

TECHNICAL DATA SHEET

Stanyl® TW271B3

Envalior
(PA46+PTFE)-CF15

Processing

Injection molding

Heat stabilized or stable to heat

Features

Tribological grade

Special Characteristics

Product Text

Product Information

15% Carbon Reinforced, Heat Stabilized, Wear and Friction Modified

ISO 1043 (PA46+PTFE)-CF15

Stanyl® TW271B3 is a friction-modified high heat polyamide that offers excellent creep resistance, strength, stiffness and fatigue resistance, not only at ambient temperatures but especially at high temperatures, while at the same time providing cycle-time advantages and excellent flow. TW271B3 has an excellent track-record in gear applications.

Processing/Physical Characteristics	Value	Unit	Standard
Molding shrinkage, parallel	0.2	%	ISO 294-4, 2577
Molding shrinkage, normal	0.8	%	ISO 294-4, 2577
Mechanical Properties	Value	Unit	Standard
Tensile modulus	13500	MPa	ISO 527
Stress at break	195	MPa	ISO 527
Strain at break	2.1	%	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	50	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	45	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	6	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	5	kJ/m ²	ISO 179/1eA
Thermal Properties	Value	Unit	Standard
Melting temperature, 10°C/min	295	°C	ISO 11357-1/-3

Stanyl® TW271B3

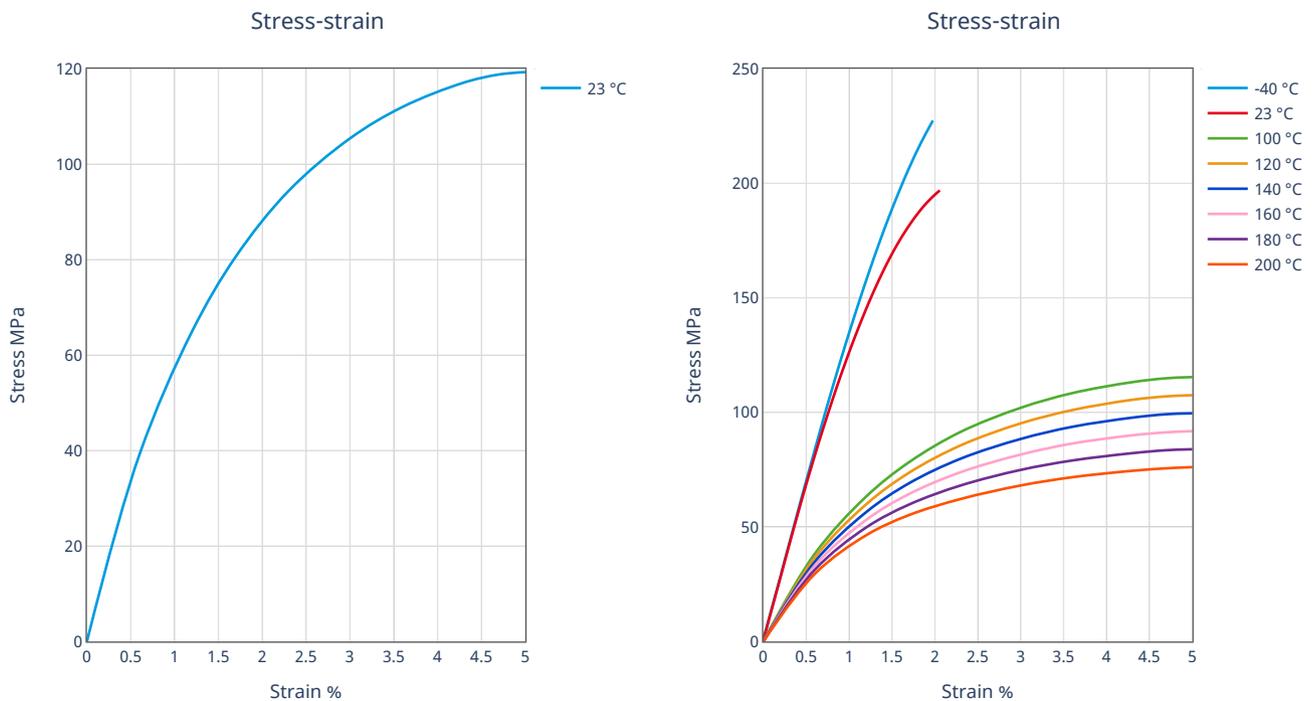
Envalior

Thermal Properties	Value	Unit	Standard
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
Coeff. of linear therm. expansion, parallel	25	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	50	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	1E5	Ohm*m	IEC 62631-3-1

Other Properties	Value	Unit	Standard
Water absorption	9.5	%	Sim. to ISO 62
Humidity absorption	2.6	%	Sim. to ISO 62
Density	1320	kg/m ³	ISO 1183

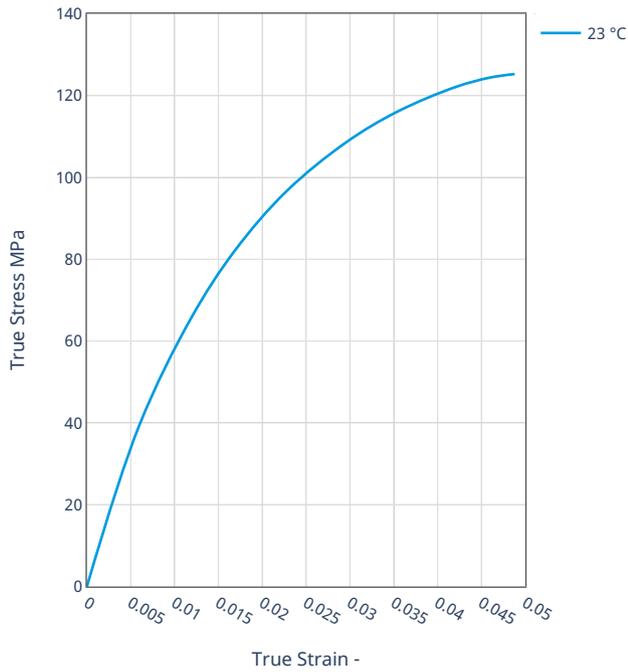
Diagrams



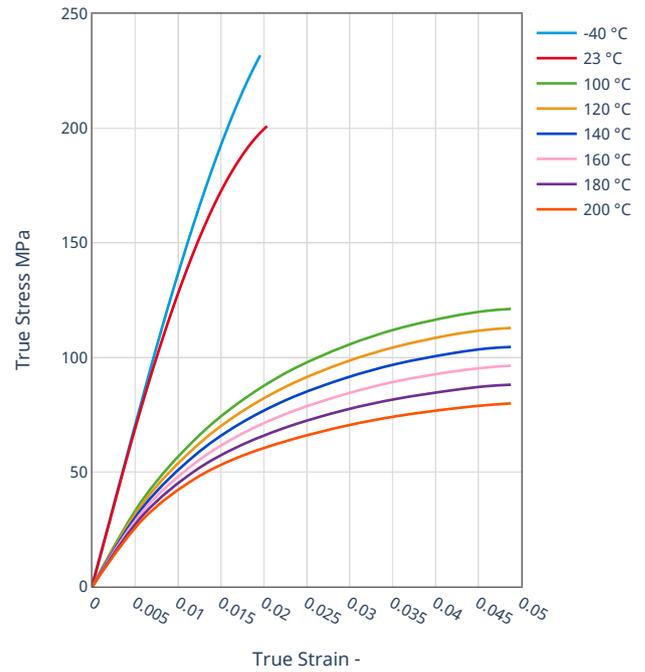
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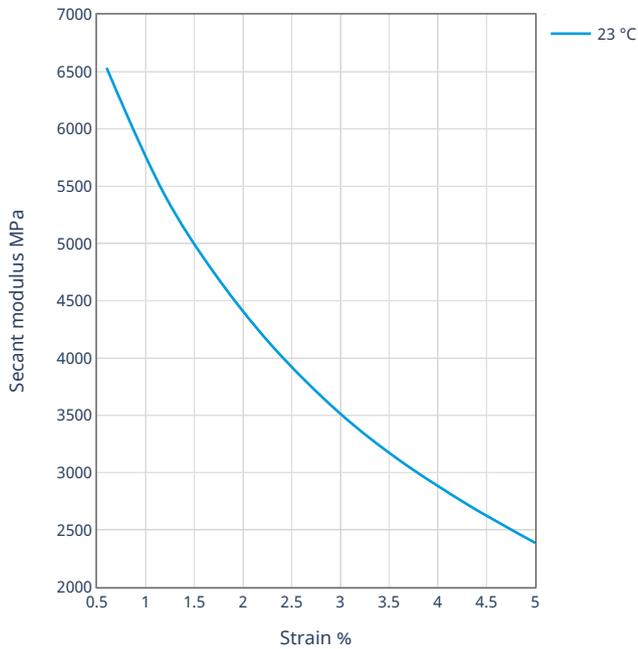
True stress-true strain



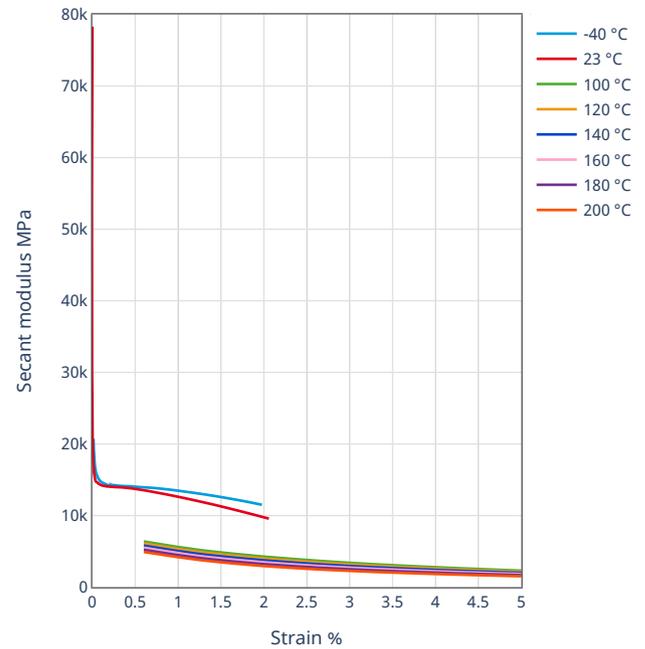
True stress-true strain



Secant modulus-strain



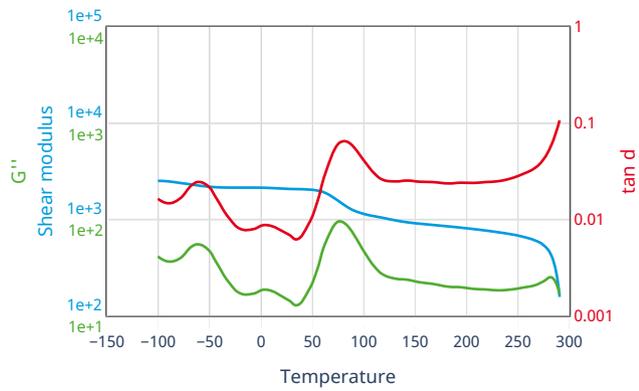
Secant modulus-strain



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Dynamic shear modulus-temperature



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