

Stanyl[®] TW300

PA46

Heat Stabilized

Stanyl[®] TW300 is a non-reinforced high heat polyamide that offers excellent wear & friction properties in combination with outstanding creep resistance, strength, stiffness and fatigue resistance especially at high temperatures in combination with cycle-time advantages and excellent flow.

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES			
	DRY / COND		
Molding shrinkage [parallel]	2 / *	%	Sim. to ISO 294-4
Molding shrinkage [normal]	2 / *	%	Sim. to ISO 294-4
MECHANICAL PROPERTIES			
	DRY / COND		
Tensile modulus	3300 / 1000	MPa	ISO 527-1/-2
Tensile modulus (120°C)	800 / -	MPa	ISO 527-1/-2
Tensile modulus (160°C)	650	MPa	ISO 527-1/-2
Tensile modulus (180°C)	600	MPa	ISO 527-1/-2
Tensile modulus (200°C)	500	MPa	ISO 527-1/-2
Yield stress	100 / 55	MPa	ISO 527-1/-2
Yield stress (120°C)	50	MPa	ISO 527-1/-2
Yield stress (160°C)	40	MPa	ISO 527-1/-2
Yield stress (180°C)	35	MPa	ISO 527-1/-2
Yield stress (200°C)	30	MPa	ISO 527-1/-2
Nominal strain at break	40 / >50	%	ISO 527-1/-2
Nominal strain at break (120°C)	>50	%	ISO 527-1/-2
Nominal strain at break (160°C)	>50	%	ISO 527-1/-2
Nominal strain at break (180°C)	>50	%	ISO 527-1/-2
Nominal strain at break (200°C)	>50	%	ISO 527-1/-2
Flexural modulus	3000 / 900	MPa	ISO 178

Property Data

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<i>PROPERTIES</i>	<i>TYPICAL DATA</i>	<i>UNIT</i>	<i>TEST METHOD</i>
Flexural modulus (120°C)	800	MPa	ISO 178
Flexural modulus (160°C)	600	MPa	ISO 178
Flexural strength	150 / 50	MPa	ISO 178
Flexural strength (120°C)	50	MPa	ISO 178
Flexural strength (160°C)	40	MPa	ISO 178
Charpy impact strength (+23°C)	N / N	kJ/m ²	ISO 179/1eU
Charpy impact strength (-30°C)	N / N	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	10 / 35	kJ/m ²	ISO 179/1eA
Charpy notched impact strength (-30°C)	4 / 4	kJ/m ²	ISO 179/1eA
Izod notched impact strength (+23°C)	10 / 35	kJ/m ²	ISO 180/1A
Izod notched impact strength (-40°C)	4 / 4	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)	190 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	280 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	0.85 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	1.1 / *	E-4/°C	ISO 11359-1/-2
Burning Behav. at 1.5 mm nom. thickn.	V-2 / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10
UL recognition	Yes / *	-	-
Burning Behav. at 3.0 mm nom. thickn.	V-2 / *	class	IEC 60695-11-10
Thickness tested	3 / *	mm	IEC 60695-11-10
UL recognition	Yes / *	-	-
Relative Temperature Index – electrical	150	°C	UL746B
RTI electrical (Thickness (1) tested)	0.75	mm	UL746B
Thermal Index 5000 hrs	152	°C	IEC 60216/ISO 527-1/-2

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PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
ELECTRICAL PROPERTIES			
	DRY / COND		
Volume resistivity	1E13 / 1E7	Ohm*m	IEC 62631-3-1
Electric strength	25 / 15	kV/mm	IEC 60243-1
Comparative tracking index	400 / -	V	IEC 60112
Relative permittivity (100Hz)	3.9 / 22	-	IEC 62631-2-1
Relative permittivity (1 MHz)	3.6 / 4.5	-	IEC 62631-2-1
OTHER PROPERTIES			
	DRY / COND		
Humidity absorption	3.7 / *	%	Sim. to ISO 62
Density	1180 / -	kg/m³	ISO 1183

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

