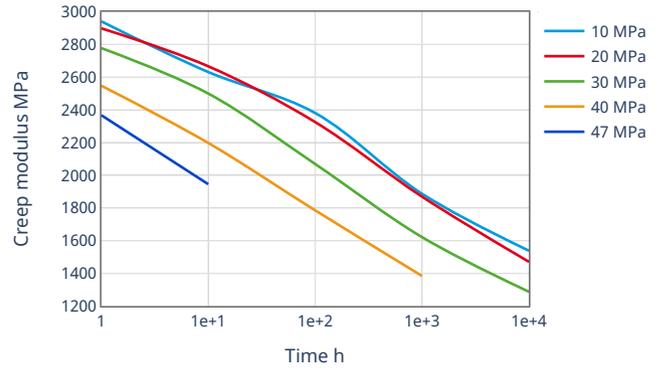
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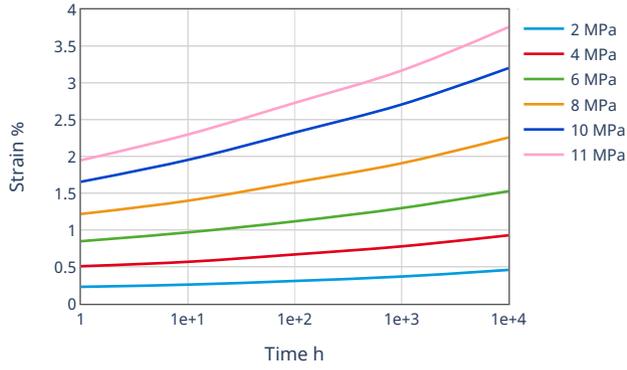
Creep modulus-time 23°C



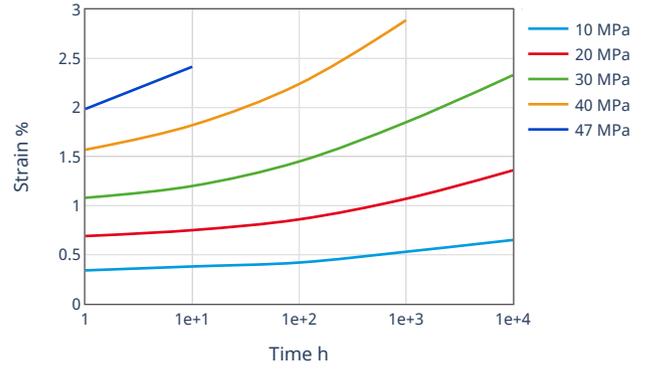
Creep modulus-time 23°C



Creep curve 23°C



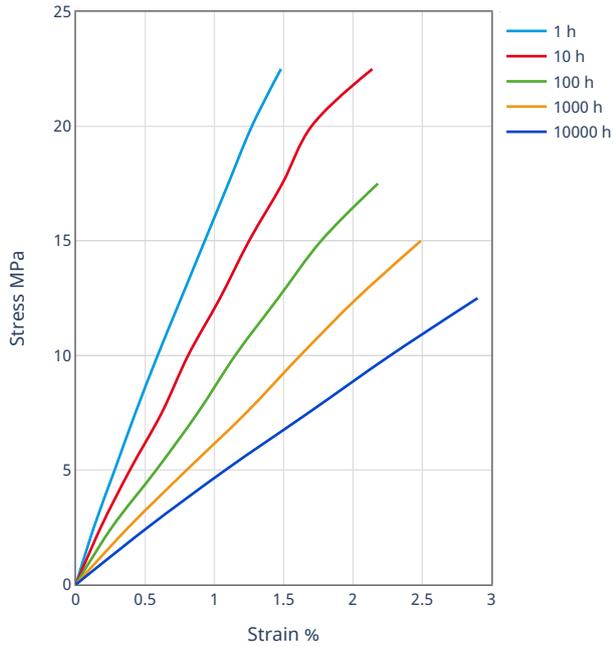
Creep curve 23°C



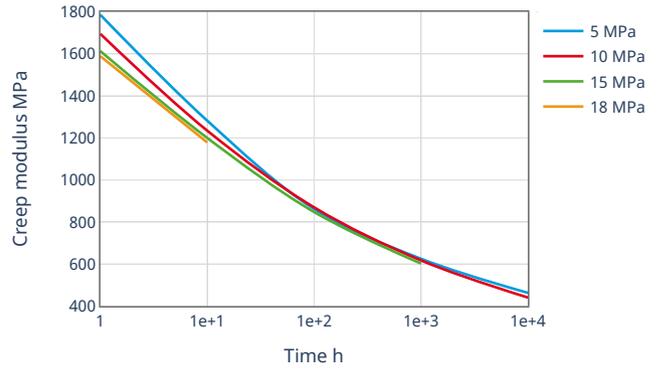
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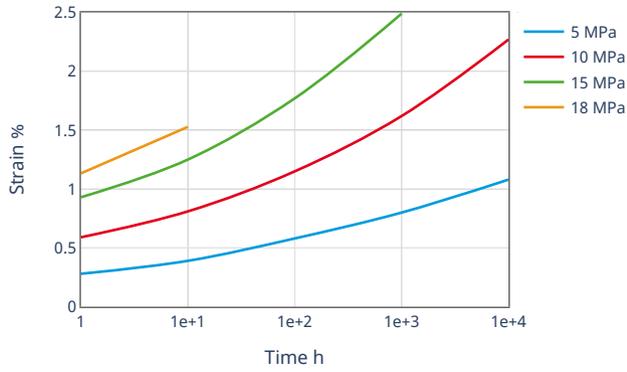
Stress-strain (isochronous) 40°C



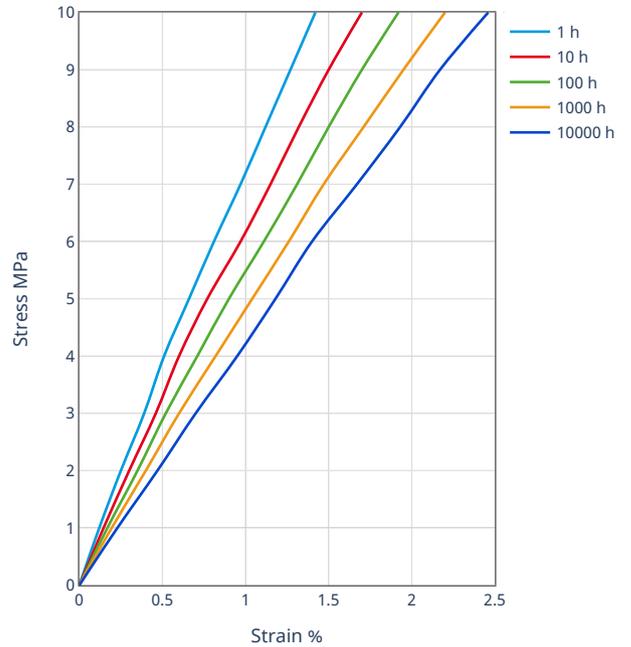
Creep modulus-time 40°C



Creep curve 40°C



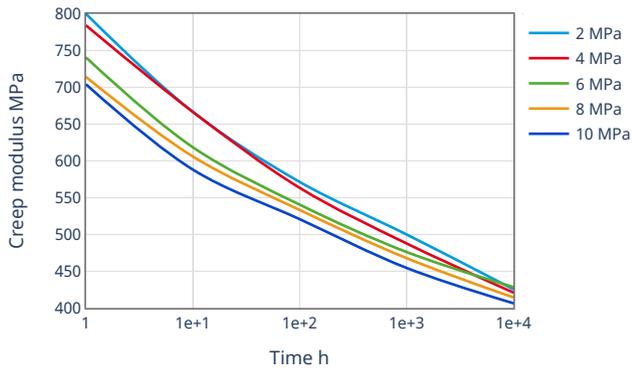
Stress-strain (isochronous) 60°C



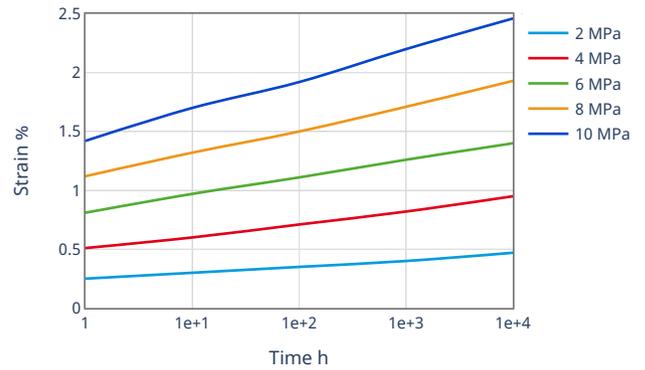
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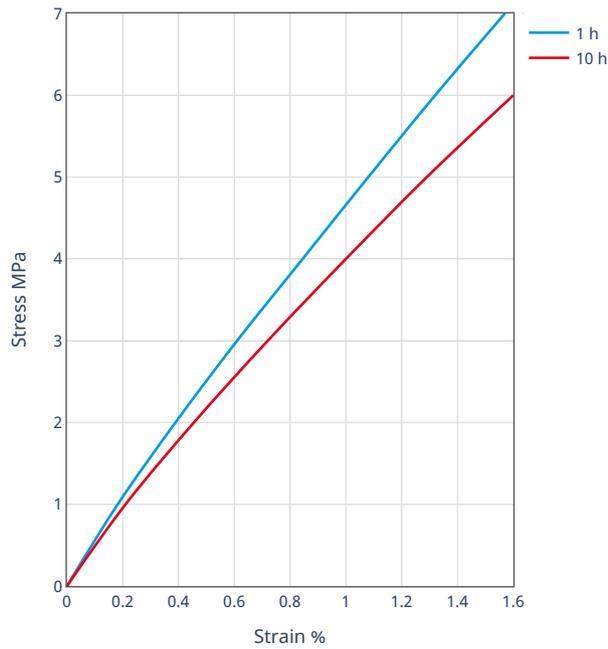
Creep modulus-time 60°C



Creep curve 60°C



Stress-strain (isochronous) 100°C



Processing Information

Injection molding

Injection Molding Recommendations

Steel recommendations for molds screws and barrels

Trouble shooting guideline for injection molding