

TECHNICAL DATA SHEET

Stanyl® TW363

Envalior
PA46-I

Processing

Injection molding, Profile extrusion, Other extrusion

Delivery Form

Pellets

Special Characteristics

Platable, High impact or impact modified, Heat stabilized or stable to heat

Product Text

Product Information

Heat Stabilized, Impact Modified

ISO 1043 PA46-I

Stanyl® TW363 is an impact-modified 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	913	kg/m ³	
Thermal conductivity of melt	0.24	W/(m K)	
Spec. heat capacity of melt	2550	J/(kg K)	
Eff. thermal diffusivity	9.82E-7	m ² /s	

Mechanical Properties	Value	Unit	Standard
Tensile modulus	1850	MPa	ISO 527
Yield stress	60	MPa	ISO 527
Yield strain	20	%	ISO 527
Nominal strain at break	>50	%	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	75	kJ/m ²	ISO 179/1eA

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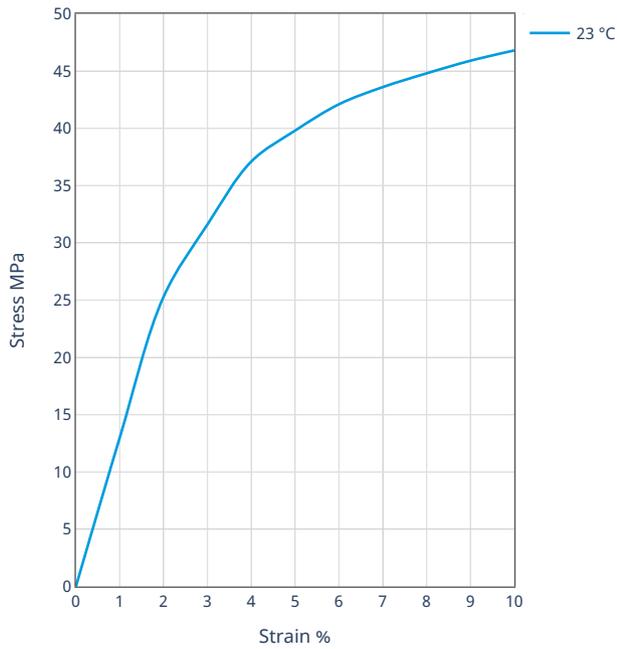
Mechanical Properties	Value	Unit	Standard
Charpy notched impact strength, -30°C	26	kJ/m ²	ISO 179/1eA
Thermal Properties	Value	Unit	Standard
Melting temperature, 10°C/min	295	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	75	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	90	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	200	°C	ISO 75-1/-2
Vicat softening temperature, B	250	°C	ISO 306
Coeff. of linear therm. expansion, parallel	160	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	180	E-6/K	ISO 11359-1/-2
Oxygen index	27	%	ISO 4589-1/-2
Electrical Properties	Value	Unit	Standard
Relative permittivity, 100Hz	3.6		IEC 62631-2-1
Relative permittivity, 1MHz	3.2		IEC 62631-2-1
Dissipation factor, 100Hz	120	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	190	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	475		IEC 60112
Other Properties	Value	Unit	Standard
Water absorption	11	%	Sim. to ISO 62
Humidity absorption	2.95	%	Sim. to ISO 62
Density	1100	kg/m ³	ISO 1183

Diagrams

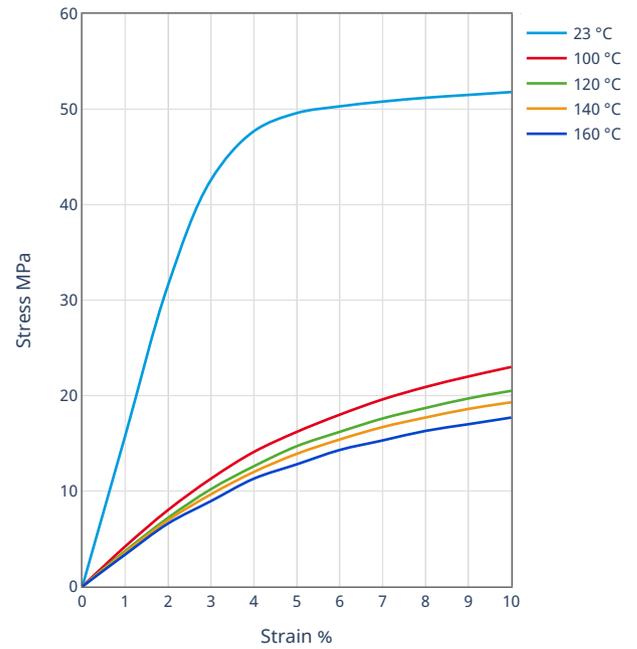
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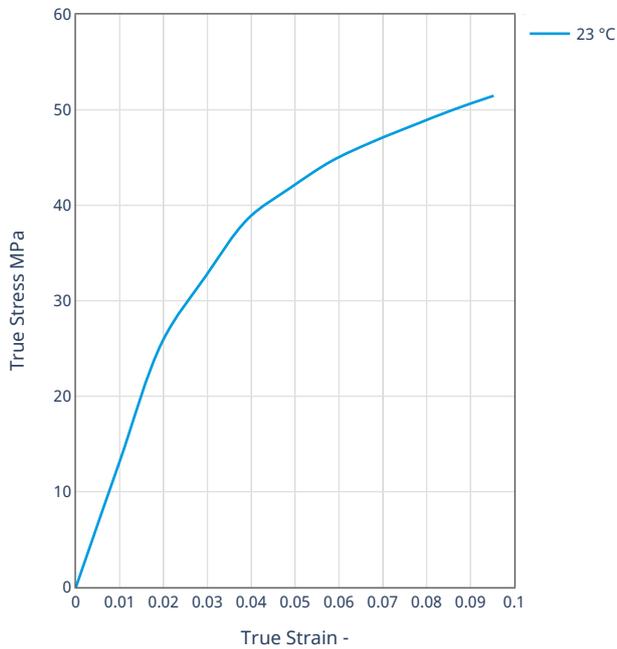
Stress-strain



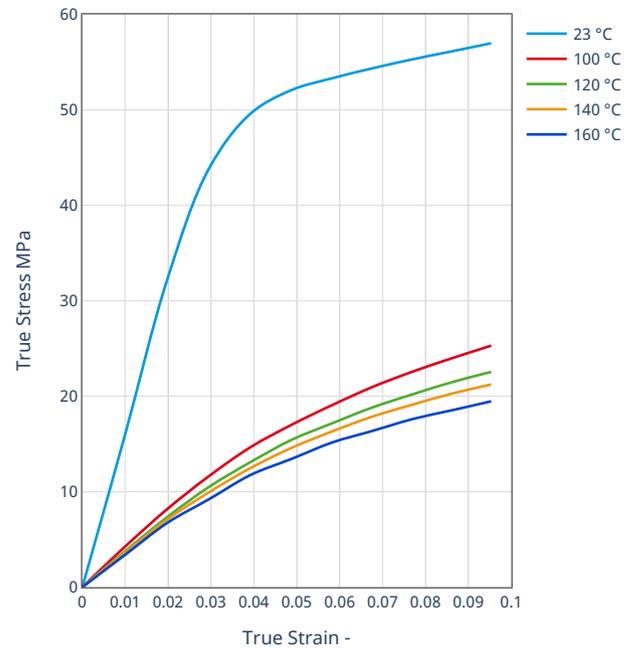
Stress-strain



True stress-true strain



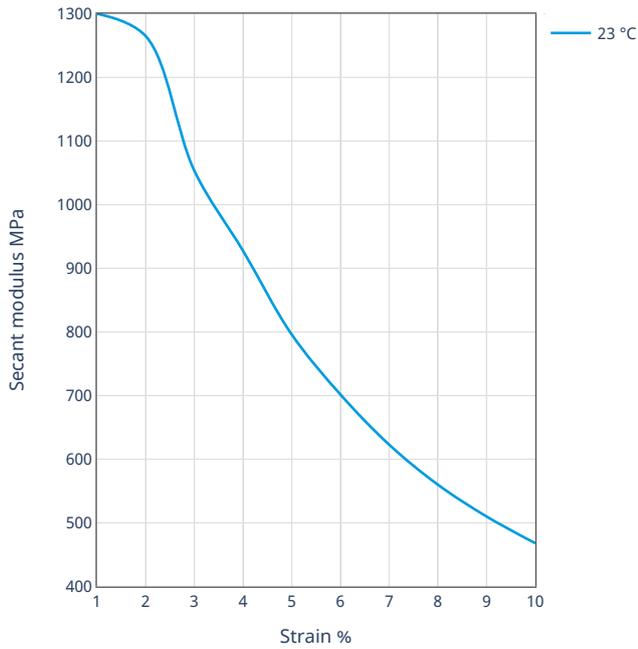
True stress-true strain



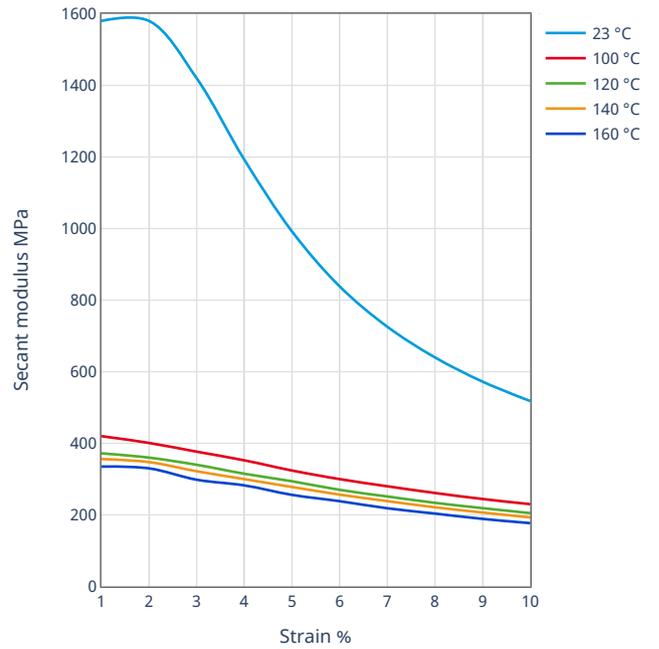
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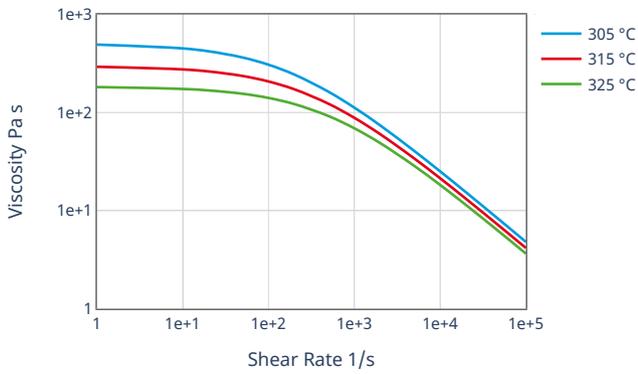
Secant modulus-strain



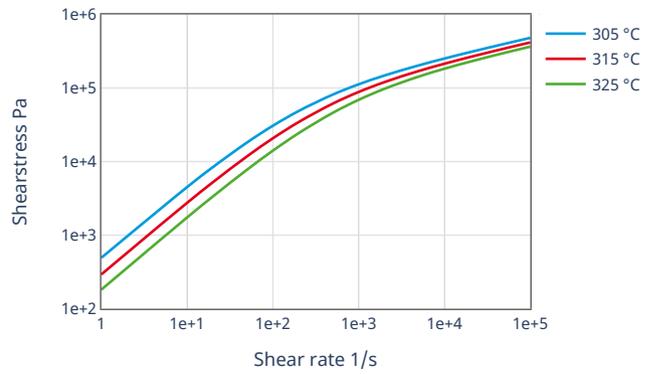
Secant modulus-strain



Viscosity-shear rate

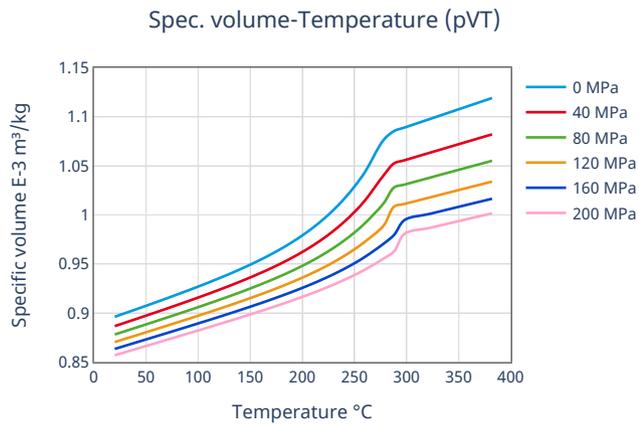


Shearstress-shear rate



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Processing Information

Injection molding

Injection Molding Recommendations

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