

Stanyl® TW278F10

(PA46+PTFE)—GF50

50% Glass Reinforced, Heat Stabilized, Wear and Friction Modified

Stanyl® TW278F10 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. TW278F10 has an excellent track-record in gear applications.

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES			
	DRY / COND		
Molding shrinkage [parallel]	0.4 / *	%	Sim. to ISO 294-4
Molding shrinkage [normal]	0.9 / *	%	Sim. to ISO 294-4
MECHANICAL PROPERTIES			
	DRY / COND		
Tensile modulus	16000 / 10700	MPa	ISO 527-1/-2
Tensile modulus (160°C)	8300	MPa	ISO 527-1/-2
Tensile modulus (200°C)	7600	MPa	ISO 527-1/-2
Stress at break	235 / 170	MPa	ISO 527-1/-2
Stress at break (160°C)	120	MPa	ISO 527-1/-2
Stress at break (200°C)	105	MPa	ISO 527-1/-2
Strain at break	2.2 / 3.3	%	ISO 527-1/-2
Strain at break (160°C)	3.4	%	ISO 527-1/-2
Strain at break (200°C)	3.5	%	ISO 527-1/-2
Flexural modulus	12500 / 12000	MPa	ISO 178
Flexural strength	270 / 255	MPa	ISO 178
Charpy impact strength (+23°C)	55 / 85	kJ/m²	ISO 179/1eU
Charpy impact strength (-30°C)	35 / 65	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	18 / 13	kJ/m²	ISO 179/1eA
Charpy notched impact strength (-30°C)	11 / 8.5	kJ/m²	ISO 179/1eA
Izod notched impact strength (+23°C)	18 / -	kJ/m²	ISO 180/1A



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THERMAL PROPERTIES			
	DRY / COND		
Melting temperature (10°C/min)	290 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	285 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	288 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	0.3 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	0.3 / *	E-4/°C	ISO 11359-1/-2
OTHER PROPERTIES			
	DRY / COND		
Humidity absorption	1.6 / *	%	Sim. to ISO 62
Density	1690 / -	kg/m³	ISO 1183

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

