

TUFLIN™ HSE-7002 NT 7

Linear Low Density Polyethylene Resin

The Dow Chemical Company

Message:

Industrial pallet wrap stretch film applications
Premium film packaging applications
Complies with U.S. FDA 21 CFR 177.1520 (c) 3.1a
Consult the regulations for complete details.
TUFLIN™ HSE-7002 NT 7 Linear Low Density Polyethylene Resin is an ethylene-hexene-1 copolymer designed for cast stretch film applications such as industrial pallet wrap. Films containing HSE-7002 offer outstanding puncture, toughness and load holding properties.

General Information			
Agency Ratings	FDA 21 CFR 177.1520(c) 3.1a		
Forms	Particle		
Processing Method	cast film		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.918	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.0	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Puncture Energy			Internal method
20 µm	4.29	J	Internal method
51 µm	8.81	J	Internal method
Film Puncture Force			Internal method
20 µm	44.5	N	Internal method
51 µm	89.0	N	Internal method
Film Puncture Resistance			Internal method
20 µm	30.8	J/cm ³	Internal method
51 µm	24.0	J/cm ³	Internal method
Film strength			ASTM D882
MD : 20 µm	203	J/cm ³	ASTM D882
MD : 51 µm	225	J/cm ³	ASTM D882
TD : 20 µm	358	J/cm ³	ASTM D882
TD : 51 µm	262	J/cm ³	ASTM D882
secant modulus			ASTM D882
2% secant, MD: 20 µm	142	MPa	ASTM D882
2% secant, MD: 51 µm	138	MPa	ASTM D882
2% secant, TD: 20 µm	150	MPa	ASTM D882
2% secant, TD: 51 µm	138	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Yield, 20 µm	10.6	MPa	ASTM D882

MD: Yield, 51 µm	9.82	MPa	ASTM D882
TD: Yield, 20 µm	11.3	MPa	ASTM D882
TD: Yield, 51 µm	10.3	MPa	ASTM D882
MD: Break, 20 µm	55.7	MPa	ASTM D882
MD: Fracture, 51 µm	38.4	MPa	ASTM D882
TD: Break, 20 µm	47.2	MPa	ASTM D882
TD: Fracture, 51 µm	37.5	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Break, 20 µm	480	%	ASTM D882
MD: Fracture, 51 µm	700	%	ASTM D882
TD: Break, 20 µm	890	%	ASTM D882
TD: Fracture, 51 µm	800	%	ASTM D882
Dart Drop Impact			
20 µm	130	g	ASTM D1709A
20 µm	< 100	g	ASTM D1709B
51 µm	330	g	ASTM D1709A
51 µm	210	g	ASTM D1709B
Elmendorf Tear Strength ¹			ASTM D1922
MD : 20 µm	220	g	ASTM D1922
MD : 51 µm	790	g	ASTM D1922
TD : 20 µm	640	g	ASTM D1922
TD : 51 µm	1100	g	ASTM D1922
Unstretched bond			ASTM D5458
20.3 µm	220	g	ASTM D5458
50.8 µm	310	g	ASTM D5458
Final stretch ²			Internal method
20.3 µm	300	%	Internal method
50.8 µm	470	%	Internal method
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	98.9	°C	ASTM D1525
Melting Temperature (DSC)	123	°C	Internal method
Optical	Nominal Value	Unit	Test Method
Gloss			ASTM D2457
20°, 20.3 µm	157		ASTM D2457
20°, 50.8 µm	149		ASTM D2457
45°, 20.3 µm	95		ASTM D2457
45°, 50.8 µm	91		ASTM D2457
Haze			ASTM D1003
20.3 µm	1.0	%	ASTM D1003
50.8 µm	3.0	%	ASTM D1003
Extrusion	Nominal Value	Unit	
Melt Temperature	274	°C	

Extrusion instructions

铸造薄膜的制造条件:

EGAN/Davis 标准 5 层铸造生产线

熔体温度:525 °F (274 °C)

冷却辊(主/次)温度:70 °F (21 °C)

生产线速度:0.8 密尔 = 600 fpm(183 米/分);2.0 密尔 = 200 fpm(61 米/分)

输出:0.8 密尔 = 401 磅/小时;2.0 密尔 = 340 磅/小时

模具宽度:36 英寸 (914 mm)

模具间隙:25 密尔 (0.65 mm)

气隙:3 英寸 (76 mm)

NOTE

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| 1. | Method B |
| 2. | Testing on pallets; highlighting Industries Inc. test methods. |

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