

DSM Stanyl® TW272B6 (PA46+PTFE)-CF30

Category : Polymer , Thermoplastic , Nylon , Nylon 46

Material Notes:

30% Carbon Reinforced, Heat Stabilized, Wear and Friction Modified

Order this product through the following link:

http://www.lookpolymers.com/polymer_DSM-Stanyl-TW272B6-PA46PTFE-CF30.php

Physical Properties	Metric	English	Comments
Density	1.35 g/cc	0.0488 lb/in ³	dry; ISO 1183
Moisture Absorption	2.25 %	2.25 %	Sim. To ISO 62
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	Sim. To ISO 294-4
Linear Mold Shrinkage, Transverse	0.0060 cm/cm	0.0060 in/in	Sim. To ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	160 MPa	23200 psi	cond; ISO 527-1/-2
	240 MPa	34800 psi	dry; ISO 527-1/-2
	90.0 MPa	13100 psi	ISO 527-1/-2
	@Temperature 200 °C	@Temperature 392 °F	
	100 MPa	14500 psi	ISO 527-1/-2
	@Temperature 180 °C	@Temperature 356 °F	
	110 MPa	16000 psi	ISO 527-1/-2
	@Temperature 160 °C	@Temperature 320 °F	
	130 MPa	18900 psi	ISO 527-1/-2
	@Temperature 120 °C	@Temperature 248 °F	
Elongation at Break	1.6 %	1.6 %	dry; ISO 527-1/-2
	3.5 %	3.5 %	cond; ISO 527-1/-2
	3.1 %	3.1 %	ISO 527-1/-2
	@Temperature 120 °C	@Temperature 248 °F	
	3.1 %	3.1 %	ISO 527-1/-2
	@Temperature 160 °C	@Temperature 320 °F	
	3.1 %	3.1 %	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	14.5 GPa	2100 ksi	cond; ISO 527-1/-2
	24.0 GPa	3480 ksi	dry; ISO 527-1/-2
	10.0 GPa	1450 ksi	ISO 527-1/-2
	@Temperature 200 °C	@Temperature 392 °F	
	10.5 GPa	1520 ksi	ISO 527-1/-2
	@Temperature 180 °C	@Temperature 356 °F	
	11.0 GPa	1600 ksi	ISO 527-1/-2
	@Temperature 160 °C	@Temperature 320 °F	
	12.5 GPa	1810 ksi	ISO 527-1/-2
	@Temperature 120 °C	@Temperature 248 °F	
Fatigue Strength	57.0 MPa	8270 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 1.00e+7 , Temperature 140 °C	@# of Cycles 1.00e+7 , Temperature 284 °F	
	66.0 MPa	9570 psi	R = 0.1, 8 Hz, dry
	@# of Cycles 1.00e+6 , Temperature 140 °C	@# of Cycles 1.00e+6 , Temperature 284 °F	
	76.0 MPa	11000 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	
Charpy Impact Unnotched	5.00 J/cm ²	23.8 ft-lb/in ²	dry; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	5.00 J/cm ²	23.8 ft-lb/in ²	dry; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	5.50 J/cm ²	26.2 ft-lb/in ²	cond; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Mechanical Properties	8.00 J/cm ² Metric	38.1 ft-lb/in ² English	Comments cond; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.600 J/cm ²	2.86 ft-lb/in ²	cond; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.600 J/cm ²	2.86 ft-lb/in ²	dry; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.600 J/cm ²	2.86 ft-lb/in ²	dry; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.30 J/cm ²	6.19 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	25.0 µm/m-°C	13.9 µin/in-°F	dry; ISO 11359-1/-2
CTE, linear, Transverse to Flow	35.0 µm/m-°C	19.4 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

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