Stanyl® TW241F10

PA46-GF50 Envalior

Product Texts

50% Glass Reinforced, Heat Stabilized, Lubricated

ISO 1043 PA46-GF50

Stanyl® TW241F10 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. TW241F10 has an excellent track-record in gear applications and structural parts

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Density of melt	**1420**	kg/m³	-
[C] Thermal conductivity of melt	**0.391**	W/(m K)	-
[C] Spec. heat capacity of melt	**1990**	J/(kg K)	-
[C] Eff. thermal diffusivity	**1.39E-7**	m²/s	-

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**16000 / 10000**	MPa	ISO 527
[C] Stress at break	**250 / 150**	MPa	ISO 527
[C] Strain at break	**2.7 / 5**	%	ISO 527
[C] Tensile creep modulus, 1000h	*** / 8000**	MPa	ISO 899-1
[C] Charpy impact strength, +23°C	**100 / 110**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**90 / 100**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**16 / 24**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**14 / 14**	kJ/m²	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	**290 / ***	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**290 / ***	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**290 / ***	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**25 / ***	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**40 / ***	E-6/K	ISO 11359-1/-2
[C] Oxygen index	**22 / ***	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 100Hz	**4.3 / 16**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**4 / 4.7**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**70 / 6000**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**200 / 1000**	E-4	IEC 62631-2-1
[C] Volume resistivity	**1E12 / 1E8**	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	*** / 1E13**	Ohm	IEC 62631-3-2
[C] Electric strength	**30 / 20**	kV/mm	IEC 60243-1
[C] Comparative tracking index	**300 / -**	-	IEC 60112

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
[C] Water absorption	**6.75 / ***	%	Sim. to ISO 62
[C] Humidity absorption	**1.85 / ***	%	Sim. to ISO 62

[C] Density	**1620 / -**	kg/m³	ISO 1183

[C]: CAMPUS

Material specific properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Viscosity number	**140 / ***	cm³/g	ISO 307, 1157, 1628

[C]: CAMPUS

Characteristics

Processing
Injection Molding

Special Characteristics
Platable, Heat stabilized or stable to heat

Delivery form
Pellets

Regional Availability
North America, Europe, Asia Pacific

Additives
Lubricants

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