

TUFLIN™ HS-7046 NT 7

Linear Low Density Polyethylene Resin

The Dow Chemical Company

Message:

Hexene Linear Low Density Resin
Slot Cast Extrusion
Outstanding Drawdown Capability
Complies with U.S. FDA 21 CFR 177.1520 (c) 3.1a
Consult the regulations for complete details.
TUFLIN™ HS-7046 NT 7 Linear Low Density Polyethylene Resin is an ethylene-hexene copolymer, linear low density (LLDPE) resin designed for slot cast extrusion. This product is recommended for slot cast thin film applications requiring both clarity and superior toughness as the core layer in coextruded structures.

General Information			
Agency Ratings	FDA 21 CFR 177.1520(c) 3.1a		
Forms	Particle		
Processing Method	Blow film cast film		

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.919	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	1.0	g/10 min	ASTM D1238

Films	Nominal Value	Unit	Test Method
Film Puncture Energy			Internal method
20 µm	4.63	J	Internal method
51 µm	6.78	J	Internal method
Film Puncture Force			Internal method
20 µm	53.4	N	Internal method
51 µm	84.5	N	Internal method
Film Puncture Resistance			Internal method
20 µm	25.2	J/cm ³	Internal method
51 µm	17.9	J/cm ³	Internal method
Film strength			ASTM D882
MD : 20 µm	303	J/cm ³	ASTM D882
MD : 51 µm	331	J/cm ³	ASTM D882
TD : 20 µm	353	J/cm ³	ASTM D882
TD : 51 µm	361	J/cm ³	ASTM D882
secant modulus			ASTM D882
2% secant, MD: 20 µm	196	MPa	ASTM D882
2% secant, MD: 51 µm	196	MPa	ASTM D882
2% secant, TD: 20 µm	221	MPa	ASTM D882

2% secant, TD: 51 µm	219	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Yield, 20 µm	12.4	MPa	ASTM D882
MD: Yield, 51 µm	11.8	MPa	ASTM D882
TD: Yield, 20 µm	13.0	MPa	ASTM D882
TD: Yield, 51 µm	14.4	MPa	ASTM D882
MD: Break, 20 µm	64.8	MPa	ASTM D882
MD: Fracture, 51 µm	54.2	MPa	ASTM D882
TD: Break, 20 µm	52.4	MPa	ASTM D882
TD: Fracture, 51 µm	53.6	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Break, 20 µm	610	%	ASTM D882
MD: Fracture, 51 µm	800	%	ASTM D882
TD: Break, 20 µm	860	%	ASTM D882
TD: Fracture, 51 µm	820	%	ASTM D882
Dart Drop Impact			
20 µm	110	g	ASTM D1709A
20 µm	< 100	g	ASTM D1709B
51 µm	350	g	ASTM D1709A
51 µm	200	g	ASTM D1709B
Elmendorf Tear Strength ¹			ASTM D1922
MD : 20 µm	370	g	ASTM D1922
MD : 51 µm	950	g	ASTM D1922
TD : 20 µm	700	g	ASTM D1922
TD : 51 µm	1300	g	ASTM D1922
Seal Initiation Temperature ²			Internal method
20 µm	110	°C	Internal method
51 µm	120	°C	Internal method
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	104	°C	ASTM D1525
Melting Temperature (DSC)	124	°C	Internal method
Optical	Nominal Value	Unit	Test Method
Gloss			ASTM D2457
20°, 20.3 µm	87		ASTM D2457
20°, 50.8 µm	64		ASTM D2457
45°, 20.3 µm	70		ASTM D2457
45°, 50.8 µm	59		ASTM D2457
Haze			ASTM D1003
20.3 µm	7.0	%	ASTM D1003
50.8 µm	14	%	ASTM D1003
Additional Information	Nominal Value	Unit	Test Method
Seal Strength ³			Internal method

130°C, 20.3 μm	1000	g	Internal method
150°C, 50.8 μm	2100	g	Internal method
Extrusion	Nominal Value	Unit	
Melt Temperature	233	°C	
Extrusion instructions			

吹塑薄膜的制造条件:
 螺杆尺寸:2.5 英寸 (63.5 mm) 30:1 L/D
 螺杆类型:DSBII
 模具间隙:70 密尔 (1.8 mm)
 熔体温度:451 °F (233 °C)
 输出:模具周长的 6.6 磅/小时/英寸
 模具直径:6 英寸
 放大比:2.5 比 1
 螺杆速度:48.1 rpm
 冷冻线高度:25 英寸 (635 mm)

NOTE

1.	Method B
	Achieve a temperature of 1 psig (4.4 N/25.4mm) heat seal strength. Heat seal strength, Topwave HT tester 0.5 S holding pressure, 40 psi pressure, pulling speed 10 (inch/min).
2.	
	Heat seal strength, Topwave HT tester 0.5 S holding pressure, 40 psi pressure, pulling speed 10 (inch/min).
3.	

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