

Stanyl® TW241B3

PA46–CF15

15% Carbon Reinforced, Heat Stabilized, Lubricated

Print Date: 2024–03–27

Stanyl® TW241B3 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. TW241B3 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)	1.1 / *	%	ISO 294–4
MECHANICAL PROPERTIES			
	DRY / COND		
Tensile modulus	13000 / 7000	MPa	ISO 527–1/–2
Tensile modulus (120°C)	6800 / –	MPa	ISO 527–1/–2
Tensile modulus (160°C)	6400	MPa	ISO 527–1/–2
Tensile modulus (180°C)	6100	MPa	ISO 527–1/–2
Tensile modulus (200°C)	5200	MPa	ISO 527–1/–2
Stress at break	210 / 130	MPa	ISO 527–1/–2
Stress at break (120°C)	100 / –	MPa	ISO 527–1/–2
Stress at break (160°C)	87	MPa	ISO 527–1/–2
Stress at break (180°C)	81	MPa	ISO 527–1/–2
Stress at break (200°C)	75	MPa	ISO 527–1/–2
Strain at break	2.3 / 4.3	%	ISO 527–1/–2
Strain at break (120°C)	3.3 / –	%	ISO 527–1/–2
Strain at break (160°C)	3.2	%	ISO 527–1/–2
Strain at break (180°C)	3.2	%	ISO 527–1/–2
Strain at break (200°C)	3.6	%	ISO 527–1/–2
Flexural modulus	11500 / 5800	MPa	ISO 178

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Property Data

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PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Flexural modulus (120°C)	5800	MPa	ISO 178
Flexural modulus (160°C)	5500	MPa	ISO 178
Flexural strength	290 / 150	MPa	ISO 178
Flexural strength (120°C)	140	MPa	ISO 178
Flexural strength (160°C)	125	MPa	ISO 178
Charpy impact strength (+23°C)	45 / 70	kJ/m ²	ISO 179/1eU
Charpy impact strength (-30°C)	40 / 40	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	5.5 / 12	kJ/m ²	ISO 179/1eA
Charpy notched impact strength (-30°C)	4.5 / 4.5	kJ/m ²	ISO 179/1eA
Izod notched impact strength (+23°C)	5.5 / 12	kJ/m ²	ISO 180/1A
Izod notched impact strength (-40°C)	4.5 / 4.5	kJ/m ²	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
Coeff. of linear therm. expansion (parallel)	0.25 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	0.5 / *	E-4/°C	ISO 11359-1/-2

ELECTRICAL PROPERTIES

DRY / COND

Volume resistivity	100000 / -	Ohm*m	IEC 62631-3-1
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OTHER PROPERTIES

DRY / COND

Humidity absorption	3.2 / *	%	Sim. to ISO 62
Density	1230 / -	kg/m ³	ISO 1183

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