

Product Texts

High Viscosity, Heat Stabilized, Lubricated

ISO 1043 PA46

Stanyl® TW441 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.

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	3300 / 1000	MPa	ISO 527
^[C] Yield stress	100 / 55	MPa	ISO 527
^[C] Yield strain	10 / 20	%	ISO 527
^[C] Nominal strain at break	35 / >50	%	ISO 527
^[C] Tensile creep modulus, 1000h	* / 550	MPa	ISO 899-1
^[C] Charpy impact strength, +23°C	N / N	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	N / N	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	12 / 45	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	5 / 3	kJ/m ²	ISO 179/1eA

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	295 / *	°C	ISO 11357-1/-3
^[C] Glass transition temperature, 10°C/min	75 / *	°C	ISO 11357-1/-2
^[C] Temp. of deflection under load, 1.80 MPa	190 / *	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	280 / *	°C	ISO 75-1/-2
^[C] Vicat softening temperature, B	290 / *	°C	ISO 306
^[C] Coeff. of linear therm. expansion, parallel	85 / *	E-6/K	ISO 11359-1/-2
^[C] Coeff. of linear therm. expansion, normal	110 / *	E-6/K	ISO 11359-1/-2
^[C] Oxygen index	27 / *	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Relative permittivity, 100Hz	3.9 / 22	-	IEC 62631-2-1
^[C] Relative permittivity, 1MHz	3.6 / 4.5	-	IEC 62631-2-1
^[C] Dissipation factor, 100Hz	70 / 8700	E-4	IEC 62631-2-1
^[C] Dissipation factor, 1MHz	260 / 1200	E-4	IEC 62631-2-1
^[C] Volume resistivity	1E13 / 1E7	Ohm*m	IEC 62631-3-1
^[C] Surface resistivity	* / 1E13	Ohm	IEC 62631-3-2
^[C] Electric strength	25 / 15	kV/mm	IEC 60243-1
^[C] Comparative tracking index	400 / -	-	IEC 60112

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
^[C] Water absorption	13.5 / *	%	Sim. to ISO 62
^[C] Humidity absorption	3.7 / *	%	Sim. to ISO 62
^[C] Density	1180 / -	kg/m ³	ISO 1183

[C]: CAMPUS

Material specific properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Viscosity number	220 / *	cm ³ /g	ISO 307, 1157, 1628

[C]: CAMPUS

Characteristics**Processing**

Injection Molding, Other Extrusion

Special Characteristics

Platable, Heat stabilized or stable to heat

Additives

Lubricants, Release agent

Regional Availability

North America, Europe, Asia Pacific

Other text information**Injection molding**[Injection Molding Recommendations](#)[Hot runner recommendations for molding high heat performance Engineering Materials](#)[Steel recommendations for molds screws and barrels](#)[Supporting document for Stanyl quality processing](#)[Trouble shooting guideline for injection molding](#)