

TECHNICAL DATA SHEET

# Stanyl® TW271B6

Envalior  
(PA46+PTFE)-CF30

**Processing**

Injection molding

Heat stabilized or stable to heat

**Features**

Tribological grade

**Special Characteristics**

## Product Text

**Product Information**

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

ISO 1043 (PA46+PTFE)-CF30

Stanyl® TW271B6 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. TW271B6 has an excellent track-record in gear applications.

Processing/Physical Characteristics	Value	Unit	Standard
Molding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Molding shrinkage, normal	0.7	%	ISO 294-4, 2577
Mechanical Properties	Value	Unit	Standard
Tensile modulus	24000	MPa	ISO 527
Stress at break	260	MPa	ISO 527
Strain at break	1.6	%	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	50	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	50	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, +23°C	8	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	7	kJ/m <sup>2</sup>	ISO 179/1eA
Thermal Properties	Value	Unit	Standard
Melting temperature, 10°C/min	295	°C	ISO 11357-1/-3

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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	35	E-6/K	ISO 11359-1/-2

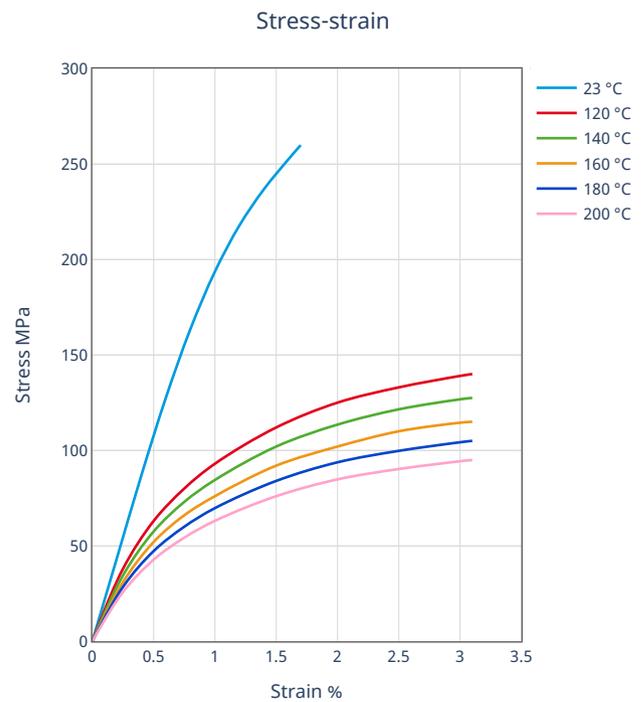
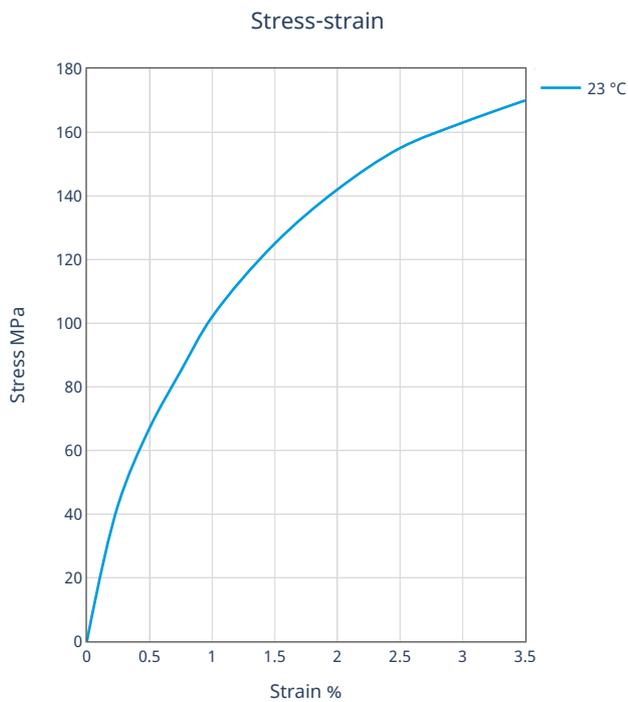
  

Other Properties	Value	Unit	Standard
Water absorption	8.7	%	Sim. to ISO 62
Humidity absorption	2.3	%	Sim. to ISO 62
Density	1320	kg/m <sup>3</sup>	ISO 1183

Material Specific Properties	Value	Unit	Standard
Viscosity number	150	cm <sup>3</sup> /g	ISO 307, 1157, 1628

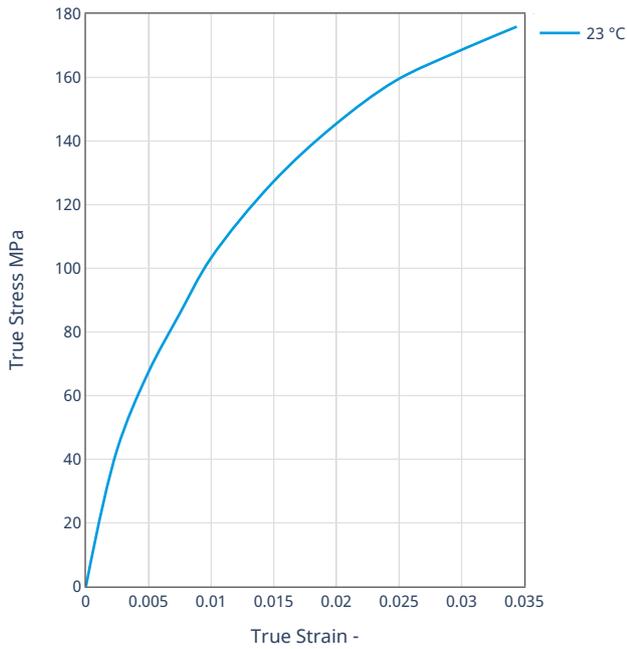
## Diagrams



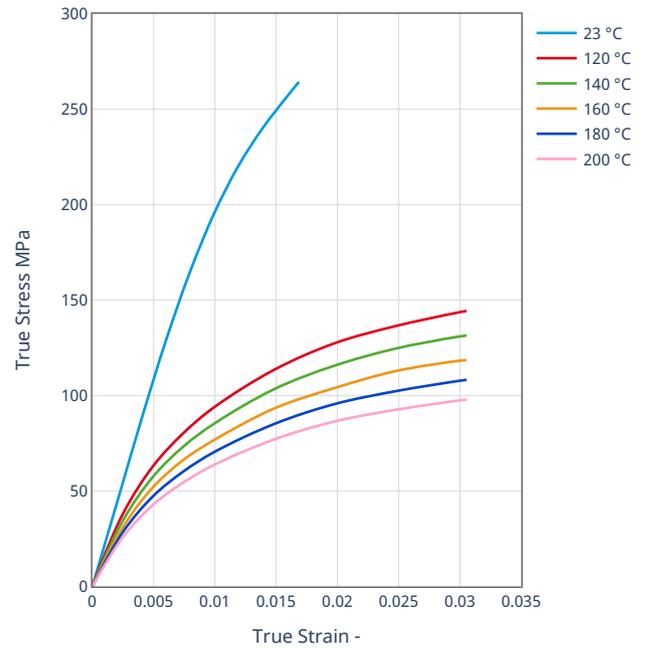
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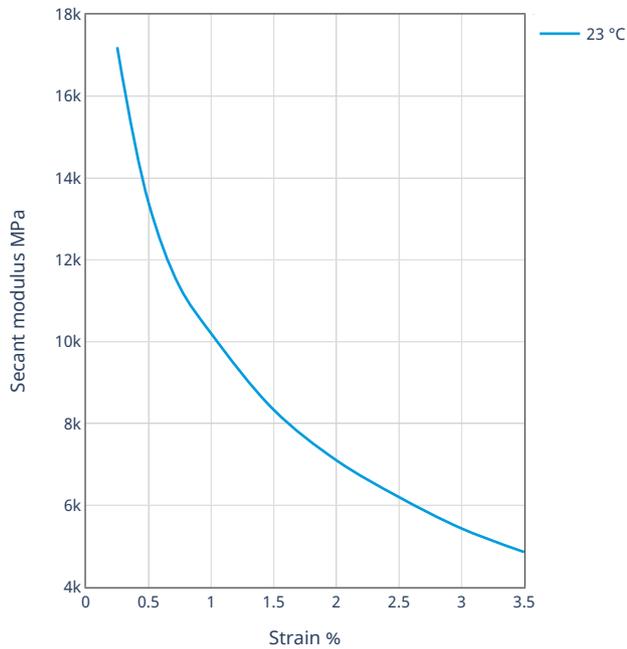
True stress-true strain



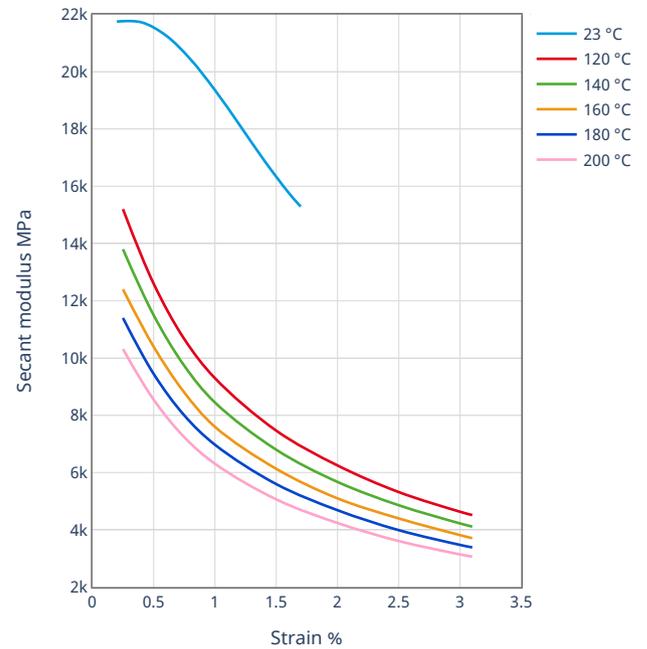
True stress-true strain



Secant modulus-strain



Secant modulus-strain



## Processing Information

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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