

TECHNICAL DATA SHEET

Stanyl® TW241F3

Envalior
PA46-GF15

Processing

Injection molding

Additives

Lubricants

Special Characteristics

Heat stabilized or stable to heat

Product Text

Product Information

15% Glass Reinforced, Heat Stabilized, Lubricated

ISO 1043 PA46-GF15

Stanyl® TW241F3 is a 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.

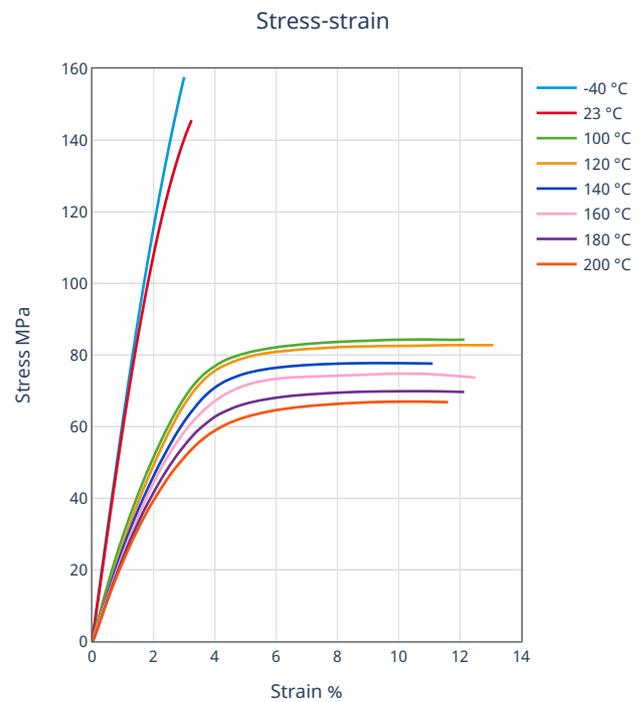
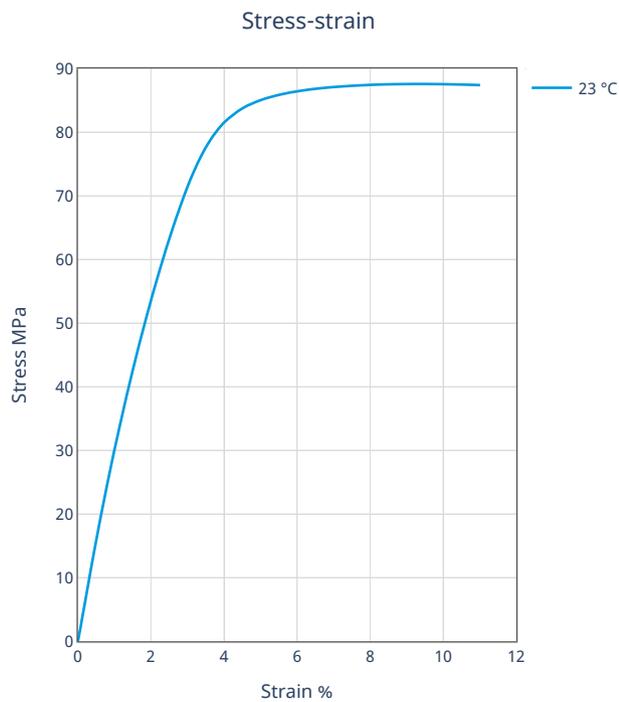
| Mechanical Properties | Value | Unit | Standard |
|---|-------|-------------------|----------------|
| Tensile modulus | 6100 | MPa | ISO 527 |
| Stress at break | 140 | MPa | ISO 527 |
| Strain at break | 3.5 | % | ISO 527 |
| Poisson's ratio | 0.35 | | ISO 527 |
| Charpy impact strength, +23°C | 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 | 6 | 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 | 275 | °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 | 50 | E-6/K | ISO 11359-1/-2 |

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| Thermal Properties | Value | Unit | Standard |
|---|-------|--------------------|---------------------|
| Coeff. of linear therm. expansion, normal | 80 | 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 | | |
| Other Properties | Value | Unit | Standard |
| Water absorption | 11.5 | % | Sim. to ISO 62 |
| Humidity absorption | 3.15 | % | Sim. to ISO 62 |
| Density | 1290 | kg/m ³ | ISO 1183 |
| Material Specific Properties | Value | Unit | Standard |
| Viscosity number | 150 | cm ³ /g | ISO 307, 1157, 1628 |

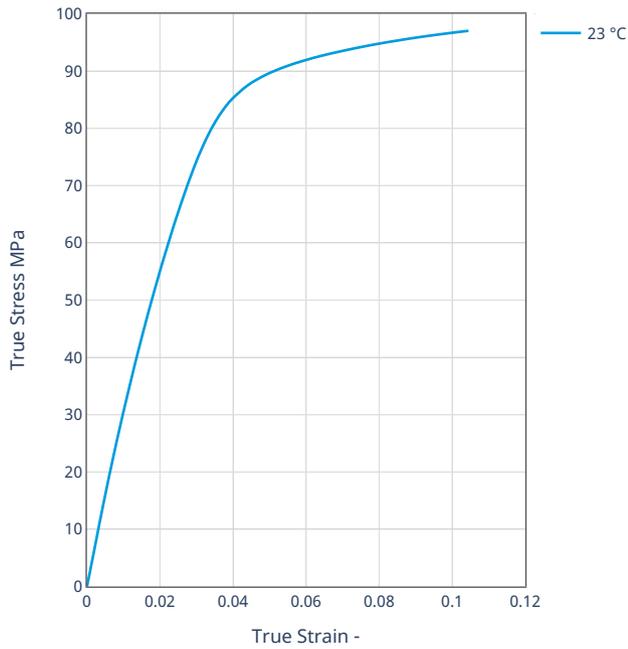
Diagrams



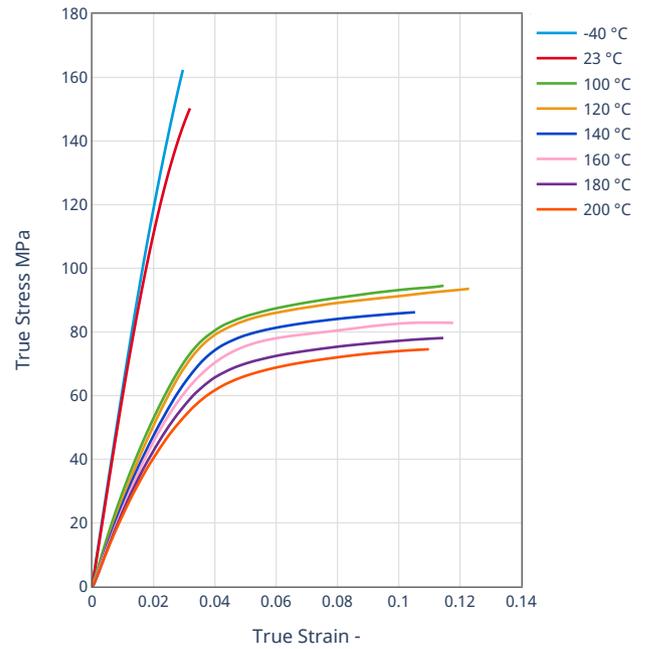
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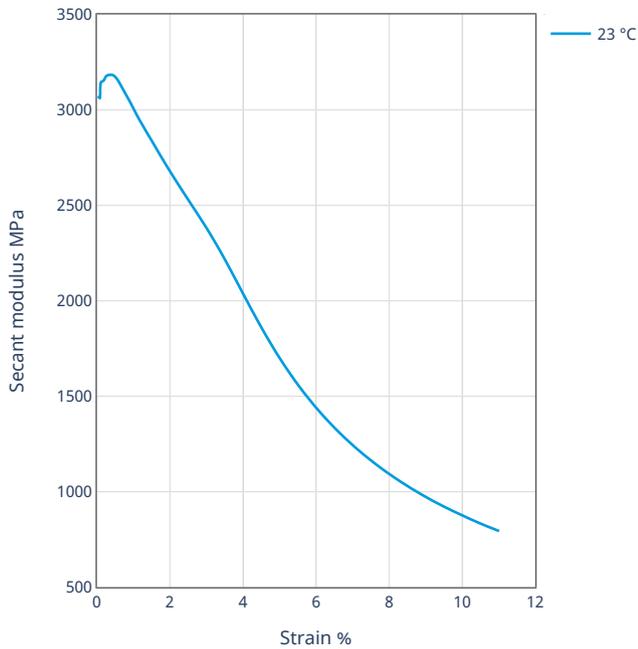
True stress-true strain



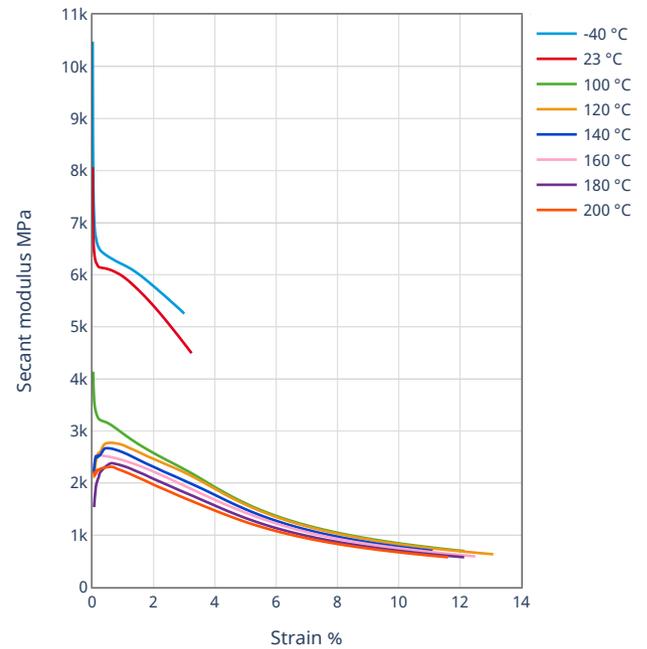
True stress-true strain



Secant modulus-strain



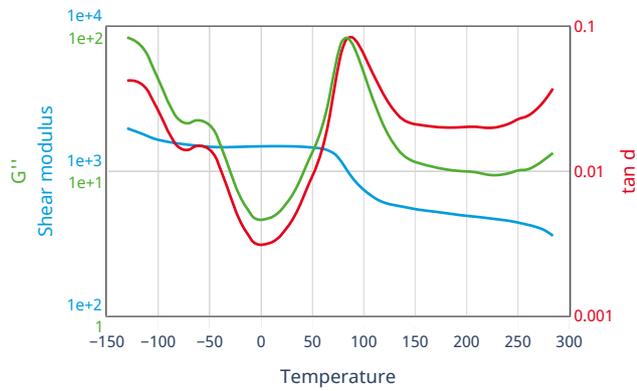
Secant modulus-strain



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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