Property Data

Envalior
Imagine the Future

Stanyl® TW278F10

(PA46+PTFE)–GF50

50% Glass Fiber Reinforced, Heat Stabilized, Wear and Friction Modified

Print Date: 2025–12–03

Stanyl® TW278F10 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. TW278F10 has an excellent track–record in gear applications.

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES	DRY / COND		
Molding shrinkage [parallel]	0.4 / *	%	Sim. to ISO 294–4
Molding shrinkage [normal]	0.9 / *	%	Sim. to ISO 294–4
MECHANICAL PROPERTIES	DRY / COND		
Tensile modulus	16500 / 10700	MPa	ISO 527–1/–2
Tensile modulus (160°C)	8300	MPa	ISO 527–1/–2
Tensile modulus (200°C)	7600	MPa	ISO 527–1/–2
Stress at break	235 / 170	MPa	ISO 527–1/–2
Stress at break (160°C)	120	MPa	ISO 527–1/–2
Stress at break (200°C)	105	MPa	ISO 527–1/–2
Strain at break	2.2 / 3.3	%	ISO 527–1/–2
Strain at break (160°C)	3.4	%	ISO 527–1/–2
Strain at break (200°C)	3.5	%	ISO 527–1/–2
Flexural modulus	16500 / 12000	MPa	ISO 178
Flexural strength	330 / 255	MPa	ISO 178
Charpy impact strength (+23°C)	55 / 85	kJ/m²	ISO 179/1eU
Charpy impact strength (–30°C)	35 / 65	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	18 / 13	kJ/m²	ISO 179/1eA
Charpy notched impact strength (–30°C)	11 / 8.5	kJ/m²	ISO 179/1eA
Izod notched impact strength (+23°C)	18 / –	kJ/m²	ISO 180/1A

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THERMAL PROPERTIES	**DRY / COND**		
Melting temperature (10°C/min)	290 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	285 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	288 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	0.1 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	0.56 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (parallel)	0.3	E-4/°C	ASTM D696
Coeff. of linear therm. expansion (normal)	0.3	E-4/°C	ASTM D696
ELECTRICAL PROPERTIES	**DRY / COND**		
Volume resistivity	1E12 / -	Ohm*m	IEC 62631-3-1
Electric strength	33 / -	kV/mm	IEC 60243-1
Comparative tracking index	350 / -	V	IEC 60112
OTHER PROPERTIES	**DRY / COND**		
Humidity absorption	1.6 / *	%	Sim. to ISO 62
Density	1700 / -	kg/m³	ISO 1183

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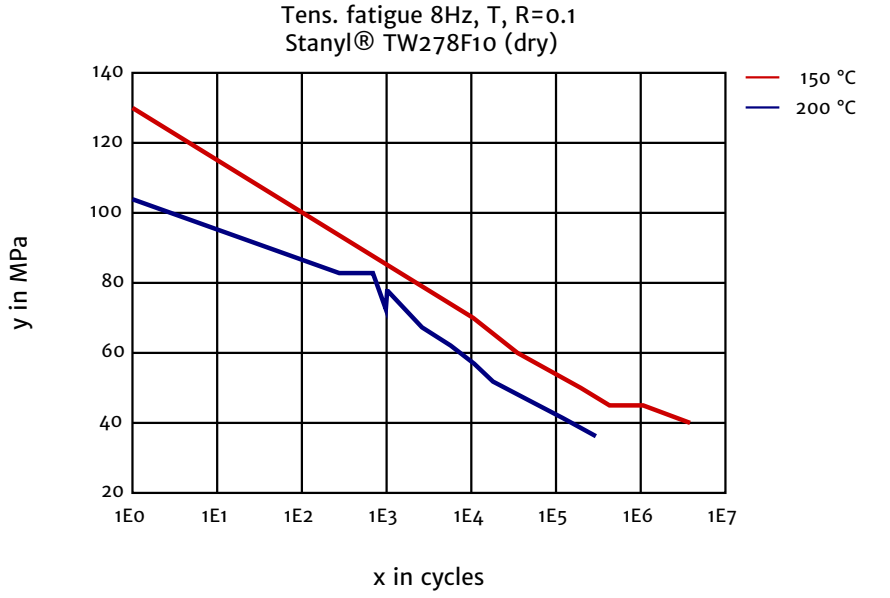
Tens. fatigue 8Hz, T, R=0.1 , dry



data from wo19239