CAMPUSplastics | datasheet Stanyl® TW341

This datasheet of **Stanyl® TW341** from **DSM Engineering Plastics** is provided by the international plastics database **CAMPUS**.

CAMPUS is organized by a group of leading international resin producers, who have agreed to test their material according to uniform conditions, based on ISO standards (ISO 10350, ISO 11403), in order to offer comparable data to the market.

Stanyl® TW341 | PA46 | DSM Engineering Plastics

Product Texts

Heat Stabilized, Lubricated

ISO 1043 PA46

Welcome to the astonishing world of Stanyl®

Mechanical properties	**dry / cond**	**Unit**	**Test Standard**
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**
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**
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

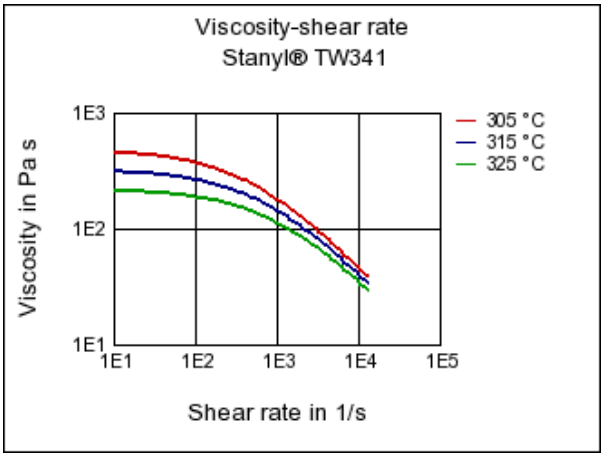
Other properties	**dry / cond**	**Unit**	**Test Standard**
Water absorption	13.5 / *	%	Sim. to ISO 62
Humidity absorption	3.7 / *	%	Sim. to ISO 62
Density	1180 / -	kg/m³	ISO 1183

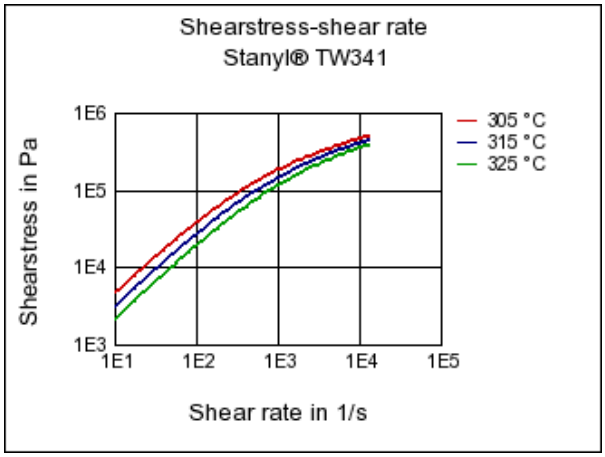
Material specific properties	**dry / cond**	**Unit**	**Test Standard**
Viscosity number	185 / *	cm³/g	ISO 307, 1157, 1628

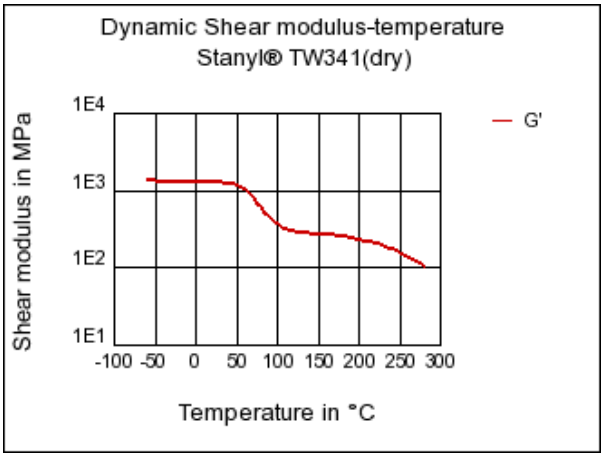
Rheological calculation properties	**Value**	**Unit**	**Test Standard**
Density of melt	978	kg/m³	-
Thermal conductivity of melt	0.252	W/(m K)	-

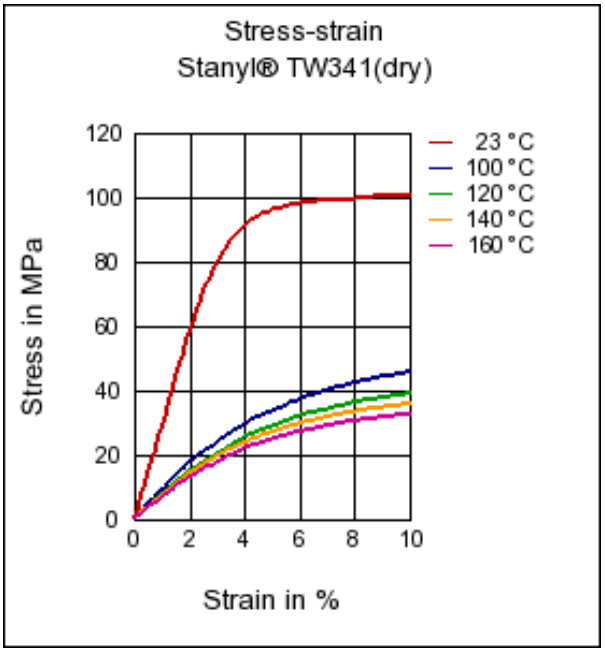
Spec. heat capacity melt	2800	J/(kg K)	-
Eff. thermal diffusivity	9.21E-8	m²/s	-

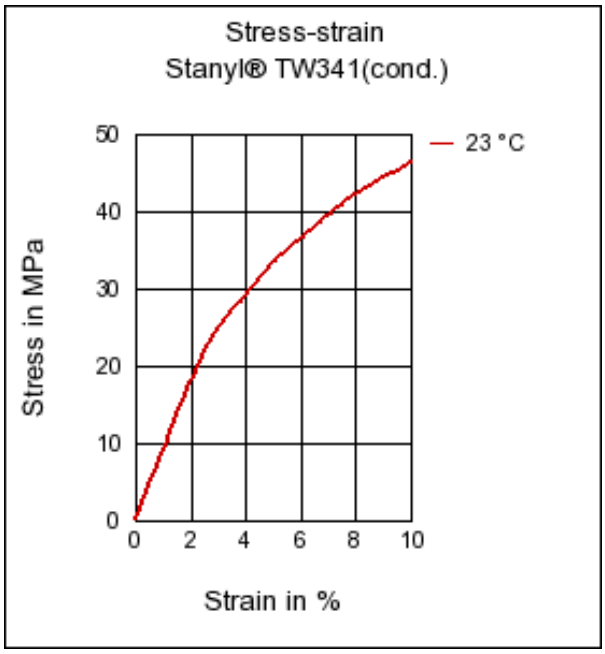
Diagrams

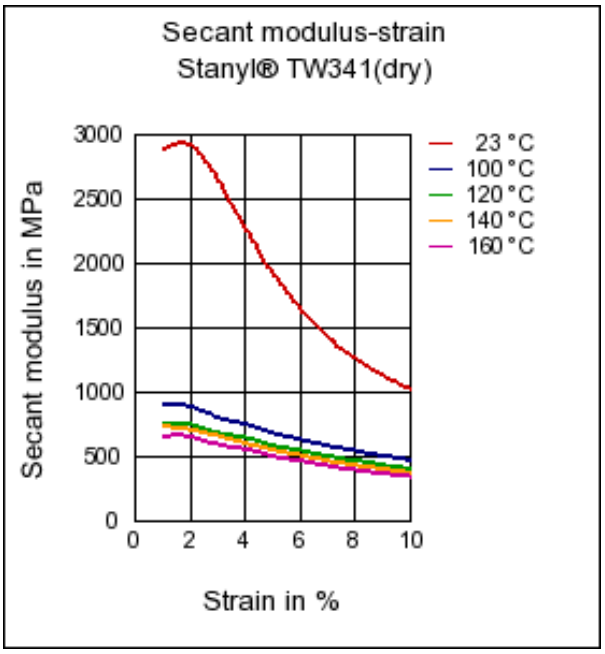


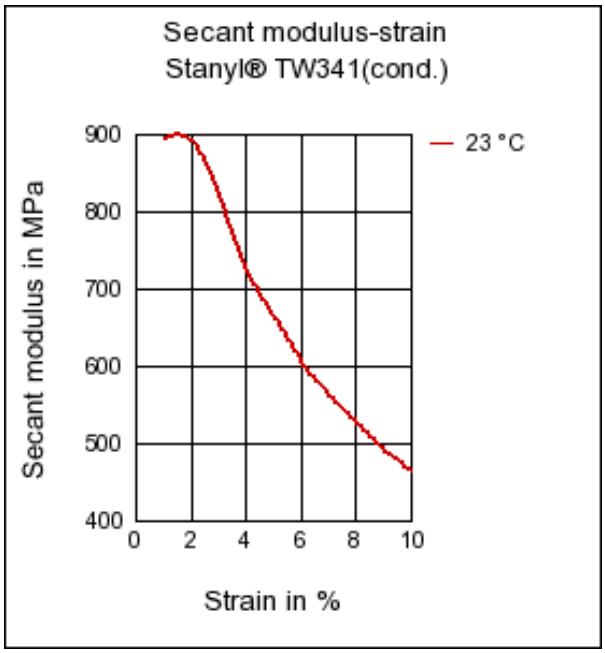


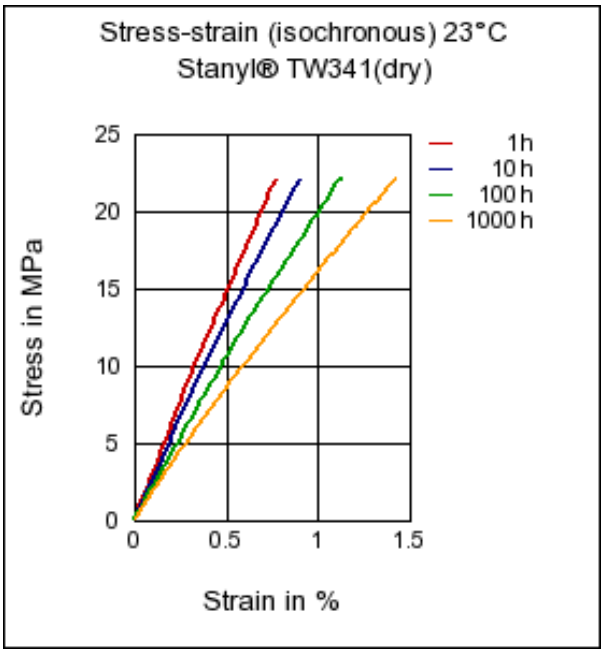


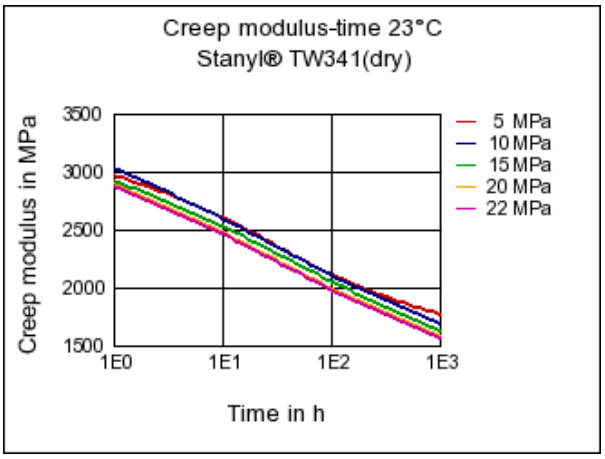


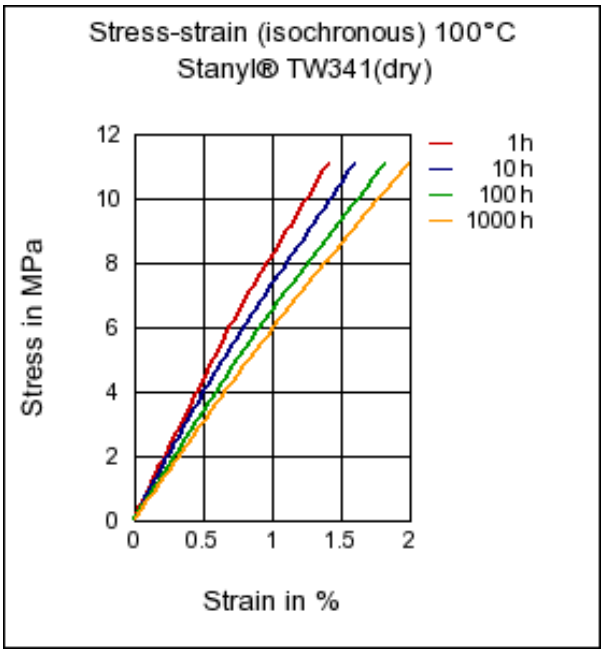

Stress-strain
Stanyl® TW341(cond.)
Stress in MPa
Strain in %
23 °C
0
10
20
30
40
50
0
2
4
6
8
10

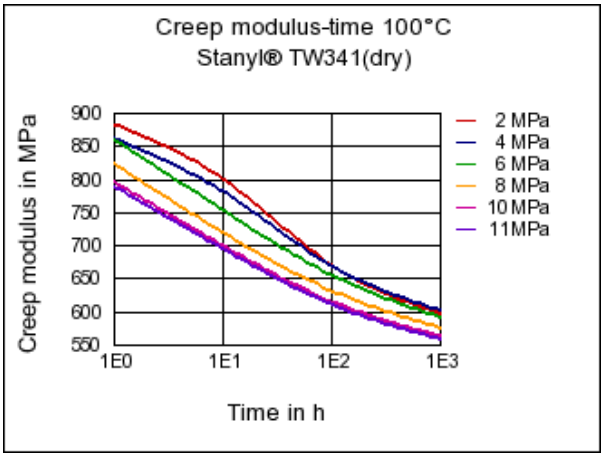

Secant modulus-strain
Stanyl® TW341(dry)
Secant modulus in MPa
Strain in %
23 °C
100 °C
120 °C
140 °C
160 °C
0
500
1000
1500
2000
2500
3000
0
2
4
6
8
10

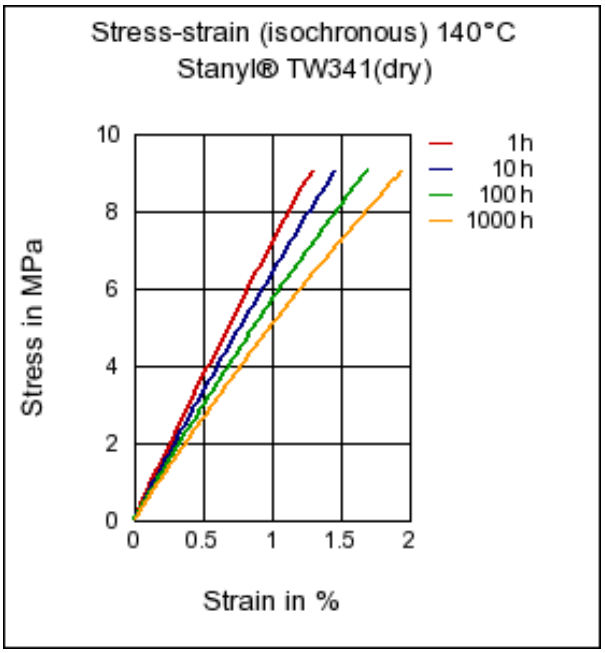

Secant modulus-strain
Stanyl® TW341(cond.)
Secant modulus in MPa
Strain in %
23 °C
400
500
600
700
800
900
0
2
4
6
8
10

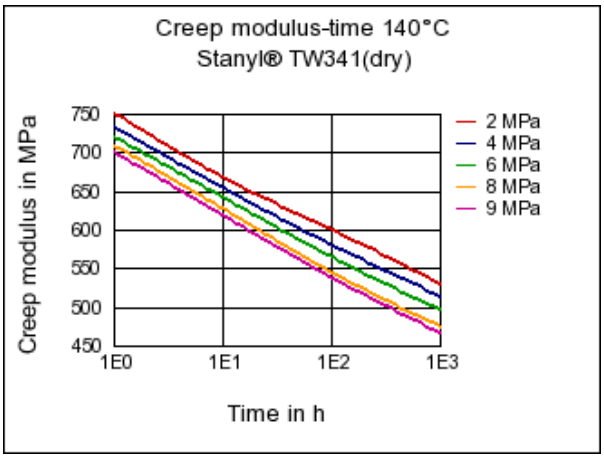

Stress-strain (isochronous) 23°C
Stanyl® TW341(dry)
Stress in MPa
Strain in %
1h
10 h
100 h
1000 h
0
5
10
15
20
25
0
0.5
1
1.5

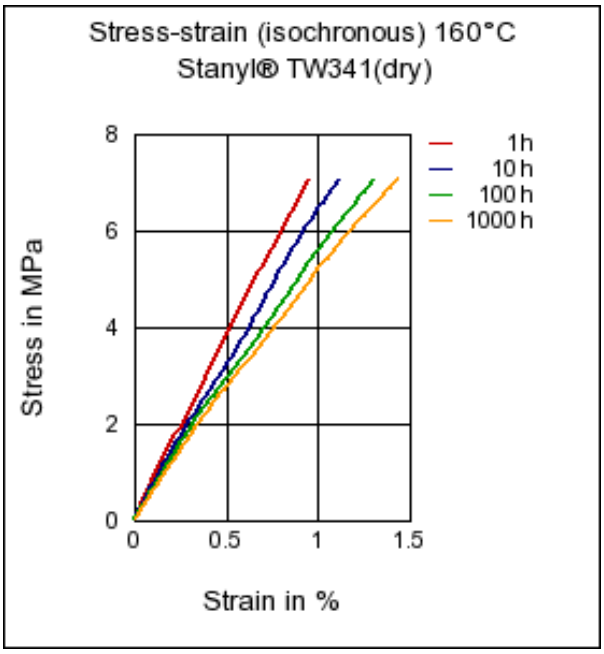

Creep modulus-time 23°C
Stanyl® TW341(dry)
Creep modulus in MPa
3500
3000
2500
2000
1500
1E0
1E1
1E2
1E3
Time in h
5 MPa
10 MPa
15 MPa
20 MPa
22 MPa

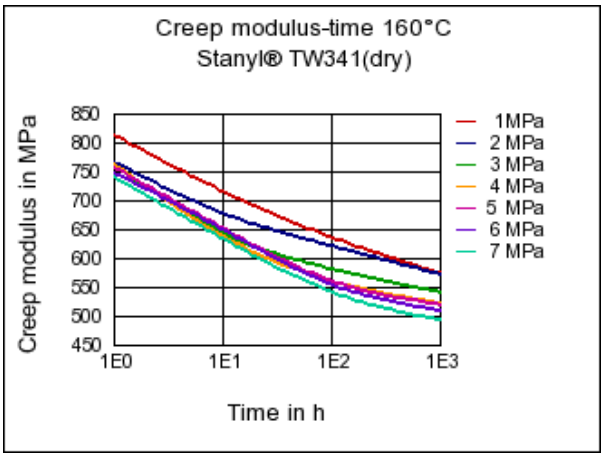

Stress-strain (isochronous) 100°C
Stanyl® TW341(dry)
Stress in MPa
12
10
8
6
4
2
0
0
0.5
1
1.5
2
Strain in %
1h
10 h
100 h
1000 h


Creep modulus-time 100°C
Stanyl® TW341(dry)
Creep modulus in MPa
900
850
800
750
700
650
600
550
1E0
1E1
1E2
1E3
Time in h
2 MPa
4 MPa
6 MPa
8 MPa
10 MPa
11MPa


Stress-strain (isochronous) 140°C
Stanyl® TW341(dry)
Stress in MPa
10
8
6
4
2
0
0
0.5
1
1.5
2
Strain in %
1h
10 h
100 h
1000 h







Characteristics

Processing
Injection Molding

Delivery form
Pellets

Additives
Lubricants, Release agent

Special Characteristics
Platable, Heat stabilized or stable to heat

Regional Availability
North America, Europe, Asia Pacific

Other text information

Injection molding

Injection Molding Recommendations

Disclaimer

any consequence from the use of all such information.

Typical values are indicative only and are not to be construed as being binding specifications.