

DSM Stanyl® TS300 PA46

Category : Polymer , Thermoplastic , Nylon , Nylon 46 , Nylon 46, Unreinforced

Material Notes:

Order this product through the following link:

http://www.lookpolymers.com/polymer_DSM-Stanyl-TS300-PA46.php

Physical Properties	Metric	English	Comments
Density	1.18 g/cc	0.0426 lb/in ³	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	Sim. 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	$\geq 50\%$ Metric	$\geq 50\%$ English	Comments ²
	@Temperature 200 °C	@Temperature 392 °F	
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	
Izod Impact Resistance	0.400 J/cm ²	1.90 ft-lb/in ²	cond; ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	0.400 J/cm ²	1.90 ft-lb/in ²	dry; ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	1.00 J/cm ²	4.76 ft-lb/in ²	dry; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	3.50 J/cm ²	16.7 ft-lb/in ²	cond; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	cond; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	cond; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	

Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	dry; ISO 179/1eU Comments
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	dry; ISO 179/1eU
Charpy Impact, Notched	0.400 J/cm ² @Temperature -30.0 °C	1.90 ft-lb/in ² @Temperature -22.0 °F	cond; ISO 179/1eA
	0.400 J/cm ² @Temperature -30.0 °C	1.90 ft-lb/in ² @Temperature -22.0 °F	dry; ISO 179/1eA
	1.00 J/cm ² @Temperature 23.0 °C	4.76 ft-lb/in ² @Temperature 73.4 °F	dry; ISO 179/1eA
	3.50 J/cm ² @Temperature 23.0 °C	16.7 ft-lb/in ² @Temperature 73.4 °F	cond; ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	85.0 µm/m-°C	47.2 µin/in-°F	dry; ISO 11359-1/-2
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
Deflection Temperature at 1.8 MPa (264 psi)	190 °C	374 °F	dry; ISO 75-1/-2
Flammability, UL94	V-2 @Thickness 1.50 mm	V-2 @Thickness 0.0591 in	dry; IEC 60695-11-10
	V-2 @Thickness 0.750 mm	V-2 @Thickness 0.0295 in	dry; IEC 60695-11-10

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 ohm-cm	1.00e+12 ohm-cm	cond; IEC 60093
	1.00e+15 ohm-cm	1.00e+15 ohm-cm	dry; IEC 60093
Dielectric Strength	20.0 kV/mm	508 kV/in	cond; IEC 60243-1
	25.0 kV/mm	635 kV/in	dry; IEC 60243-1

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