

Stanyl® 46HF5040

Polyamide 46
DSM Engineering Plastics

Message:

Stanyl® 46HF5040 is a Polyamide 46 (Nylon 46) material filled with 40% glass fiber. It is available in Asia Pacific, Europe, or North America for injection molding.

Important attributes of Stanyl® 46HF5040 are:

Flame Rated
Flame Retardant
Heat Stabilizer
High Flow

General Information				
UL YellowCard		E43392-235029	E47960-240059	E172082-225817
Filler / Reinforcement		Glass Fiber,40% Filler by Weight		
Additive		Flame Retardant		
		Heat Stabilizer		
Features		Flame Retardant		
		Heat Stabilized		
		High Flow		
Forms		Pellets		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.77	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.30	--	%	
Flow	0.90	--	%	
Water Absorption (Equilibrium, 23°C, 50% RH)	1.4	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				ISO 527-2
--	15000	12000	MPa	
120°C	9500	--	MPa	
160°C	6500	--	MPa	
Tensile Stress				ISO 527-2
Break	190	130	MPa	
Break, 120°C	100	--	MPa	
Break, 160°C	85.0	--	MPa	
Tensile Strain				ISO 527-2
Break	1.7	2.5	%	

Break, 120°C	3.0	--	%	
Break, 160°C	3.0	--	%	
Flexural Modulus				ISO 178
--	13000	11000	MPa	
120°C	8500	--	MPa	
160°C	5500	--	MPa	
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	14	14	kJ/m ²	
23°C	13	14	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	40	40	kJ/m ²	
23°C	50	50	kJ/m ²	
Notched Izod Impact Strength				ISO 180/1A
-40°C	15	15	kJ/m ²	
23°C	15	15	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	290	--	°C	ISO 75-2/A
Melting Temperature ¹	295	--	°C	ISO 11357-3
CLTE				
Flow	2.0E-5	--	cm/cm/°C	ASTM D696
Flow	1.7E-5	--	cm/cm/°C	ISO 11359-2
Transverse	4.5E-5	--	cm/cm/°C	ASTM D696
Transverse	6.5E-5	--	cm/cm/°C	ISO 11359-2
RTI Elec (0.350 mm)	130	--	°C	UL 746
Thermal Index - 5000 hrs	163	--	°C	IEC 60216
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity	> 1.0E+15	1.0E+10	ohms·cm	IEC 60093
Electric Strength	30	20	kV/mm	IEC 60243-1
Comparative Tracking Index	325	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification				IEC 60695-11-10, -20
0.250 mm	V-0	--		
1.50 mm	V-0	--		
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	4.0 to 8.0		hr	
Rear Temperature	280 to 310		°C	

Middle Temperature	300 to 315	°C
Front Temperature	300 to 315	°C
Nozzle Temperature	300 to 310	°C
Processing (Melt) Temp	310 to 320	°C
Mold Temperature	60.0 to 120	°C
Injection Rate	Moderate-Fast	
Back Pressure	1.00	MPa
Screw Compression Ratio	2.5:1.0	

NOTE

1. 10°C/min

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