Property Data

Envalior
Imagine the Future

Stanyl® TW271B6

(PA46+PTFE)–CF30

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

Print Date: 2025–10–22

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.

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES	DRY / COND		
Molding shrinkage (parallel)	0.3 / *	%	ISO 294–4
Molding shrinkage (normal)	0.7 / *	%	ISO 294–4
MECHANICAL PROPERTIES	DRY / COND		
Tensile modulus	24000 / 14500	MPa	ISO 527–1/–2
Tensile modulus (120°C)	13500 / –	MPa	ISO 527–1/–2
Tensile modulus (160°C)	12000	MPa	ISO 527–1/–2
Tensile modulus (180°C)	11500	MPa	ISO 527–1/–2
Tensile modulus (200°C)	11000	MPa	ISO 527–1/–2
Stress at break	260 / 170	MPa	ISO 527–1/–2
Stress at break (120°C)	140 / –	MPa	ISO 527–1/–2
Stress at break (160°C)	115	MPa	ISO 527–1/–2
Stress at break (180°C)	105	MPa	ISO 527–1/–2
Stress at break (200°C)	95	MPa	ISO 527–1/–2
Strain at break	1.6 / 3.5	%	ISO 527–1/–2
Strain at break (120°C)	3.1 / –	%	ISO 527–1/–2
Strain at break (160°C)	3.1	%	ISO 527–1/–2
Strain at break (180°C)	3.1	%	ISO 527–1/–2
Strain at break (200°C)	3.1	%	ISO 527–1/–2
Flexural modulus	22000 / –	MPa	ISO 178
Flexural strength	365 / –	MPa	ISO 178

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PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Charpy impact strength (+23°C)	50 / 80	kJ/m²	ISO 179/1eU
Charpy impact strength (-30°C)	50 / 55	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	8 / 17	kJ/m²	ISO 179/1eA
Charpy notched impact strength (-30°C)	7 / 7	kJ/m²	ISO 179/1eA
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
Coeff. of linear therm. expansion (parallel)	0.25	E-4/°C	ASTM D696
Coeff. of linear therm. expansion (normal)	0.35	E-4/°C	ASTM D696
OTHER PROPERTIES	**DRY / COND**		
Humidity absorption	2.3 / *	%	Sim. to ISO 62
Density	1320 / -	kg/m³	ISO 1183

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