TECHNICAL DATA SHEET

Stanyl® TW341

Envalior

PA46

Processing

Injection molding

Additives

Lubricants, Release agent

Delivery Form

Pellets

Special Characteristics

Platable, Heat stabilized or stable to heat

Product Text

Product Information

Heat Stabilized, Lubricated

ISO 1043 PA46

Stanyl® TW341 is a V2 UL-rated, non-reinforced high heat polyamide that offers excellent wear & friction properties in combination with outstanding creep resistance, strength, stiffness and fatigue resistance especially at high temperatures in combination with cycle-time advantages and excellent flow.

Processing/Physical Characteristics	Value	Unit	Standard
Density of melt	990	kg/m³	
Thermal conductivity of melt	0.25	W/(m K)	
Spec. heat capacity of melt	2665	J/(kg K)	
Eff. thermal diffusivity	9.21E-8	m²/s	

Mechanical Properties	Value	Unit	Standard
Tensile modulus	3300	MPa	ISO 527
Yield stress	100	MPa	ISO 527
Yield strain	10	%	ISO 527
Nominal strain at break	40	%	ISO 527
Poisson's ratio	0.35		ISO 527
Tensile creep modulus, 1000h	550	MPa	ISO 899-1
Charpy impact strength, +23°C	N	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	N	kJ/m²	ISO 179/1eU

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Mechanical Properties	Value	Unit	Standard
Charpy notched impact strength, +23°C	10	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	4	kJ/m²	ISO 179/1eA

Thermal Properties	Value	Unit	Standard
Melting temperature, 10°C/min	295	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	75	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	190	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	280	°C	ISO 75-1/-2
Vicat softening temperature, B	290	°C	ISO 306
Coeff. of linear therm. expansion, parallel	85	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	110	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	27	%	ISO 4589-1/-2

Electrical Properties	Value	Unit	Standard
Relative permittivity, 100Hz	3.9		IEC 62631-2-1
Relative permittivity, 1MHz	3.6		IEC 62631-2-1
Dissipation factor, 100Hz	70	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	260	E-4	IEC 62631-2-1
Volume resistivity	1E13	Ohm*m	IEC 62631-3-1
Surface resistivity	1E13	Ohm	IEC 62631-3-2
Electric strength	25	kV/mm	IEC 60243-1
Comparative tracking index	400		IEC 60112

Other Properties	Value	Unit	Standard
Water absorption	13.5	%	Sim. to ISO 62
Humidity absorption	3.7	%	Sim. to ISO 62
Density	1180	kg/m³	ISO 1183

Material Specific Properties	Value	Unit	Standard
Viscosity number	185	cm³/g	ISO 307, 1157, 1628

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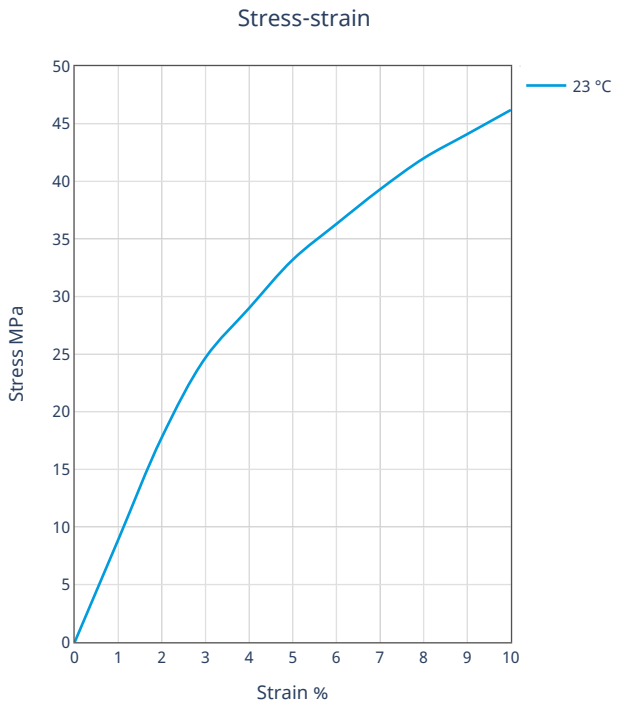
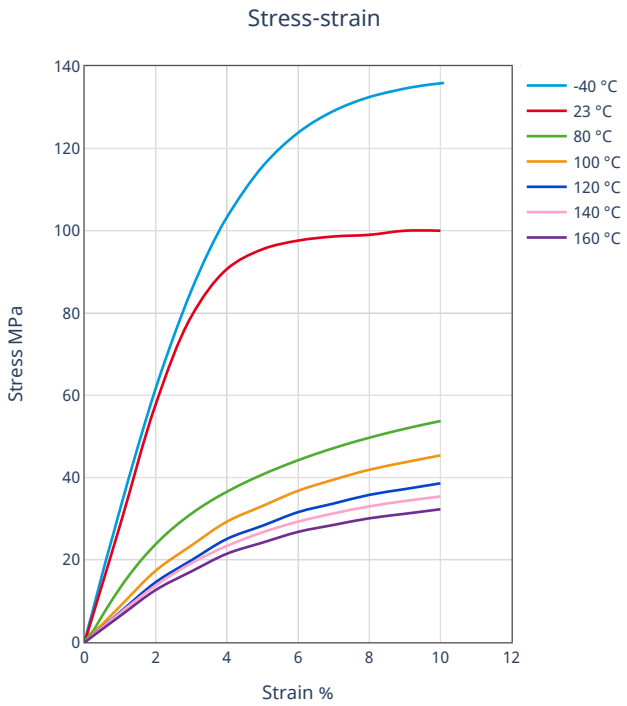
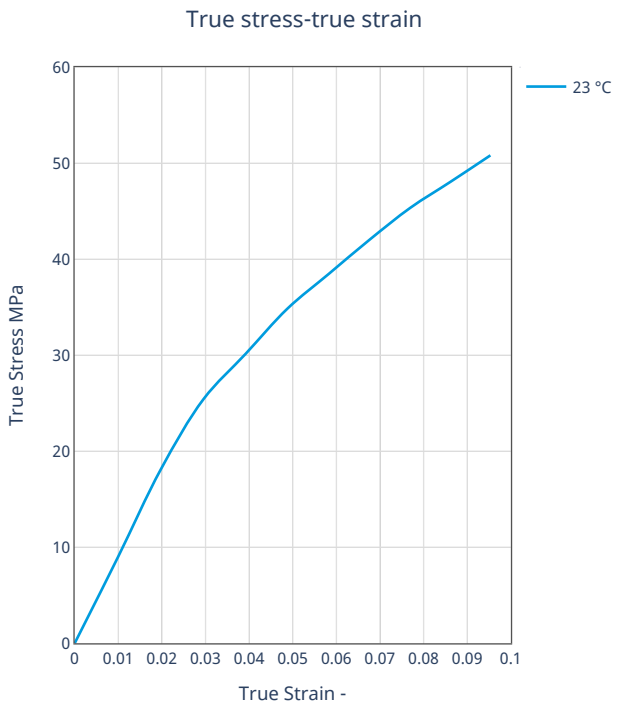
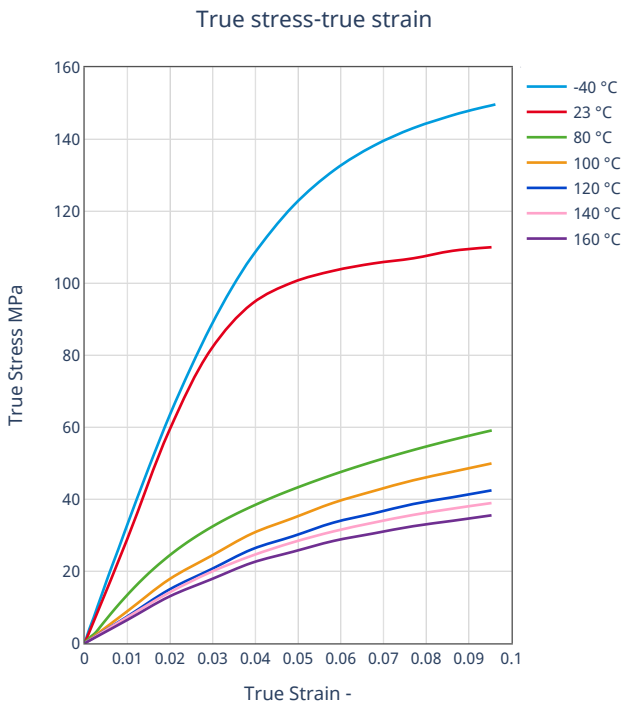
Diagrams









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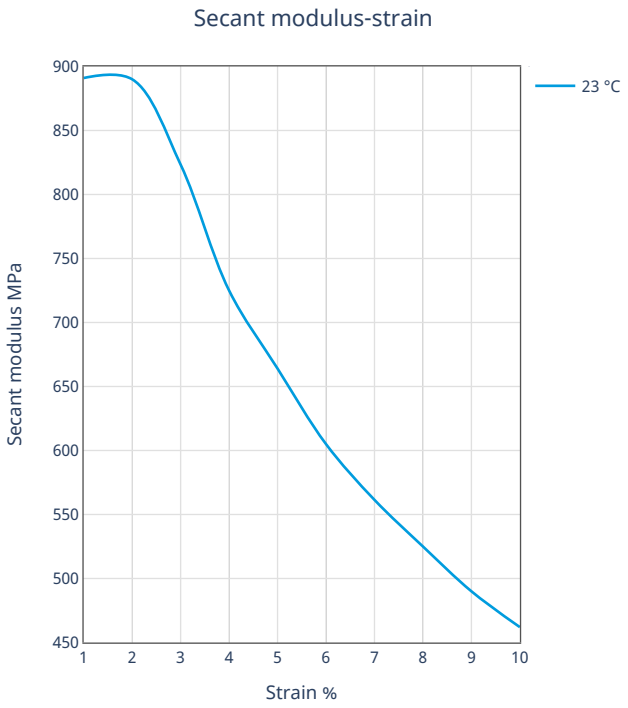

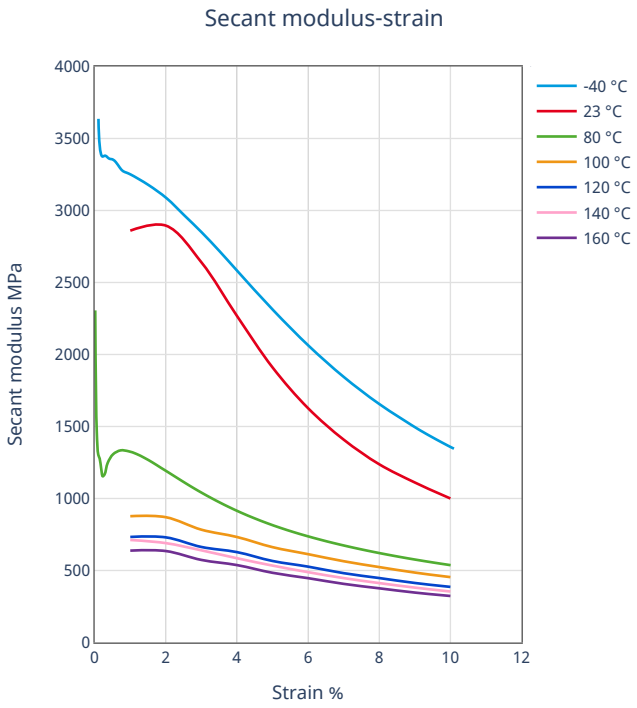

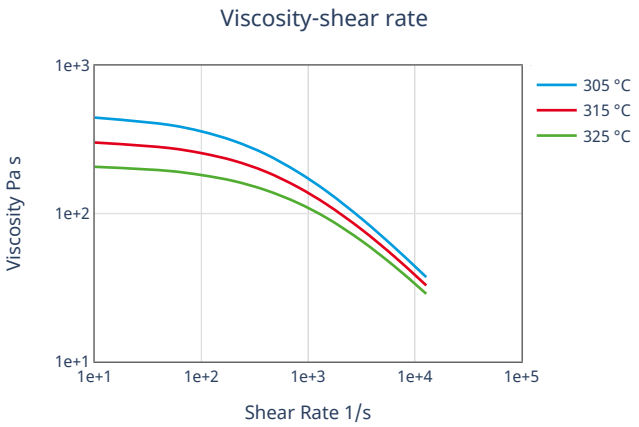

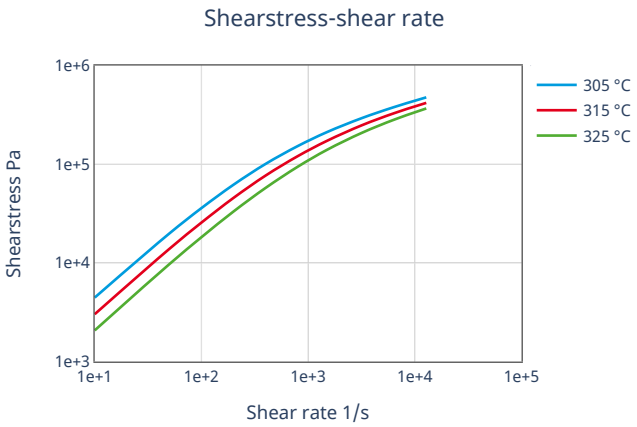

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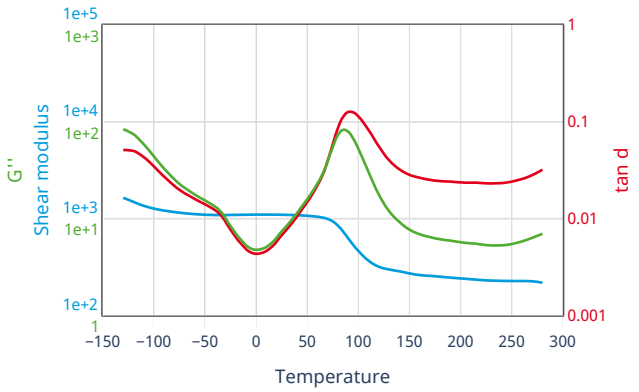
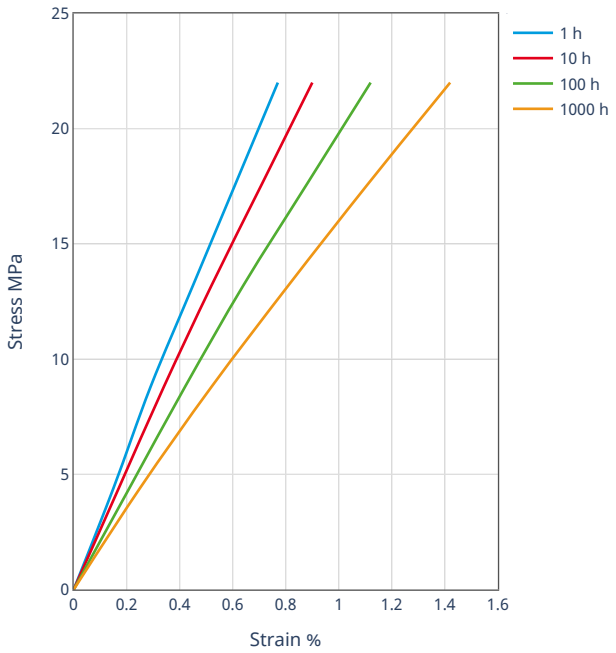
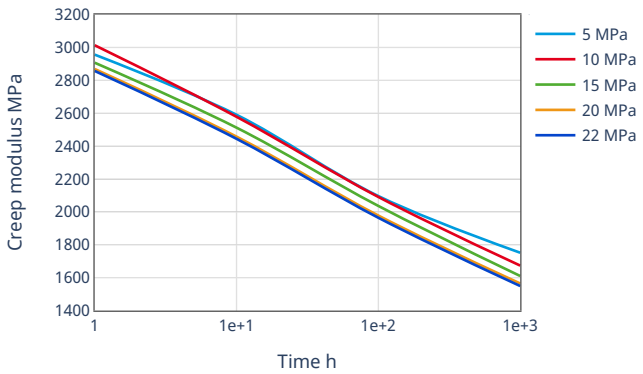
Dynamic shear modulus-temperature



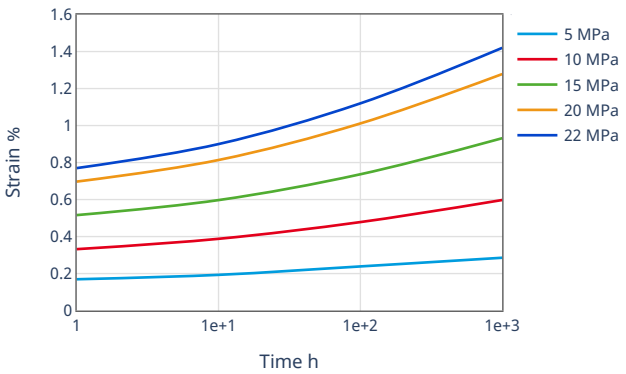
Stress-strain (isochronous) 23°C



Creep modulus-time 23°C



Creep curve 23°C



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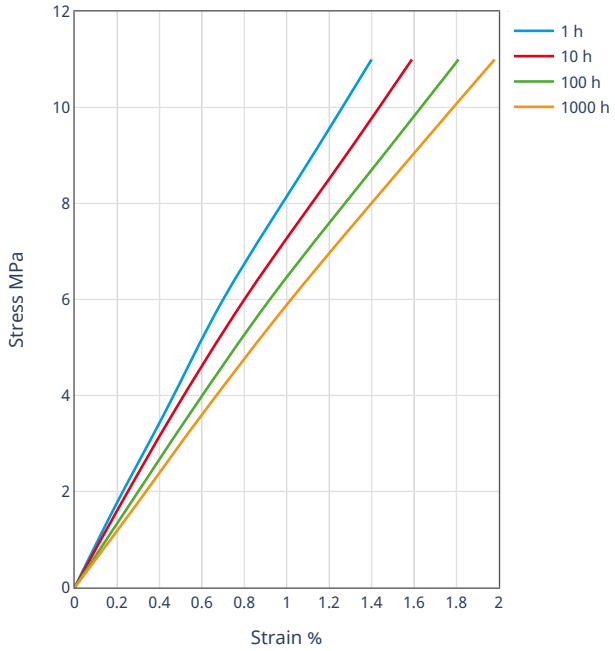
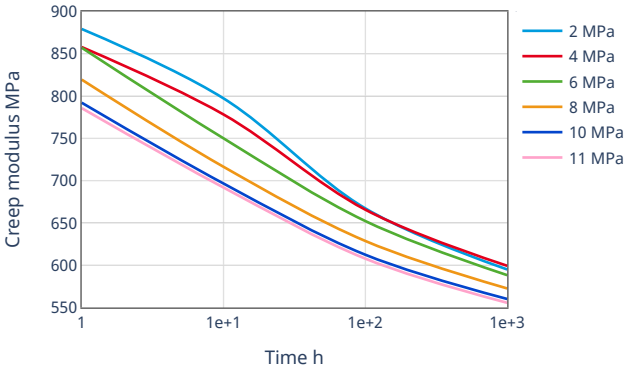
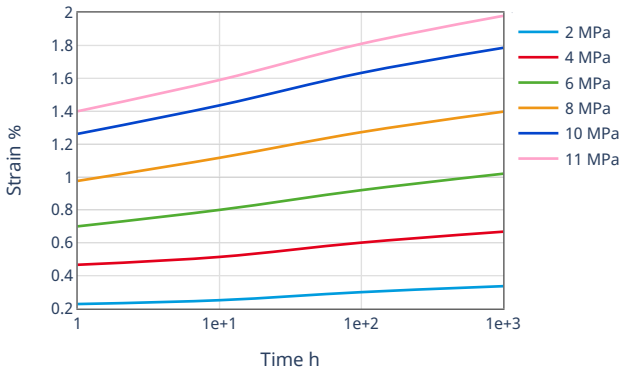
Stress-strain (isochronous) 100°C



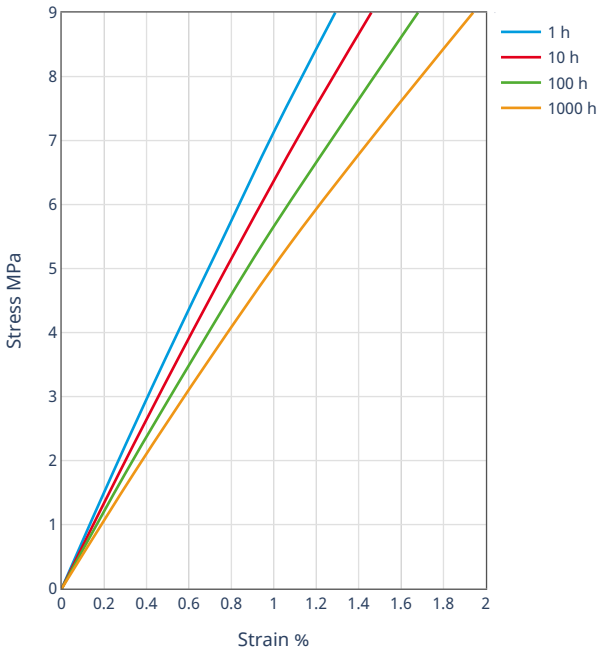
Creep modulus-time 100°C



Creep curve 100°C



Stress-strain (isochronous) 140°C



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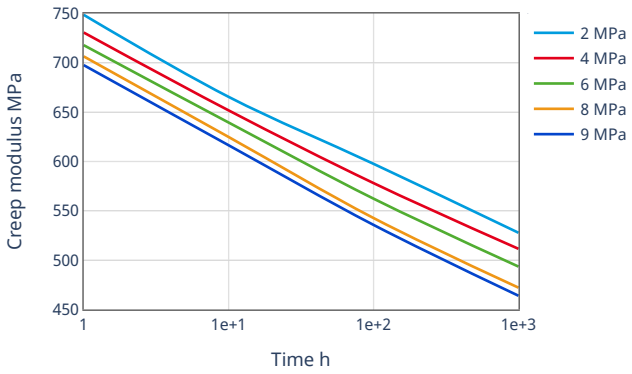
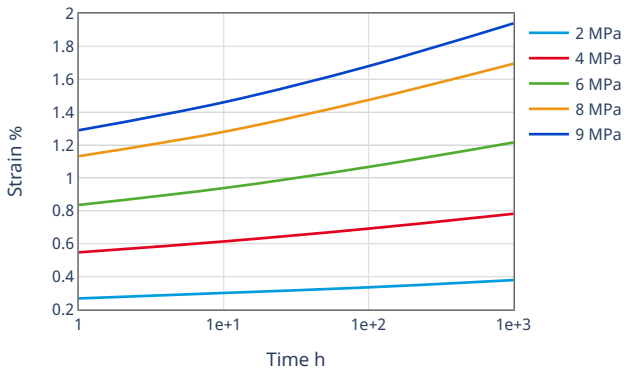
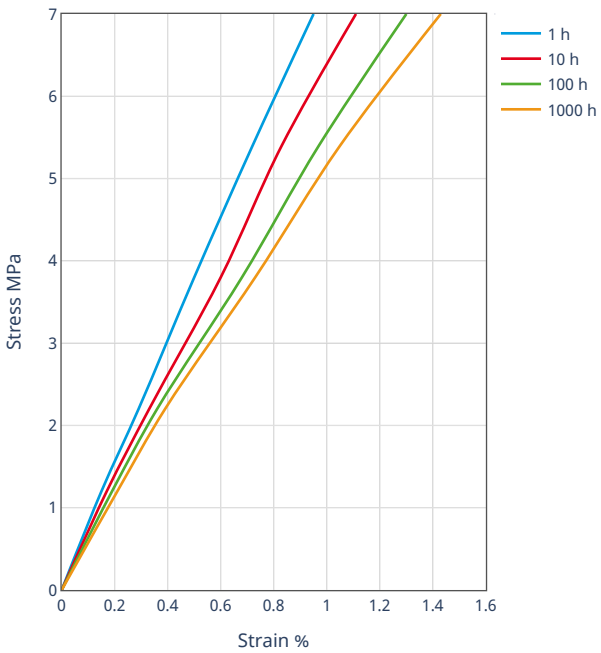
Creep modulus-time 140°C



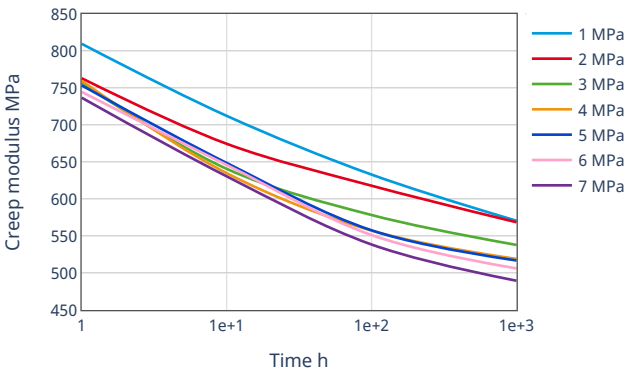
Creep curve 140°C



Stress-strain (isochronous) 160°C



Creep modulus-time 160°C



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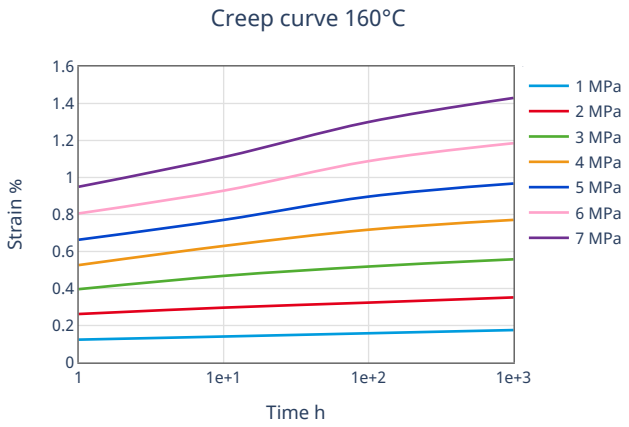

Processing Information

Injection molding

Injection Molding Recommendations
Hot runner recommendations for molding high heat performance Engineering Materials
Steel recommendations for molds screws and barrels
Supporting document for Stanyl quality processing
Trouble shooting guideline for injection molding