Stanyl® TW241F10

PA46-GF50 DSM Engineering Plastics

Product Texts

50% Glass Reinforced, Heat Stabilized, Lubricated

ISO 1043 PA46-GF50

Stanyl website

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	16000 / 10000	MPa	ISO 527-1/-2
Stress at break	250 / 160	MPa	ISO 527-1/-2
Strain at break	2.7 / 5	%	ISO 527-1/-2
Tensile creep modulus, 1000h	* / 8000	MPa	ISO 899-1
Charpy impact strength (+23°C)	100 / 110	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	90 / 100	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	16 / 24	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	14 / 14	kJ/m²	ISO 179/1eA

Thermal properties	dry / cond	Unit	Test Standard
ISO Data			
Melting temperature (10°C/min)	295 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	75 / *	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	290 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	290 / *	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	290 / *	°C	ISO 306
Coeff. of linear therm. expansion, parallel	25 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	40 / *	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10
UL recognition	UL / *	-	-
Burning behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.8 / *	mm	IEC 60695-11-10
UL recognition	UL / *	-	-
Oxygen index	22 / *	%	ISO 4589-1/-2

Electrical properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	4.3 / 16	-	IEC 60250
Relative permittivity, 1MHz	4 / 4.7	-	IEC 60250
Dissipation factor, 100Hz	70 / 6000	E-4	IEC 60250
Dissipation factor, 1MHz	200 / 1000	E-4	IEC 60250
Volume resistivity	1E12 / 1E8	Ohm*m	IEC 60093
Surface resistivity	* / 1E13	Ohm	IEC 60093
Electric strength	30 / 20	kV/mm	IEC 60243-1
Comparative tracking index	300 / -	-	IEC 60112

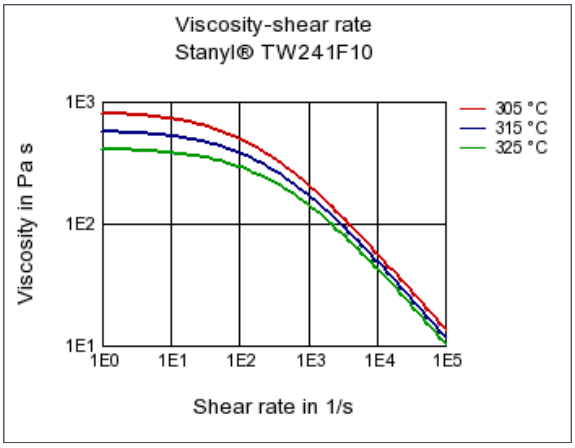
Other properties	dry / cond	Unit	Test Standard
ISO Data			
Water absorption	6.75 / *	%	Sim. to ISO 62
Humidity absorption	1.85 / *	%	Sim. to ISO 62
Density	1620 / -	kg/m³	ISO 1183

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

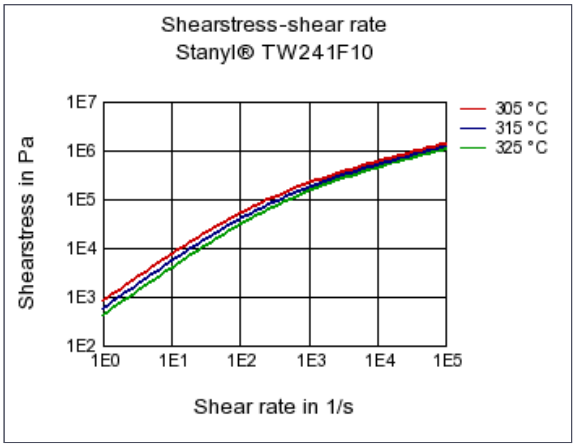
Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	1420	kg/m³	-
Thermal conductivity of melt	0.391	W/(m K)	-
Spec. heat capacity of melt	1990	J/(kg K)	-
Eff. thermal diffusivity	1.39E-7	m²/s	-

Diagrams

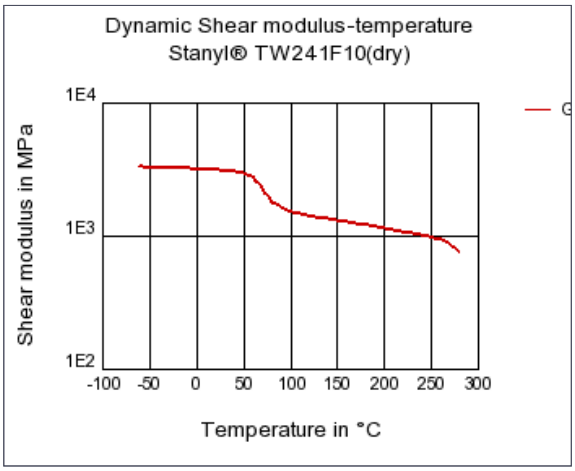
Viscosity-shear rate



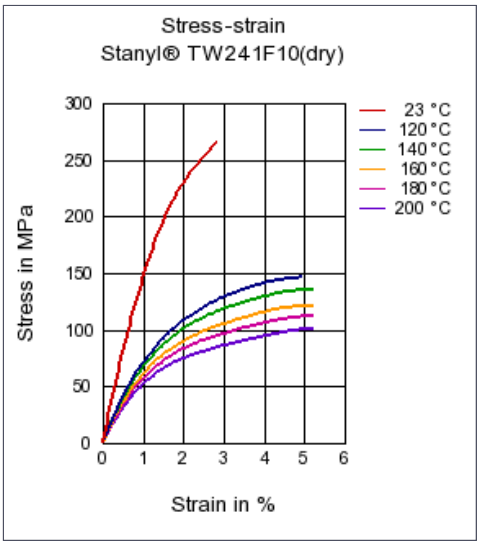
Shearstress-shear rate



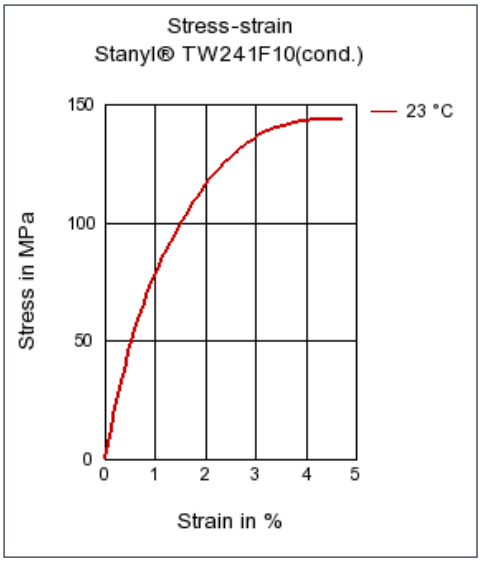
Dynamic Shear modulus-temperature



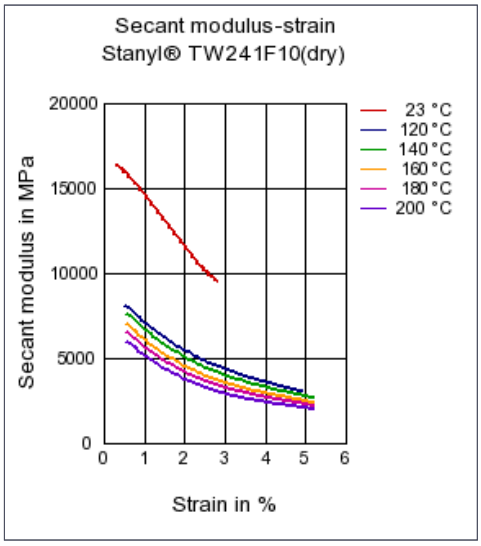
Stress-strain



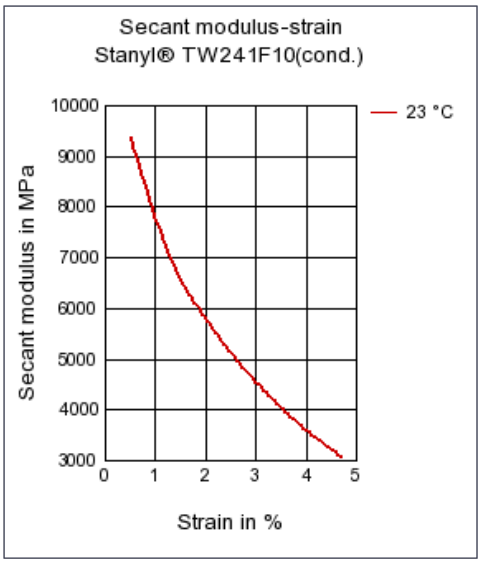
Stress-strain



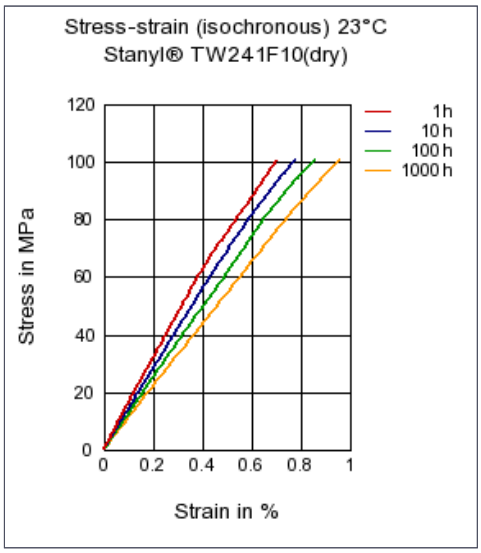
Secant modulus-strain



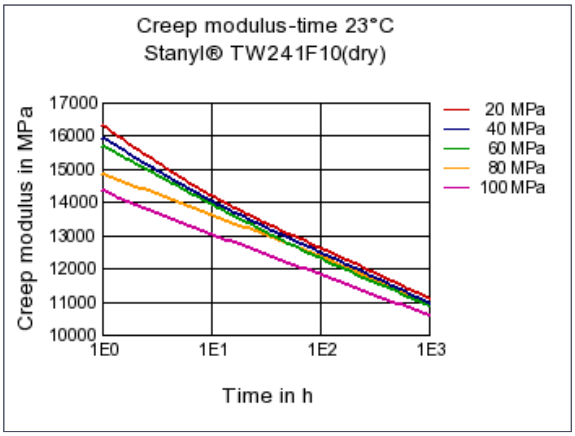
Secant modulus-strain



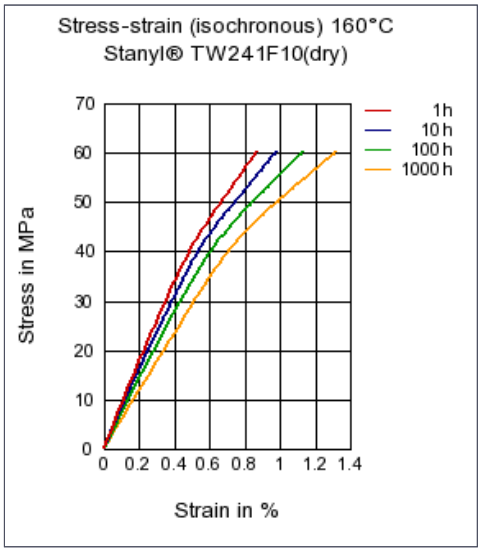
Stress-strain (isochronous) 23°C



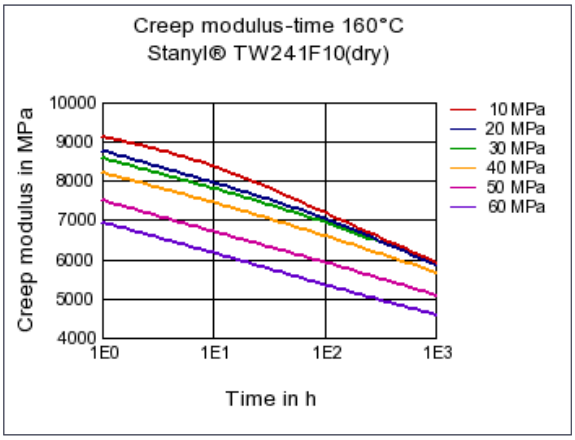
Creep modulus-time 23°C



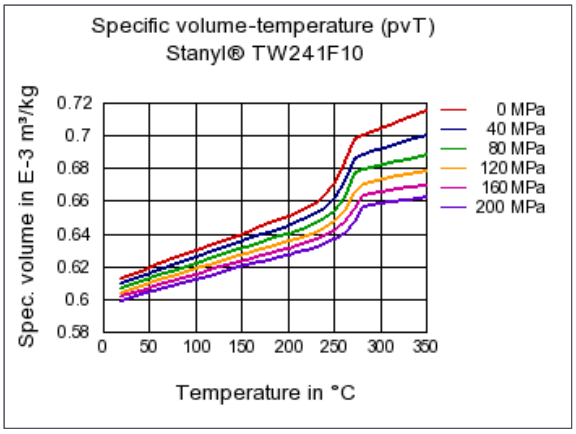
Stress-strain (isochronous) 160°C



Creep modulus-time 160°C



Specific volume-temperature (pvT)



Characteristics

Processing
Injection Molding

Special Characteristics
Platable, Heat stabilized or stable to heat

Delivery form
Pellets

Other text information

Injection Molding
Injection Molding Recommendations