

ELITE™ 5101G

Enhanced Polyethylene Resin
The Dow Chemical Company

Message:

For high performance film applications
Complies with U.S. FDA 21 CFR 177.1520 (c) 3.2a.
Consult the regulations for complete details.
ELITE™ 5101G Enhanced Polyethylene Resin is a copolymer produced via INSIT™ Technology from Dow Plastics. It offers extremely high impact resistance, combined with good tear and tensile properties. In addition, this resin exhibits higher hot tack strength than LLDPE for automated packaging applications.

General Information			
Additive	Anti-caking agent (2500 ppm)		
	Sliding agent (1000 ppm)		
Agency Ratings	FDA 21 CFR 177.1520(c) 3.2a		
Forms	Particle		
Processing Method	Blow film		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.922	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	0.85	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	51	µm	
Film Puncture Energy (51 µm)	4.29	J	Internal method
Film Puncture Force (51 µm)	71.2	N	Internal method
Film Puncture Resistance (51 µm)	11.0	J/cm ³	Internal method
secant modulus			ASTM D882
2% secant, MD: 51 µm	219	MPa	ASTM D882
2% secant, TD: 51 µm	248	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Yield, 51 µm	9.79	MPa	ASTM D882
TD: Yield, 51 µm	11.0	MPa	ASTM D882
MD: Fracture, 51 µm	40.8	MPa	ASTM D882
TD: Fracture, 51 µm	38.4	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Fracture, 51 µm	590	%	ASTM D882
TD: Fracture, 51 µm	620	%	ASTM D882
Dart Drop Impact (51 µm)	> 850	g	ASTM D1709B
Elmendorf Tear Strength			ASTM D1922
MD : 51 µm	720	g	ASTM D1922
TD : 51 µm	1000	g	ASTM D1922

Seal Initiation Temperature ¹ (51 μm)	106	°C	Internal method
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	105	°C	ASTM D1525
Melting Temperature (DSC)	121	°C	Internal method
Optical	Nominal Value	Unit	Test Method
Gloss (45°, 50.8 μm)	58		ASTM D2457
Haze (50.8 μm)	15	%	ASTM D1003
Extrusion	Nominal Value	Unit	
Melt Temperature	232	°C	
Extrusion instructions			

吹塑薄膜的制造条件:

螺杆尺寸:2.5 英寸 (63.5 mm);24:1 L/D

螺杆类型:单跨双混合

模具间隙:70 密尔 (1.8 mm)

熔体温度: 450°F (232°C)

输出:模具周长的 6 磅/小时/英寸

模具直径:6 英寸

放大比:2.5:1

螺杆速度:78 rpm

冷冻线高度:25 英寸 (635 mm)

NOTE

1. Achieve a temperature of 2 psig (8.8 N/25.4mm) heat seal strength. Heat seal strength, Topwave HT tester 0.5 S holding pressure, 40 psi pressure, pulling speed 10 inches/min (250 mm/s).

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