Property Data

Envalior
Imagine the Future

Stanyl® TW241F12

PA46–GF60

60% Glass Fiber Reinforced, Heat Stabilized, High Flow

Print Date: 2026–04–09

Stanyl® TW241F12 is a high heat polyamide with superior flow that offers excellent creep resistance, strength, stiffness and fatigue resistance especially at high temperatures in combination with cycle–time advantages. TW241F12 has an excellent track–record in structural parts and gear applications

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES	DRY / COND		
Molding shrinkage (parallel)	0.4 / *	%	ISO 294–4
Molding shrinkage (normal)	0.7 / *	%	ISO 294–4
MECHANICAL PROPERTIES	DRY / COND		
Tensile modulus	20000 / 12000	MPa	ISO 527–1/–2
Tensile modulus (120°C)	10000 / –	MPa	ISO 527–1/–2
Tensile modulus (160°C)	9100	MPa	ISO 527–1/–2
Tensile modulus (180°C)	8500	MPa	ISO 527–1/–2
Tensile modulus (200°C)	8000	MPa	ISO 527–1/–2
Stress at break	255 / 170	MPa	ISO 527–1/–2
Stress at break (120°C)	150 / –	MPa	ISO 527–1/–2
Stress at break (160°C)	125	MPa	ISO 527–1/–2
Stress at break (180°C)	110	MPa	ISO 527–1/–2
Stress at break (200°C)	100	MPa	ISO 527–1/–2
Strain at break	2 / 3	%	ISO 527–1/–2
Strain at break (120°C)	3 / –	%	ISO 527–1/–2
Strain at break (160°C)	3	%	ISO 527–1/–2
Strain at break (180°C)	3	%	ISO 527–1/–2
Strain at break (200°C)	3	%	ISO 527–1/–2
Flexural modulus	17000 / 10000	MPa	ISO 178
Charpy impact strength (+23°C)	90 / 100	kJ/m²	ISO 179/1eU

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PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Charpy impact strength (–30°C)	65 / 75	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	18 / 18	kJ/m²	ISO 179/1eA
Charpy notched impact strength (–30°C)	18 / 18	kJ/m²	ISO 179/1eA
Izod notched impact strength (+23°C)	18 / 18	kJ/m²	ISO 180/1A
Izod notched impact strength (–40°C)	18 / 18	kJ/m²	ISO 180/1A

THERMAL PROPERTIES	DRY / COND		
Melting temperature (10°C/min)	295 / *	°C	ISO 11357–1/–3
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
Coeff. of linear therm. expansion (parallel)	0.12 / *	E–4/°C	ISO 11359–1/–2
Coeff. of linear therm. expansion (normal)	0.53 / *	E–4/°C	ISO 11359–1/–2
Coeff. of linear therm. expansion (parallel)	0.2	E–4/°C	ASTM D696
Coeff. of linear therm. expansion (normal)	0.35	E–4/°C	ASTM D696
Thermal Index 5000 hrs	177	°C	IEC 60216/ISO 527–1/–2

OTHER PROPERTIES	DRY / COND		
Humidity absorption	1.4 / *	%	Sim. to ISO 62
Density	1730 / –	kg/m³	ISO 1183

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