Stanyl® TW300

PA46 DSM Engineering Plastics

Product Texts

Heat Stabilized

ISO 1043 PA46

Stanyl website

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	3300 / 1000	MPa	ISO 527-1/-2
Yield stress	100 / 55	MPa	ISO 527-1/-2
Yield strain	10 / 20	%	ISO 527-1/-2
Nominal strain at break	40 / >50	%	ISO 527-1/-2
Tensile creep modulus, 1000h	* / 550	MPa	ISO 899-1
Charpy impact strength (+23°C)	N / N	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	N / N	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	10 / 35	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	4 / 4	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)	190 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	280 / *	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	290 / *	°C	ISO 306
Coeff. of linear therm. expansion, parallel	85 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	110 / *	E-6/K	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	UL / *	-	-
Burning behav. at thickness h	V-2 / *	class	IEC 60695-11-10
Thickness tested	0.8 / *	mm	IEC 60695-11-10
UL recognition	UL / *	-	-
Oxygen index	27 / *	%	ISO 4589-1/-2

Electrical properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	3.9 / 22	-	IEC 60250
Relative permittivity, 1MHz	3.6 / 4.5	-	IEC 60250
Dissipation factor, 100Hz	70 / 8700	E-4	IEC 60250
Dissipation factor, 1MHz	260 / 1200	E-4	IEC 60250
Volume resistivity	1E13 / 1E7	Ohm*m	IEC 60093
Surface resistivity	* / 1E13	Ohm	IEC 60093
Electric strength	25 / 15	kV/mm	IEC 60243-1
Comparative tracking index	400 / -	-	IEC 60112

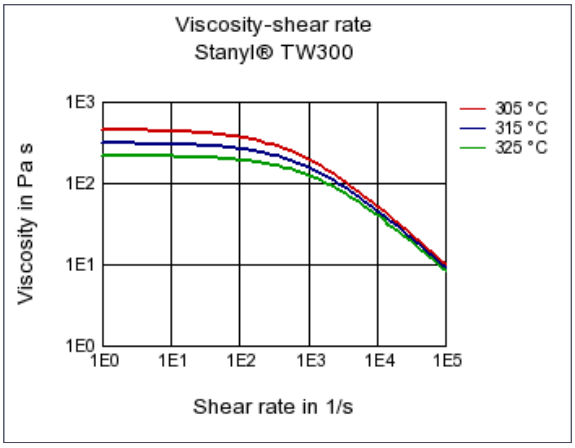
Other properties	dry / cond	Unit	Test Standard
ISO Data			
Water absorption	13.5 / *	%	Sim. to ISO 62
Humidity absorption	3.7 / *	%	Sim. to ISO 62
Density	1180 / -	kg/m³	ISO 1183

Material specific properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	175 / *	cm³/g	ISO 307, 1157, 1628

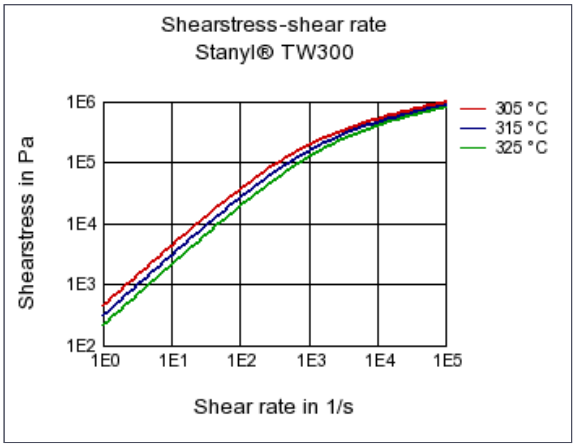
Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	978	kg/m³	-
Thermal conductivity of melt	0.252	W/(m K)	-
Spec. heat capacity of melt	2800	J/(kg K)	-
Eff. thermal diffusivity	8.78E-8	m²/s	-

Diagrams

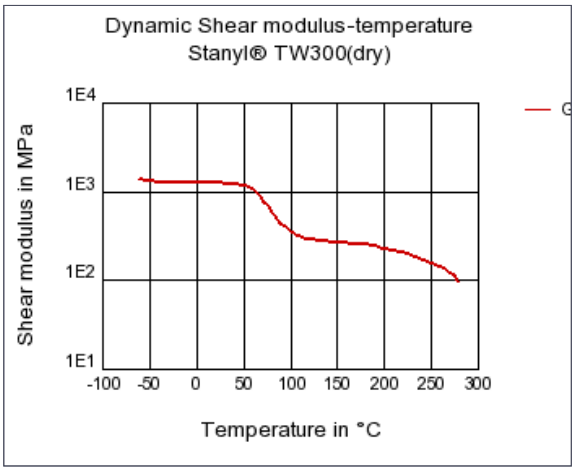
Viscosity-shear rate



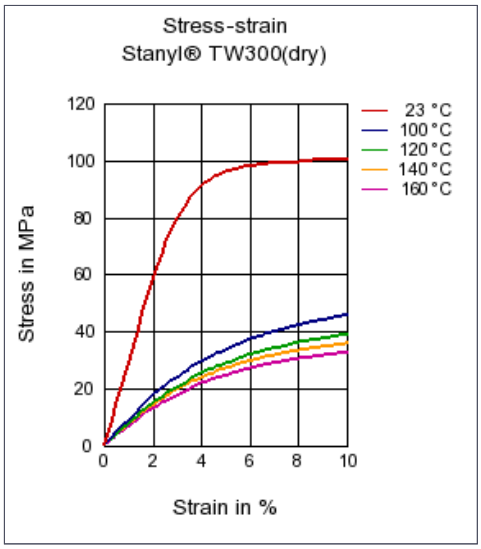
Shearstress-shear rate



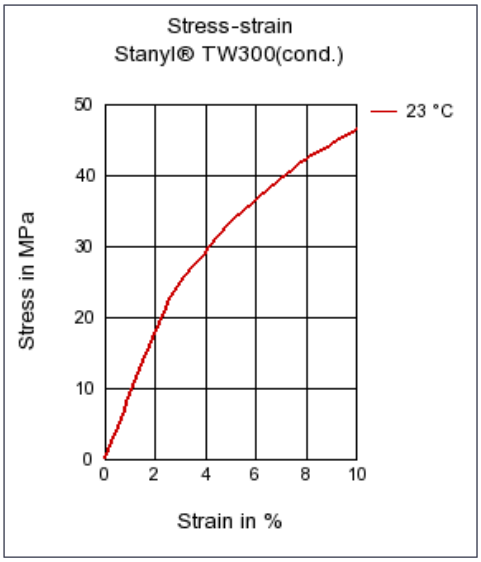
Dynamic Shear modulus-temperature



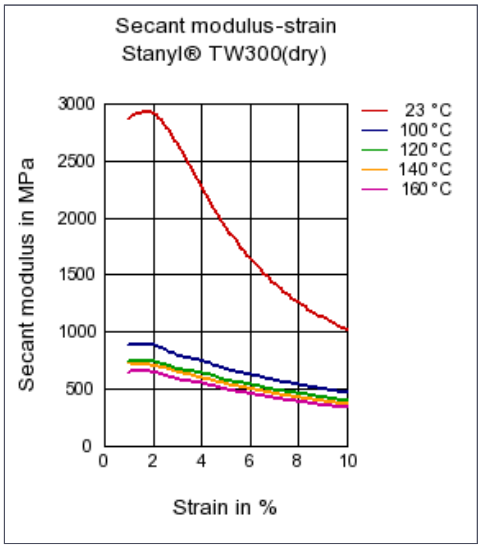
Stress-strain



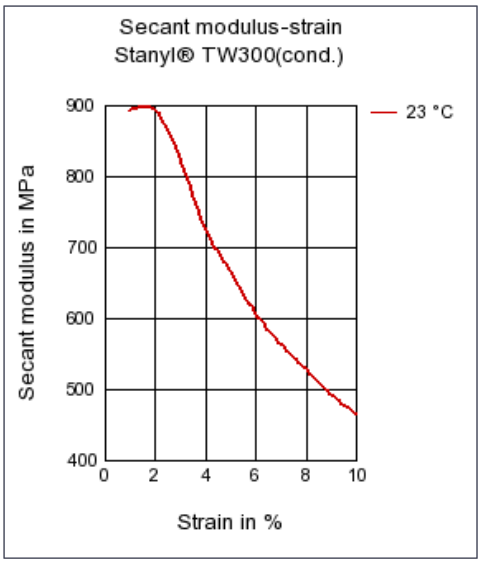
Stress-strain



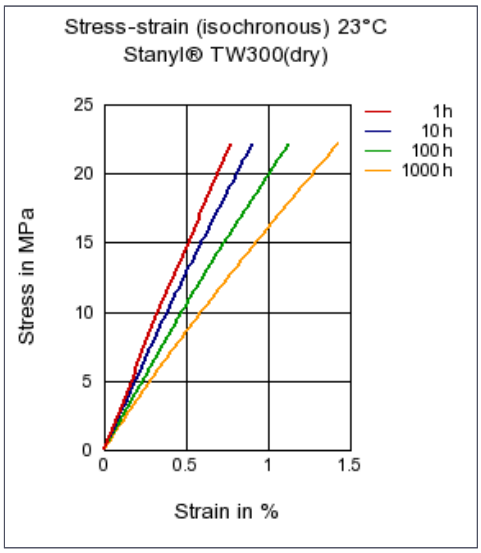
Secant modulus-strain



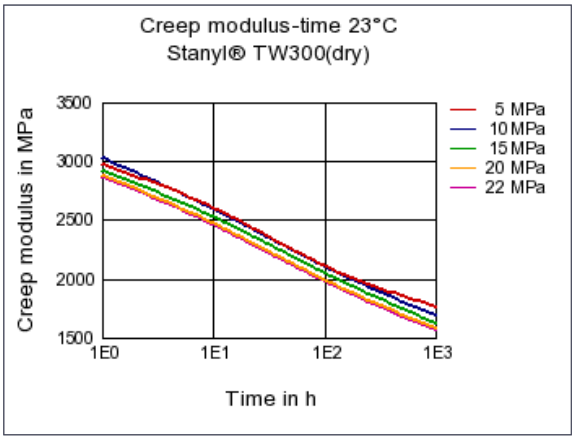
Secant modulus-strain



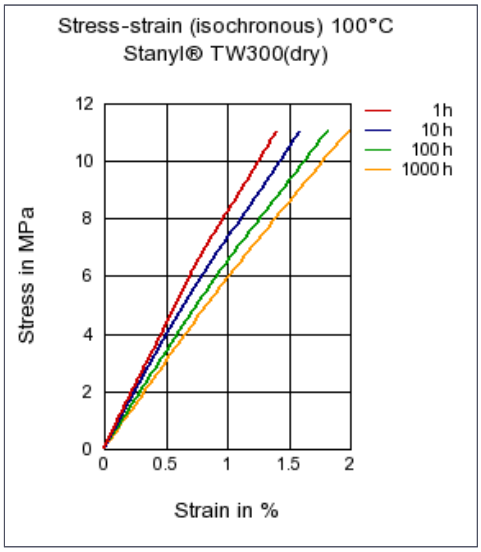
Stress-strain (isochronous) 23°C



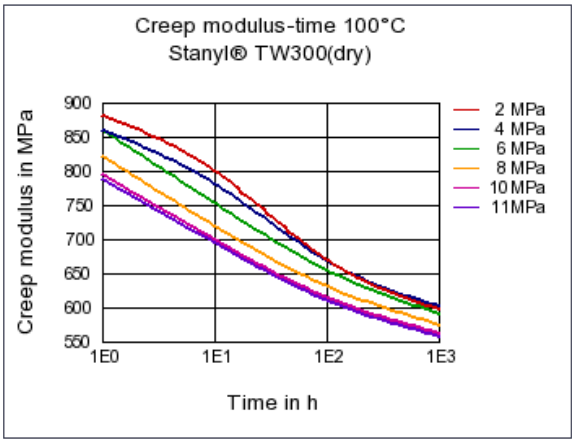
Creep modulus-time 23°C



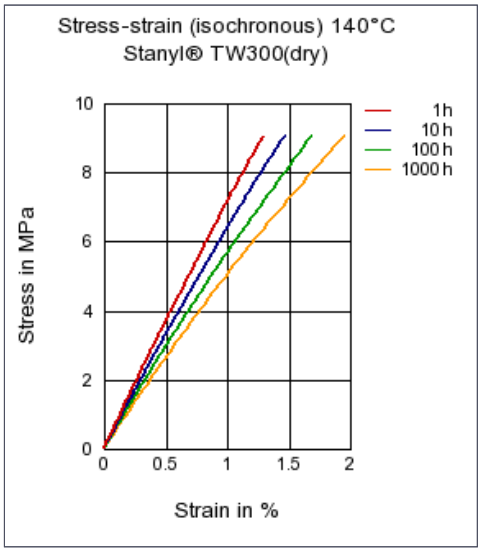
Stress-strain (isochronous) 100°C



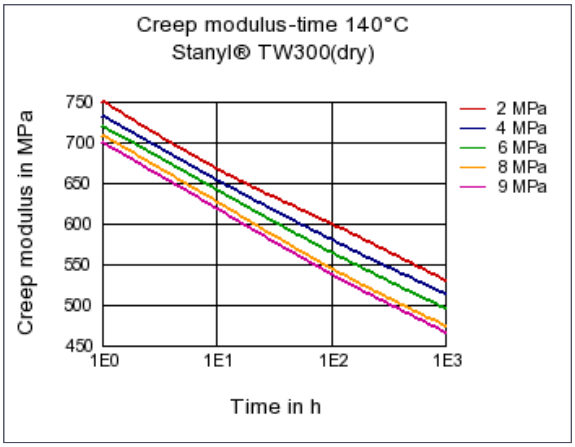
Creep modulus-time 100°C



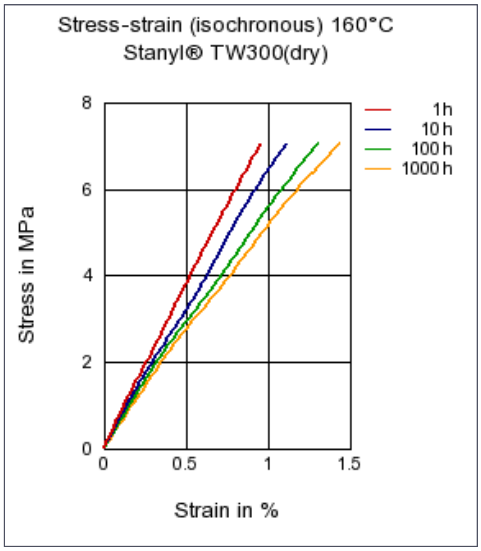
Stress-strain (isochronous) 140°C



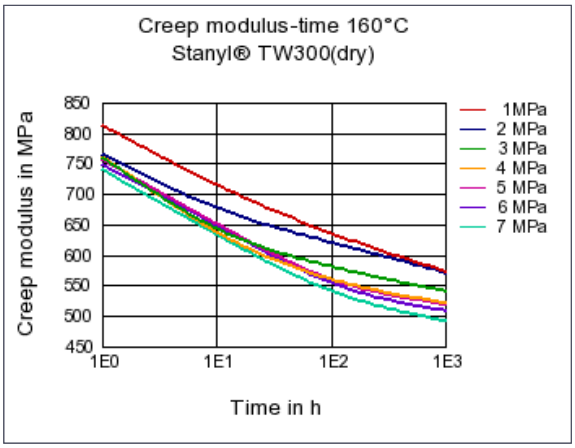
Creep modulus-time 140°C



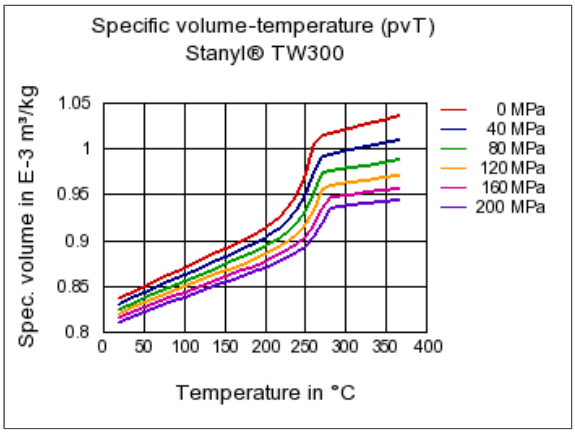
Stress-strain (isochronous) 160°C



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