Vydyne® 75HF

Monday, November 4, 2019

Ascend Performance Materials Operations LLC - Polyamide 66/6 Copolymer

General Information

Product Description

Vydyne 75HF is a medium-high-viscosity, heat-stabilized PA66/6 copolymer resin designed for extrusion applications. This product is available in natural only. It offers a well-balanced combination of engineering properties characterized by high melt point; high strength and rigidity; good toughness; soft hand and good chemical resistance.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Additive	• Heat Stabilizer		
Features	• Chemical Resistant • Good Toughness	• Heat Stabilized • High Melt Stability	• High Rigidity • High Strength
Uses	• Film • Industrial Applications • Monofilaments	• Profiles • Rods • Sheet	• Tubing • Vacuum Bagging Film
Agency Ratings	• EC 1935/2004	• EU 10/2011	• EU 2023/2006
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Blown Film • Cast Film	• Extrusion • Profile Extrusion	

ASTM & ISO Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density	1.14	--	g/cm³	ISO 1183
Water Absorption				ISO 62
Saturation, 73°F	8.5	--	%	
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	2.5	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (73°F)	392000	72500	psi	ISO 527-2
Tensile Stress (Yield, 73°F)	11600	3630	psi	ISO 527-2
Tensile Stress (Break, 73°F)	7250	5800	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	5.0	30	%	ISO 527-2
Nominal Tensile Strain at Break				ISO 527-2
73°F	> 200	> 200	%	
Flexural Modulus (73°F)	319000	36300	psi	ISO 178
Flexural Strength (73°F)	10200	1160	psi	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2
Films	**Dry**	**Conditioned**	**Unit**	**Test Method**
Secant Modulus - MD				ASTM D882
1.5 mil, Cast Film	--	56900	psi	
Secant Modulus - TD				ASTM D882
1.5 mil, Cast Film	--	64400	psi	
Tensile Strength - MD				ASTM D882
Break, 1.5 mil, Cast Film	--	17500	psi	

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Films	Dry	Conditioned	Unit	Test Method
Tensile Strength - TD				ASTM D882
Break, 1.5 mil, Cast Film	--	15200	psi	
Tensile Elongation - MD				ASTM D882
Yield, 1.5 mil, Cast Film	--	7.0	%	
Tensile Elongation - TD				ASTM D882
Yield, 1.5 mil, Cast Film	--	6.7	%	
Tensile Elongation - MD				ASTM D882
Break, 1.5 mil, Cast Film	--	450	%	
Tensile Elongation - TD				ASTM D882
Break, 1.5 mil, Cast Film	--	500	%	
Dart Drop Impact				ASTM D1709
1.5 mil, Cast Film	--	> 2100	g	
Elmendorf Tear Strength - MD				ASTM D1922
1.5 mil, Cast Film	--	100	g	
Elmendorf Tear Strength - TD				ASTM D1922
1.5 mil, Cast Film	--	110	g	
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	3.8	2.9	ft·lb/in²	
73°F	1.9 ft·lb/in²	No Break		
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	No Break	No Break		
73°F	No Break	No Break		
Notched Izod Impact Strength				ISO 180
-22°F	3.8	2.9	ft·lb/in²	
73°F	1.9 ft·lb/in²	No Break		
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	257	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	113	--	°F	
Melting Temperature	428	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	5.6E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	5.6E-5	--	in/in/°F	ISO 11359-2

Processing Information

Extrusion Notes

Recommended Process Conditions:

Melt Point: 220°C
Cylinder Temperature: 230°C to 275°C
Die Temperature: 240°C
Melt Pressure: 3 to 17 MPa
Blow Film Air Temperature: 5°C to 20°C
Chill Roll Temperature (Cast Film): 20°C to 40°C (clear) 80°C to 100°C (High Stable)

Recommended Process Moisture: 0.03 to 0.08%
Screw Design: General Purpose or Barrier

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Notes

[1] Typical properties: these are not to be construed as specifications.