Property Data

Envalior
Imagine the Future

Stanyl® TW272B6

(PA46+PTFE)–CF30

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

Print Date: 2024–03–27

Stanyl® TW272B6 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. TW272B6 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)	0.6 / *	%	ISO 294–4
MECHANICAL PROPERTIES	DRY / COND		
Tensile modulus	23500 / 14500	MPa	ISO 527–1/–2
Tensile modulus (120°C)	12500 / –	MPa	ISO 527–1/–2
Tensile modulus (160°C)	11000	MPa	ISO 527–1/–2
Tensile modulus (180°C)	10500	MPa	ISO 527–1/–2
Tensile modulus (200°C)	10000	MPa	ISO 527–1/–2
Stress at break	250 / 160	MPa	ISO 527–1/–2
Stress at break (120°C)	130 / –	MPa	ISO 527–1/–2
Stress at break (160°C)	110	MPa	ISO 527–1/–2
Stress at break (180°C)	100	MPa	ISO 527–1/–2
Stress at break (200°C)	90	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	21000 / 12500	MPa	ISO 178

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PROPERTIES	*TYPICAL DATA*	*UNIT*	*TEST METHOD*
Flexural modulus (120°C)	10500	MPa	ISO 178
Flexural modulus (160°C)	10000	MPa	ISO 178
Flexural strength	340 / 240	MPa	ISO 178
Flexural strength (120°C)	200	MPa	ISO 178
Flexural strength (160°C)	170	MPa	ISO 178
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 / 13	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	ISO 11359–1/–2
Coeff. of linear therm. expansion (normal)	0.35 / *	E–4/°C	ISO 11359–1/–2
Burning Behav. at 3.0 mm nom. thickn.	HB / *	class	IEC 60695–11–10
Thickness tested	3 / *	mm	IEC 60695–11–10
UL recognition	Yes / *	–	–

OTHER PROPERTIES	*DRY / COND*		
Humidity absorption	2.2 / *	%	Sim. to ISO 62
Density	1360 / –	kg/m³	ISO 1183

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