

DSM Stanyl® 46HF5040 Nylon 46-40% Glass Reinforced (European and Asian Grade) (Dry)

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

Material Notes:

Stanlyl is a high performance polyamide providing good performance and value across a broad range of automotive and electronic applications. Stanlyl offers: Highest mechanical properties at high temperatures Excellent resistance to wear and low friction Outstanding flow for easy processing and exceptional design freedom Stanlyl High Flow grades that match the best flowing LCPs while maintaining a high level of mechanical properties Key Applications: Automotive: Powertrain components, Charge-air coolers, EPS and ETC gears, Motor Sensors, Auto connectors, Chain tensioners E&E: Connectors, Microswitches, Bobbins, Memory modules, Motor components, Industrial, Specialty films and fibers, Consumer appliances Information provided by DSM.

Order this product through the following link:

http://www.lookpolymers.com/polymer_DSM-Stanyl-46HF5040-Nylon-46-40-Glass-Reinforced-European-and-Asian-Grade-Dry.php

Physical Properties	Metric	English	Comments
Density	1.77 g/cc	0.0639 lb/in ³	ISO 1183
Water Absorption	4.5 %	4.5 %	Sim. to ISO 62
Moisture Absorption at Equilibrium	1.3 %	1.3 %	Humidity Absorption; Sim. to ISO 62
Viscosity Test	80 cm ³ /g	80 cm ³ /g	Viscosity Number
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 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 at Break	190 MPa	27600 psi	ISO 527-1/-2
Elongation at Break	1.7 %	1.7 %	ISO 527-1/-2
Tensile Modulus	15.0 GPa	2180 ksi	ISO 527-1/-2
Charpy Impact Unnotched	6.00 J/cm ²	28.6 ft-lb/in ²	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	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.20 J/cm ²	5.71 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
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Thermal Properties	20.0 µm/m-°C Metric	11.1 µin/in-°F English	Comments
	@Temperature 20.0 °C	@Temperature 68.0 °F	
CTE, linear, Transverse to Flow	80.0 µm/m-°C @Temperature 20.0 °C	44.4 µin/in-°F @Temperature 68.0 °F	ISO 11359-1/-2
Melting Point	295 °C	563 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	290 °C	554 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	290 °C	554 °F	ISO 75-1/-2
Vicat Softening Point	290 °C	554 °F	50°C/h 50N; ISO 306
Glass Transition Temp, Tg	75.0 °C	167 °F	Glass Transition Temperature (10°C/min); ISO 11357-1/-2
UL RTI, Electrical	140 °C @Thickness 1.50 mm	284 °F @Thickness 0.0591 in	UL746B
	140 °C @Thickness 0.750 mm	284 °F @Thickness 0.0295 in	UL746B
UL RTI, Mechanical with Impact	110 °C @Thickness 0.750 mm	230 °F @Thickness 0.0295 in	UL746B
	125 °C @Thickness 1.50 mm	257 °F @Thickness 0.0591 in	UL746B
UL RTI, Mechanical without Impact	120 °C @Thickness 0.750 mm	248 °F @Thickness 0.0295 in	UL746B
	125 °C @Thickness 1.50 mm	257 °F @Thickness 0.0591 in	UL746B
Flammability, UL94	V-0 @Thickness 0.350 mm	V-0 @Thickness 0.0138 in	IEC 60695-11-10
	V-0 @Thickness 1.60 mm	V-0 @Thickness 0.0630 in	IEC 60695-11-10
Oxygen Index	37 %	37 %	ISO 4589-1/-2
Glow Wire Test	850 °C @Thickness 0.750 mm	1560 °F @Thickness 0.0295 in	Glow Wire Ignition Temperature; IEC 60695-2-13
	925 °C	1700 °F	Glow Wire Ignition Temperature; IEC 60695-2-13

Thermal Properties	@Thickness 3.00 mm Metric	@Thickness 0.118 in English	Comments
	960 °C	1760 °F	Glow Wire Flammability Index; IEC 60695-2-12
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	960 °C	1760 °F	Glow Wire Flammability Index; IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Dielectric Constant	4.5	4.5	IEC 60250
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
	4.8	4.8	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	30.0 kV/mm	762 kV/in	IEC 60243-1
Dissipation Factor	0.00090	0.00090	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0013	0.0013	IEC 60250
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Comparative Tracking Index	250 - 399 V	250 - 399 V	PLC 2; UL 746A
	350 V	350 V	IEC 60112

Descriptive Properties	Value	Comments
Flame Retardant	Yes	
Flame Retarding Agent	Yes	
Heat stabilized or stable to heat	Yes	
Injection molding	Yes	
Lubricants	Yes	
Platable	Yes	
Release Agent	Yes	
With Fillers	Yes	

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