

DSM Stanyl® 46HF4530 PA46-GF30

Category : Polymer , Thermoplastic , Nylon , Nylon 46 , Nylon 46, Glass Fiber Reinforced

Material Notes:

30% Glass Reinforced, Heat Stabilized, High Flow, for E&E applications

Order this product through the following link:

http://www.lookpolymers.com/polymer_DSM-Stanyl-46HF4530-PA46-GF30.php

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in ³	dry; ISO 1183
Moisture Absorption	2.60 %	2.60 %	Sim. To ISO 62
Linear Mold Shrinkage, Flow	0.0050 cm/cm	0.0050 in/in	Sim. To ISO 294-4
Linear Mold Shrinkage, Transverse	0.013 cm/cm	0.013 in/in	Sim. To ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	115 MPa	16700 psi	cond; ISO 527-1/-2
	210 MPa	30500 psi	dry; ISO 527-1/-2
	90.0 MPa	13100 psi	ISO 527-1/-2
	@Temperature 200 °C	@Temperature 392 °F	
	95.0 MPa	13800 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	
	125 MPa	18100 psi	ISO 527-1/-2
	@Temperature 120 °C	@Temperature 248 °F	
Elongation at Break	3.0 %	3.0 %	dry; ISO 527-1/-2
	6.0 %	6.0 %	cond; ISO 527-1/-2
	5.5 %	5.5 %	ISO 527-1/-2
	@Temperature 120 °C	@Temperature 248 °F	
	5.5 %	5.5 %	ISO 527-1/-2
	@Temperature 160 °C	@Temperature 320 °F	
	5.5 %	5.5 %	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	6.00 GPa	870 ksi	cond; ISO 527-1/-2
	10.0 GPa	1450 ksi	dry; ISO 527-1/-2
	4.50 GPa	653 ksi	ISO 527-1/-2
	@Temperature 200 °C	@Temperature 392 °F	
	4.70 GPa	682 ksi	ISO 527-1/-2
	@Temperature 180 °C	@Temperature 356 °F	
	5.00 GPa	725 ksi	ISO 527-1/-2
	@Temperature 160 °C	@Temperature 320 °F	
	5.50 GPa	798 ksi	ISO 527-1/-2
	@Temperature 120 °C	@Temperature 248 °F	
Flexural Modulus	5.50 GPa	798 ksi	cond; ISO 178
	9.00 GPa	1310 ksi	dry; ISO 178
Charpy Impact Unnotched	6.00 J/cm ²	28.6 ft-lb/in ²	cond; 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	
	6.00 J/cm ²	28.6 ft-lb/in ²	dry; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	9.00 J/cm ²	42.8 ft-lb/in ²	cond; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	1.20 J/cm ²	5.71 ft-lb/in ²	cond; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.20 J/cm ²	5.71 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	dry; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.70 J/cm ²	8.09 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 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	13.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	dry; ISO 11359-1/-2
CTE, linear, Transverse to Flow	60.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	33.3 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	dry; ISO 11359-1/-2
Melting Point	295 $^\circ\text{C}$	563 $^\circ\text{F}$	10 $^\circ\text{C}/\text{min}$; ISO 11357-1/-3
Deflection Temperature at 1.8 MPa (264 psi)	290 $^\circ\text{C}$	554 $^\circ\text{F}$	dry; ISO 75-1/-2
Flammability, UL94	HB	HB	dry; IEC 60695-11-10
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	dry; IEC 60695-11-10
	@Thickness 0.750 mm	@Thickness 0.0295 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+11 ohm-cm	1.00e+11 ohm-cm	cond; IEC 60093
	1.00e+15 ohm-cm	1.00e+15 ohm-cm	dry; IEC 60093
Dielectric Strength	25.0 kV/mm	635 kV/in	cond; IEC 60243-1
	30.0 kV/mm	762 kV/in	dry; IEC 60243-1
Comparative Tracking Index	550 V	550 V	dry; IEC 60112

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