

## DSM Stanyl® TW341-N PA46

Category : Polymer , Thermoplastic , Nylon , Nylon 46

### Material Notes:

Heat Stabilized, Lubricated

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_DSM-Stanyl-TW341-N-PA46.php](http://www.lookpolymers.com/polymer_DSM-Stanyl-TW341-N-PA46.php)

Physical Properties	Metric	English	Comments
Density	1.18 g/cc	0.0426 lb/in <sup>3</sup>	dry; ISO 1183
Moisture Absorption	3.70 %	3.70 %	Sim. To ISO 62
Linear Mold Shrinkage, Flow	0.020 cm/cm	0.020 in/in	Sim. To ISO 294-4
Linear Mold Shrinkage, Transverse	0.020 cm/cm	0.020 in/in	Sm. To ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	55.0 MPa	7980 psi	cond; ISO 527-1/-2
	100 MPa	14500 psi	dry; ISO 527-1/-2
	30.0 MPa	4350 psi	ISO 527-1/-2
	@Temperature 200 °C	@Temperature 392 °F	
	35.0 MPa	5080 psi	ISO 527-1/-2
	@Temperature 180 °C	@Temperature 356 °F	
	40.0 MPa	5800 psi	ISO 527-1/-2
	@Temperature 160 °C	@Temperature 320 °F	
	50.0 MPa	7250 psi	ISO 527-1/-2
	@Temperature 120 °C	@Temperature 248 °F	
Elongation at Break	40 %	40 %	dry; ISO 527-1/-2
	>= 50 %	>= 50 %	cond; ISO 527-1/-2
	>= 50 %	>= 50 %	ISO 527-1/-2
	@Temperature 120 °C	@Temperature 248 °F	
	>= 50 %	>= 50 %	ISO 527-1/-2
	@Temperature 160 °C	@Temperature 320 °F	
>= 50 %	>= 50 %	ISO 527-1/-2	
@Temperature 180 °C	@Temperature 356 °F		

Mechanical Properties	Metric	English	Comments
	@Temperature 200 °C	@Temperature 392 °F	ISO 527-1/-2
Tensile Modulus	1.00 GPa	145 ksi	cond; ISO 527-1/-2
	3.30 GPa	479 ksi	dry; ISO 527-1/-2
	0.500 GPa	72.5 ksi	ISO 527-1/-2
	@Temperature 200 °C	@Temperature 392 °F	
	0.600 GPa	87.0 ksi	ISO 527-1/-2
	@Temperature 180 °C	@Temperature 356 °F	
	0.650 GPa	94.3 ksi	ISO 527-1/-2
	@Temperature 160 °C	@Temperature 320 °F	
	0.800 GPa	116 ksi	ISO 527-1/-2
	@Temperature 120 °C	@Temperature 248 °F	
Flexural Modulus	0.900 GPa	131 ksi	cond; ISO 178
	3.00 GPa	435 ksi	dry; ISO 178
	0.600 GPa	87.0 ksi	ISO 178
	@Temperature 160 °C	@Temperature 320 °F	
	0.800 GPa	116 ksi	ISO 178
	@Temperature 120 °C	@Temperature 248 °F	
Fatigue Strength	12.0 MPa	1740 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 1.00e+8 , Temperature 140 °C	@# of Cycles 1.00e+8 , Temperature 284 °F	
	21.0 MPa	3050 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 1.00e+7 , Temperature 140 °C	@# of Cycles 1.00e+7 , Temperature 284 °F	
	30.0 MPa	4350 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 1.00e+6 , Temperature 140 °C	@# of Cycles 1.00e+6 , Temperature 284 °F	
	35.0 MPa	5080 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 100000 , Temperature 140 °C	@# of Cycles 100000 , Temperature 284 °F	
	37.0 MPa	5370 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 10000 , Temperature 140 °C	@# of Cycles 10000 , Temperature 284 °F	

Mechanical Properties	Metric Pa	English	Comments
	@# of Cycles 1000 , Temperature 140 °C	@# of Cycles 1000 , Temperature 284 °F	R = 0.1, 8 Hz, dry
	41.0 MPa	5950 psi	
	@# of Cycles 100 , Temperature 140 °C	@# of Cycles 100 , Temperature 284 °F	R = 0.1, 8 Hz, dry
Izod Impact Resistance	0.400 J/cm <sup>2</sup> @Temperature -40.0 °C	1.90 ft-lb/in <sup>2</sup> @Temperature -40.0 °F	cond; ISO 180/1A
	0.400 J/cm <sup>2</sup> @Temperature -40.0 °C	1.90 ft-lb/in <sup>2</sup> @Temperature -40.0 °F	dry; ISO 180/1A
	1.00 J/cm <sup>2</sup> @Temperature 23.0 °C	4.76 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	dry; ISO 180/1A
	3.50 J/cm <sup>2</sup> @Temperature 23.0 °C	16.7 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	cond; ISO 180/1A
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	cond; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	cond; ISO 179/1eU
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	dry; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	dry; ISO 179/1eU
Charpy Impact, Notched	0.400 J/cm <sup>2</sup> @Temperature -30.0 °C	1.90 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	cond; ISO 179/1eA
	0.400 J/cm <sup>2</sup> @Temperature -30.0 °C	1.90 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	dry; ISO 179/1eA
	1.00 J/cm <sup>2</sup> @Temperature 23.0 °C	4.76 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	dry; ISO 179/1eA
	3.50 J/cm <sup>2</sup> @Temperature 23.0 °C	16.7 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	cond; ISO 179/1eA

Thermal Properties	Metric	English	Comments
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CTE, linear, Parallel to Flow Thermal Properties	85.0 µm/m-°C Metric	47.2 µin/in-°F English	dry; ISO 11359-1/-2 Comments
CTE, linear, Transverse to Flow	110 µm/m-°C	61.1 µin/in-°F	dry; ISO 11359-1/-2
Melting Point	295 °C	563 °F	10°C/min; ISO 11357-1/-3
Maximum Service Temperature, Air	152 °C	306 °F	5000 hours Thermal Index; IEC 60216/ISO 527-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	190 °C	374 °F	dry; ISO 75-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+9 ohm-cm	1.00e+9 ohm-cm	cond; IEC 60093
	1.00e+15 ohm-cm	1.00e+15 ohm-cm	dry; IEC 60093
Dielectric Strength	15.0 kV/mm	381 kV/in	cond; IEC 60243-1
	25.0 kV/mm	635 kV/in	dry; IEC 60243-1
Comparative Tracking Index	400 V	400 V	dry; IEC 60112

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