

DSM Stanyl® 46HF4550 PA46-GF50

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

Material Notes:

50% Glass Reinforced, Heat Stabilized, High Flow, for E&E applications

Order this product through the following link:

http://www.lookpolymers.com/polymer_DSM-Stanyl-46HF4550-PA46-GF50.php

Physical Properties	Metric	English	Comments
Density	1.62 g/cc	0.0585 lb/in ³	dry; ISO 1183
Moisture Absorption	1.85 %	1.85 %	Sim. To ISO 62
Linear Mold Shrinkage, Flow	0.0040 cm/cm	0.0040 in/in	Sim. To ISO 294-4
Linear Mold Shrinkage, Transverse	0.0090 cm/cm	0.0090 in/in	Sim. To ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	170 MPa	24700 psi	cond; ISO 527-1/-2
	250 MPa	36300 psi	dry; ISO 527-1/-2
	135 MPa @Temperature 160 °C	19600 psi @Temperature 320 °F	ISO 527-1/-2
Elongation at Break	150 MPa @Temperature 120 °C	21800 psi @Temperature 248 °F	ISO 527-1/-2
	2.2 %	2.2 %	dry; ISO 527-1/-2
Tensile Modulus	3.5 %	3.5 %	cond; ISO 527-1/-2
	3.5 % @Temperature 120 °C	3.5 % @Temperature 248 °F	ISO 527-1/-2
	3.5 % @Temperature 160 °C	3.5 % @Temperature 320 °F	ISO 527-1/-2
Tensile Modulus	11.0 GPa	1600 ksi	cond; ISO 527-1/-2
	16.0 GPa	2320 ksi	dry; ISO 527-1/-2
	10.0 GPa @Temperature 160 °C	1450 ksi @Temperature 320 °F	ISO 527-1/-2
	11.0 GPa	1600 ksi	ISO 527-1/-2

Mechanical Properties	@Temperature 120 °C Metric	@Temperature 248 °F English	Comments
Flexural Modulus	11.0 GPa	1600 ksi	cond; ISO 178
	15.0 GPa	2180 ksi	dry; ISO 178
Charpy Impact Unnotched	7.00 J/cm ²	33.3 ft-lb/in ²	cond; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	7.00 J/cm ²	33.3 ft-lb/in ²	dry; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	8.00 J/cm ²	38.1 ft-lb/in ²	dry; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	10.0 J/cm ²	47.6 ft-lb/in ²	cond; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.50 J/cm ²	7.14 ft-lb/in ²	cond; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.50 J/cm ²	7.14 ft-lb/in ²	dry; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.50 J/cm ²	7.14 ft-lb/in ²	dry; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.80 J/cm ²	8.57 ft-lb/in ²	cond; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
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
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

Electrical Properties	Metric	English	Comments
	30.0 kV/mm	762 kV/in	dry; IEC 60243-1
Comparative Tracking Index	450 V	450 V	dry; IEC 60112

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