

Stanyl® TW241B3

PA46-CF15

15% Carbon Reinforced, Heat Stabilized, Lubricated

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



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

