

# Stanyl® TW363

## PA46–I

Heat Stabilized, Impact Modified

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Stanyl® TW363 is an impact–modified 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
<b>RHEOLOGICAL PROPERTIES</b>			
	<b>DRY / COND</b>		
Molding shrinkage [parallel]	2 / *	%	Sim. to ISO 294–4
Molding shrinkage [normal]	2 / *	%	Sim. to ISO 294–4
<b>MECHANICAL PROPERTIES</b>			
	<b>DRY / COND</b>		
Tensile modulus	1850 / 600	MPa	ISO 527–1/–2
Tensile modulus (120°C)	400 / –	MPa	ISO 527–1/–2
Tensile modulus (160°C)	350	MPa	ISO 527–1/–2
Yield stress	60 / 45	MPa	ISO 527–1/–2
Yield stress (120°C)	35	MPa	ISO 527–1/–2
Yield stress (160°C)	30	MPa	ISO 527–1/–2
Nominal strain at break	>50 / >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
Flexural modulus	1800 / 550	MPa	ISO 178
Flexural modulus (120°C)	400	MPa	ISO 178
Flexural modulus (160°C)	350	MPa	ISO 178
Flexural strength	80 / 40	MPa	ISO 178
Flexural strength (120°C)	40	MPa	ISO 178
Flexural strength (160°C)	30	MPa	ISO 178
Charpy impact strength (+23°C)	N / N	kJ/m²	ISO 179/1eU
Charpy impact strength (–30°C)	N / N	kJ/m²	ISO 179/1eU

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Charpy notched impact strength (+23°C)	75 / 125	kJ/m²	ISO 179/1eA
Charpy notched impact strength (−30°C)	26 / 30	kJ/m²	ISO 179/1eA
Izod notched impact strength (+23°C)	80 / 125	kJ/m²	ISO 180/1A
Izod notched impact strength (−40°C)	40 / 40	kJ/m²	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)	90 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	200 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	1.6 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	1.8 / *	E-4/°C	ISO 11359-1/-2
Thermal Index 5000 hrs	135	°C	IEC 60216/ISO 527-1/-2

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	475 / –	V	IEC 60112
Relative permittivity (100Hz)	3.6 / 14	–	IEC 62631-2-1
Relative permittivity (1 MHz)	3.2 / 4	–	IEC 62631-2-1

OTHER PROPERTIES	DRY / COND		
Humidity absorption	2.95 / *	%	Sim. to ISO 62
Density	1100 / –	kg/m³	ISO 1183

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