Property Data

Envalior
Imagine the Future

Stanyl® TW241F6

PA46–GF30

30% Glass Fiber Reinforced, Heat Stabilized, Lubricated

Print Date: 2025–05–13

Stanyl® TW241F6 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.

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES	**DRY / COND**		
Molding shrinkage [parallel]	0.5 / *	%	Sim. to ISO 294–4
Molding shrinkage [normal]	1.3 / *	%	Sim. to ISO 294–4
MECHANICAL PROPERTIES	**DRY / COND**		
Tensile modulus	10000 / 6000	MPa	ISO 527–1/–2
Tensile modulus (120°C)	5300 / –	MPa	ISO 527–1/–2
Tensile modulus (160°C)	4750	MPa	ISO 527–1/–2
Tensile modulus (180°C)	4550	MPa	ISO 527–1/–2
Tensile modulus (200°C)	4300	MPa	ISO 527–1/–2
Stress at break	210 / 115	MPa	ISO 527–1/–2
Stress at break (120°C)	115 / –	MPa	ISO 527–1/–2
Stress at break (160°C)	100	MPa	ISO 527–1/–2
Stress at break (180°C)	95	MPa	ISO 527–1/–2
Stress at break (200°C)	90	MPa	ISO 527–1/–2
Strain at break	3.7 / 6	%	ISO 527–1/–2
Strain at break (120°C)	7.5 / –	%	ISO 527–1/–2
Strain at break (160°C)	8	%	ISO 527–1/–2
Strain at break (180°C)	8	%	ISO 527–1/–2
Strain at break (200°C)	8	%	ISO 527–1/–2
Flexural modulus	9500 / 5500	MPa	ISO 178
Flexural modulus (120°C)	5100	MPa	ISO 178

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Flexural modulus (160°C)	4900	MPa	ISO 178
Flexural modulus (180°C)	4500	MPa	ISO 178
Flexural modulus (200°C)	4400	MPa	ISO 178
Flexural strength	300 / 180	MPa	ISO 178
Flexural strength (120°C)	160	MPa	ISO 178
Flexural strength (160°C)	130	MPa	ISO 178
Flexural strength (180°C)	110	MPa	ISO 178
Flexural strength (200°C)	105	MPa	ISO 178
Charpy impact strength (+23°C)	80 / 100	kJ/m²	ISO 179/1eU
Charpy impact strength (–30°C)	65 / 75	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	12 / 21	kJ/m²	ISO 179/1eA
Charpy notched impact strength (–30°C)	11 / 11	kJ/m²	ISO 179/1eA
Izod notched impact strength (+23°C)	12 / 21	kJ/m²	ISO 180/1A
Izod notched impact strength (–40°C)	11 / 11	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)	0.19 / *	E–4/°C	ISO 11359–1/–2
Coeff. of linear therm. expansion (normal)	0.72 / *	E–4/°C	ISO 11359–1/–2
Coeff. of linear therm. expansion (parallel)	0.25	E–4/°C	ASTM D696
Coeff. of linear therm. expansion (normal)	0.6	E–4/°C	ASTM D696
Thermal conductivity through plane	0.39	W/(m K)	ASTM E1461
Burning Behav. at 1.5 mm nom. thickn.	HB / *	class	IEC 60695–11–10
Thickness tested	1.5 / *	mm	IEC 60695–11–10
UL recognition	Yes / *	–	–
Burning Behav. at 3.0 mm nom. thickn.	HB / *	class	IEC 60695–11–10
Thickness tested	3 / *	mm	IEC 60695–11–10

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PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
UL recognition	Yes / *	–	–
Relative Temperature Index – electrical	65	°C	UL746B
RTI electrical (Thickness (1) tested)	0.75	mm	UL746B
Thermal Index 5000 hrs	177	°C	IEC 60216/ISO 527–1/–2

ELECTRICAL PROPERTIES	DRY / COND		
Volume resistivity	1E12 / 1E7	Ohm*m	IEC 62631–3–1
Electric strength	30 / 20	kV/mm	IEC 60243–1
Comparative tracking index	300 / –	V	IEC 60112
Relative permittivity (100Hz)	4.3 / 16	–	IEC 62631–2–1
Relative permittivity (1 MHz)	4 / 4.7	–	IEC 62631–2–1

OTHER PROPERTIES	DRY / COND		
Humidity absorption	2.6 / *	%	Sim. to ISO 62
Density	1410 / –	kg/m³	ISO 1183

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