



DOW™ LDPE 133A

The Dow Chemical Company - Low Density Polyethylene Resin

Tuesday, November 5, 2019

General Information

Product Description

- A medium anti-block resin for heavy duty film applications
- Optimum gauge range: 2.0-6.0 mil
- Used for thick gauge film applications

Complies with:

- U.S. FDA 21 CFR 177.1520 (c) 2.2.
- Canadian HPFB No Objections (With Limitations)
- EU, No 10/2011

Consult the regulations for complete details.

General

Material Status	• Commercial: Active		
Availability	• Latin America	• North America	
Additive	• Antiblock: 3000 ppm	• Processing Aid: No	• Slip: No
Agency Ratings	• EU No 10/2011	• FDA 21 CFR 177.1520(c) 2.2	• HPFB (Canada) No Objection ¹
Automotive Specifications	• FORD ESB-M4D151-A	• GM GMP.PE.012	
Forms	• Pellets		
Processing Method	• Blown Film		

ASTM & ISO Properties ²

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.925		ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	0.25	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	2	mil	
Film Puncture Resistance (2.0 mil)	44.0	ft·lb/in ³	Internal Method
Film Toughness - MD (2.0 mil)	1630	ft·lb/in ³	ASTM D882
Film Toughness - TD (2.0 mil)	2250	ft·lb/in ³	ASTM D882
Tensile Strength - MD (Yield, 2.0 mil)	1930	psi	ASTM D882
Tensile Strength - TD (Yield, 2.0 mil)	1690	psi	ASTM D882
Tensile Strength - MD (Break, 2.0 mil)	3600	psi	ASTM D882
Tensile Strength - TD (Break, 2.0 mil)	3820	psi	ASTM D882
Tensile Elongation - MD (Break, 2.0 mil)	330	%	ASTM D882
Tensile Elongation - TD (Break, 2.0 mil)	620	%	ASTM D882
Dart Drop Impact (2.0 mil)	250	g	ASTM D1709A
Elmendorf Tear Strength - MD (2.0 mil)	300	g	ASTM D1922
Elmendorf Tear Strength - TD (2.0 mil)	200	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	203	°F	ASTM D1525
Melting Temperature (DSC)	232	°F	Internal Method
Optical	Nominal Value	Unit	Test Method
Gloss (45°, 2.00 mil)	46		ASTM D2457
Haze (2.00 mil)	14.0	%	ASTM D1003

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Processing Information

Extrusion	Nominal Value	Unit
Melt Temperature	419	°F

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 2.5 in. (63.5 mm); 30:1 L/D
- Screw Type: Single Flight Double Mix
- Die Gap: 40 mil (1.0 mm)
- Melt Temperature: 419°F (215°C)
- Output: 10 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 99 rpm
- Frost Line Height: 30 in. (762 mm)

Notes

¹ With limitations

² Typical properties: these are not to be construed as specifications.