

TECHNICAL DATA SHEET

Stanyl® TW271F6

Envalior
(PA46+PTFE)-GF30

Processing

Injection molding

Delivery Form

Pellets

Special Characteristics

Platable, Heat stabilized or stable to heat

Features

Tribologic grade

Product Text

Product Information

30% Glass Reinforced, Heat Stabilized, Wear and Friction Modified

ISO 1043 (PA46+PTFE)-GF30

Stanyl® TW271F6 is a friction-modified high heat polyamide that offers excellent creep resistance, strength, stiffness and fatigue resistance especially at high temperatures in combination with cycle-time advantages and excellent flow. TW271F6 has an excellent track-record in gear applications.

Processing/Physical Characteristics	Value	Unit	Standard
Density of melt	1320	kg/m ³	
Thermal conductivity of melt	0.319	W/(m K)	
Spec. heat capacity of melt	1890	J/(kg K)	
Eff. thermal diffusivity	1.26E-7	m ² /s	
Mechanical Properties	Value	Unit	Standard
Tensile modulus	10500	MPa	ISO 527
Stress at break	200	MPa	ISO 527
Strain at break	3.4	%	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	85	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	65	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	13	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	11	kJ/m ²	ISO 179/1eA

Stanyl® TW271F6

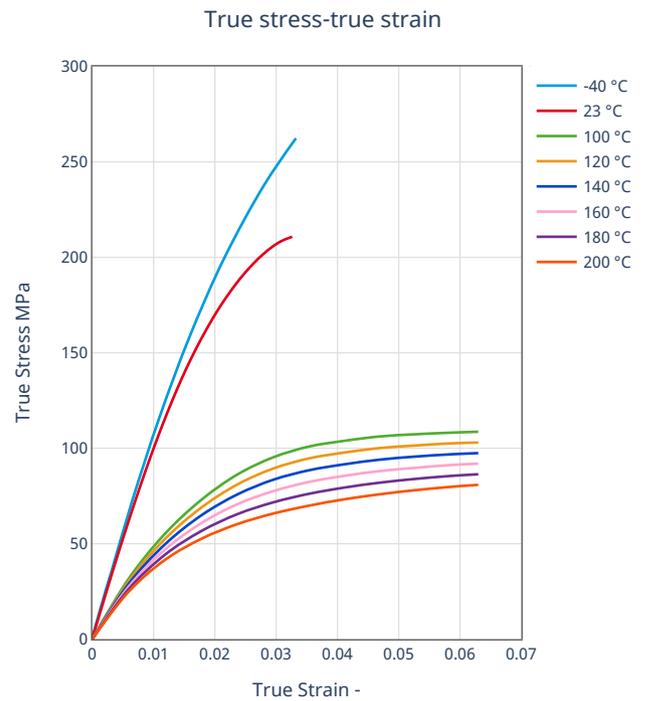
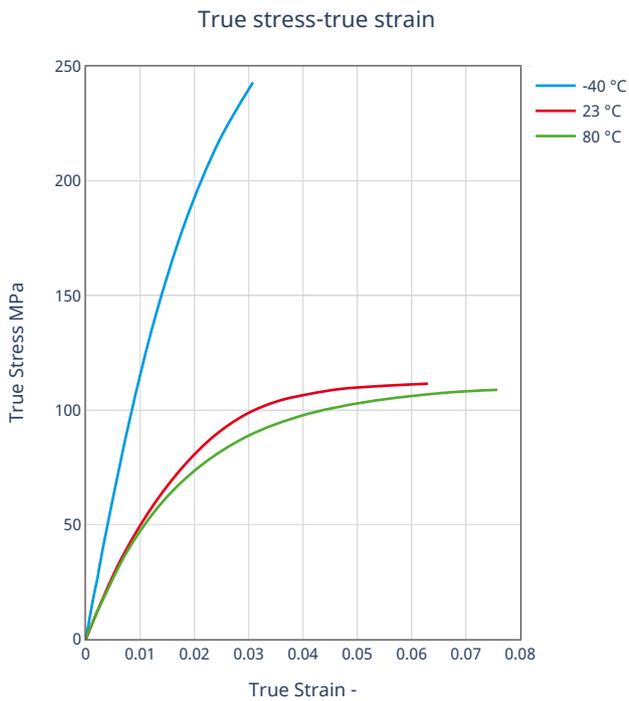
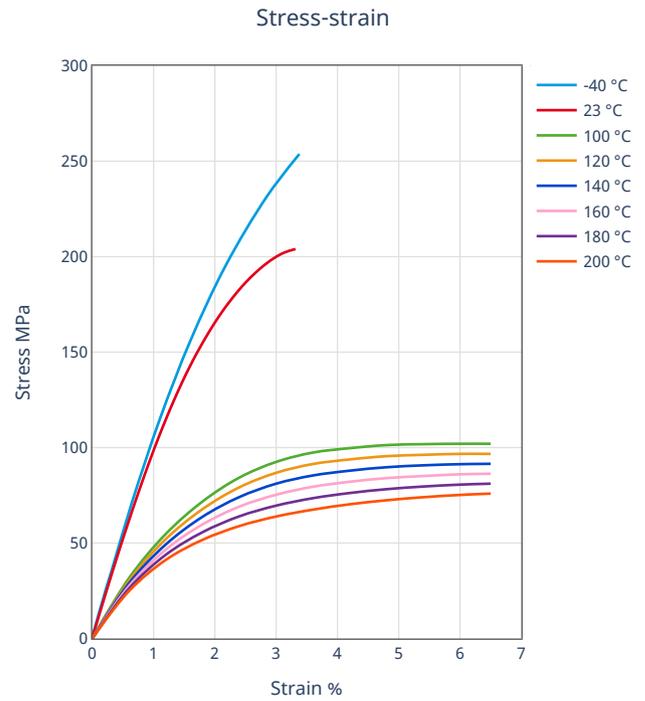
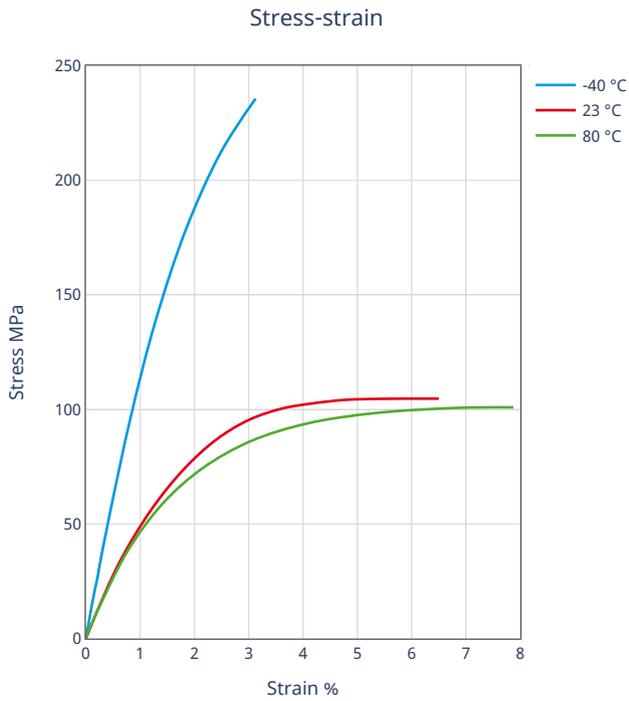
Envalior

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	290	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	290	°C	ISO 75-1/-2
Vicat softening temperature, B	290	°C	ISO 306
Coeff. of linear therm. expansion, parallel	25	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	60	E-6/K	ISO 11359-1/-2
Burning behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	3	mm	
Yellow card available	yes		
Electrical Properties	Value	Unit	Standard
Volume resistivity	1E12	Ohm*m	IEC 62631-3-1
Surface resistivity	1E13	Ohm	IEC 62631-3-2
Comparative tracking index	400		IEC 60112
Other Properties	Value	Unit	Standard
Water absorption	7.4	%	Sim. to ISO 62
Humidity absorption	2.2	%	Sim. to ISO 62
Density	1530	kg/m ³	ISO 1183
Material Specific Properties	Value	Unit	Standard
Viscosity number	145	cm ³ /g	ISO 307, 1157, 1628

Diagrams

Stanyl® TW271F6

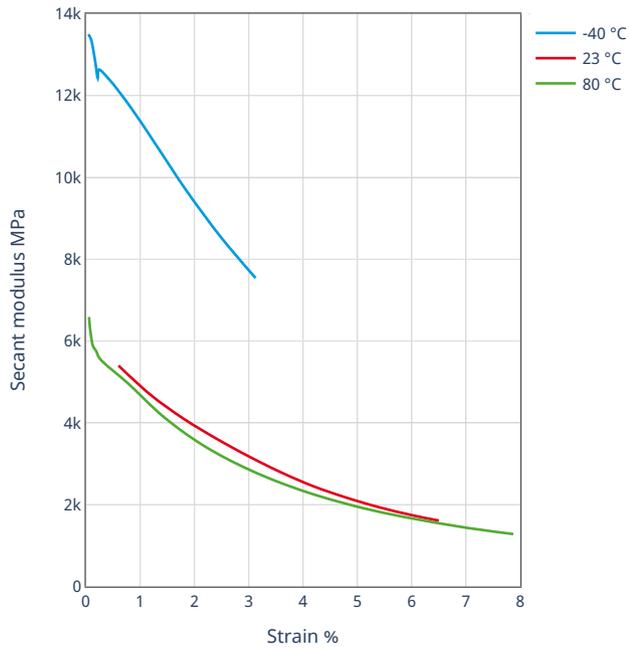
Envalior



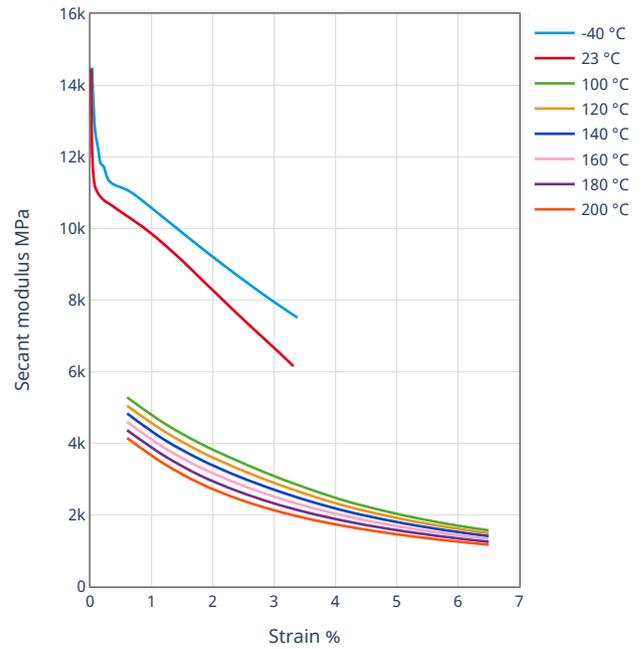
Stanyl® TW271F6

Envalior

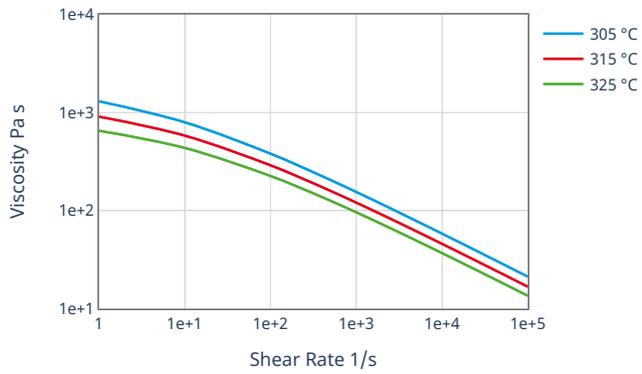
Secant modulus-strain



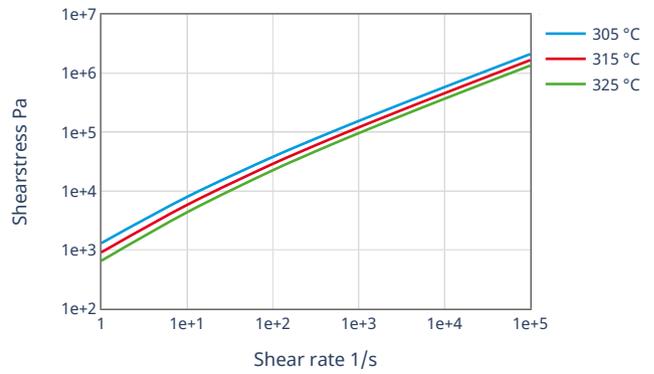
Secant modulus-strain



Viscosity-shear rate

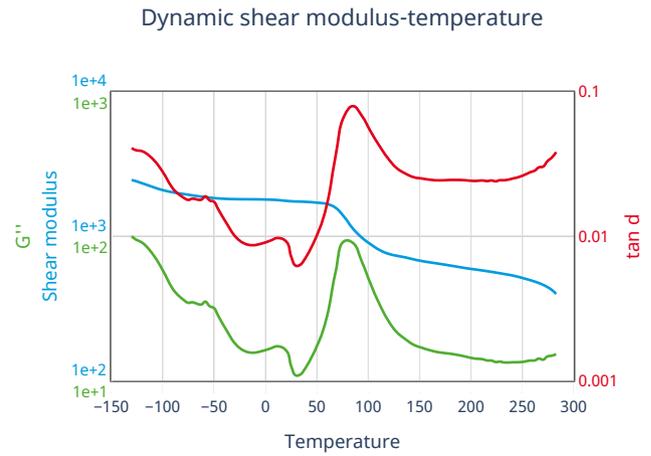
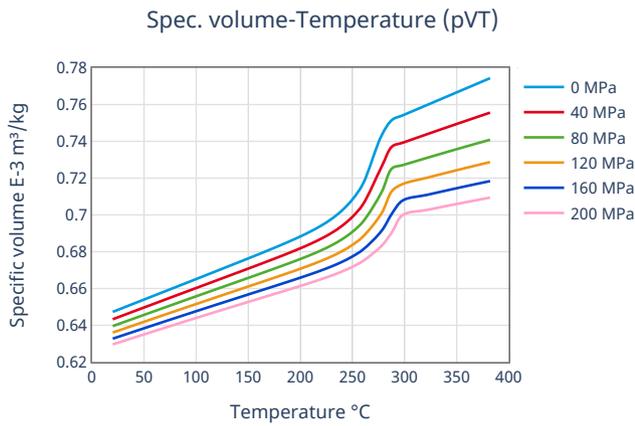


Shearstress-shear rate



Stanyl® TW271F6

Envalior



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