

DSM Stanyl® TW200B6 PA46-CF30

Category : Polymer , Thermoplastic , Nylon , Nylon 46

Material Notes:

30% Carbon Reinforced, Heat Stabilized, Lubricated

Order this product through the following link:

http://www.lookpolymers.com/polymer_DSM-Stanyl-TW200B6-PA46-CF30.php

Physical Properties	Metric	English	Comments
Density	1.28 g/cc	0.0462 lb/in ³	dry; ISO 1183
Moisture Absorption	2.60 %	2.60 %	Sim. To ISO 62
Linear Mold Shrinkage, Flow	0.0020 cm/cm	0.0020 in/in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.0090 cm/cm	0.0090 in/in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	150 MPa	21800 psi	cond; ISO 527-1/-2
	240 MPa	34800 psi	dry; ISO 527-1/-2
	95.0 MPa @Temperature 180 °C	13800 psi @Temperature 356 °F	ISO 527-1/-2
Tensile Strength, Yield	105 MPa @Temperature 160 °C	15200 psi @Temperature 320 °F	ISO 527-1/-2
	125 MPa @Temperature 120 °C	18100 psi @Temperature 248 °F	ISO 527-1/-2
Elongation at Break	2.0 %	2.0 %	dry; ISO 527-1/-2
	4.0 %	4.0 %	cond; ISO 527-1/-2
	3.0 % @Temperature 120 °C	3.0 % @Temperature 248 °F	ISO 527-1/-2
	3.0 % @Temperature 160 °C	3.0 % @Temperature 320 °F	ISO 527-1/-2
	3.0 % @Temperature 180 °C	3.0 % @Temperature 356 °F	ISO 527-1/-2
Tensile Modulus	24.0 GPa	3480 ksi	dry; ISO 527-1/-2

Mechanical Properties	8.30 GPa Metric	1200 ksi English	Comments 2
	@Temperature 180 °C	@Temperature 356 °F	
	8.80 GPa	1280 ksi	ISO 527-1/-2
	@Temperature 160 °C	@Temperature 320 °F	
	10.0 GPa	1450 ksi	ISO 527-1/-2
	@Temperature 120 °C	@Temperature 248 °F	
Flexural Modulus	9.20 GPa	1330 ksi	cond; ISO 178
	18.5 GPa	2680 ksi	dry; ISO 178
Fatigue Strength	60.0 MPa	8700 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 1.00e+7 , Temperature 140 °C	@# of Cycles 1.00e+7 , Temperature 284 °F	
	67.0 MPa	9720 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 1.00e+6 , Temperature 140 °C	@# of Cycles 1.00e+6 , Temperature 284 °F	
	77.0 MPa	11200 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 100000 , Temperature 140 °C	@# of Cycles 100000 , Temperature 284 °F	
	87.0 MPa	12600 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 10000 , Temperature 140 °C	@# of Cycles 10000 , Temperature 284 °F	
	100 MPa	14500 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 1000 , Temperature 140 °C	@# of Cycles 1000 , Temperature 284 °F	
	115 MPa	16700 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 100 , Temperature 140 °C	@# of Cycles 100 , Temperature 284 °F	
Izod Impact Resistance	0.650 J/cm ²	3.09 ft-lb/in ²	cond; ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	0.650 J/cm ²	3.09 ft-lb/in ²	dry; ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	0.800 J/cm ²	3.81 ft-lb/in ²	dry; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.40 J/cm ²	6.66 ft-lb/in ²	cond; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
<i>Charpy Impact Unnotched</i>			<i>cond; ISO 179/1eU</i>
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	5.00 J/cm ²	23.8 ft-lb/in ²	dry; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	6.00 J/cm ²	28.6 ft-lb/in ²	dry; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	7.50 J/cm ²	35.7 ft-lb/in ²	cond; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.650 J/cm ²	3.09 ft-lb/in ²	cond; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.650 J/cm ²	3.09 ft-lb/in ²	dry; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.800 J/cm ²	3.81 ft-lb/in ²	dry; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.40 J/cm ²	6.66 ft-lb/in ²	cond; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	8.00 µm/m-°C	4.44 µin/in-°F	dry; ISO 11359-1/-2
CTE, linear, Transverse to Flow	34.0 µm/m-°C	18.9 µin/in-°F	dry; ISO 11359-1/-2
Melting Point	295 °C	563 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 1.8 MPa (264 psi)	290 °C	554 °F	dry; ISO 75-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	100 ohm-cm	100 ohm-cm	dry; IEC 60093

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