



DOW™ LDPE 133A

Low Density Polyethylene Resin

Overview

- 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.

Additive

- Antiblock: 3000 ppm
- Slip: No
- Processing Aid: No

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.923 g/cm ³	0.923 g/cm ³	ASTM D792
Base Density ¹	0.921 g/cm ³	0.921 g/cm ³	Dow Method
Melt Index (190°C/2.16 kg)	0.25 g/10 min	0.25 g/10 min	ASTM D1238
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Thickness - Tested	2 mil	51 µm	
Film Puncture Resistance (2.0 mil (51 µm))	44.0 ft·lb/in ³	3.64 J/cm ³	Dow Method
Film Toughness			ASTM D882
MD : 2.0 mil (51 µm)	1630 ft·lb/in ³	135 J/cm ³	
TD : 2.0 mil (51 µm)	2250 ft·lb/in ³	186 J/cm ³	
Tensile Strength			ASTM D882
MD : Yield, 2.0 mil (51 µm)	1930 psi	13.3 MPa	
TD : Yield, 2.0 mil (51 µm)	1690 psi	11.6 MPa	
MD : Break, 2.0 mil (51 µm)	3600 psi	24.8 MPa	
TD : Break, 2.0 mil (51 µm)	3820 psi	26.4 MPa	
Tensile Elongation			ASTM D882
MD : Break, 2.0 mil (51 µm)	330 %	330 %	
TD : Break, 2.0 mil (51 µm)	620 %	620 %	
Dart Drop Impact (2.0 mil (51 µm))	250 g	250 g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD : 2.0 mil (51 µm)	300 g	300 g	
TD : 2.0 mil (51 µm)	200 g	200 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	203 °F	95.0 °C	ASTM D1525
Melting Temperature (DSC)	232 °F	111 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°, 2.00 mil (50.8 µm))	46	46	ASTM D2457
Haze (2.00 mil (50.8 µm))	14.0 %	14.0 %	ASTM D1003
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	419 °F	215 °C	

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

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ Base density is estimated using the assumption that every 1000 ppm of antiblock in the finished product raises the density of the polymer by 0.0006 g/cm³. Base density is the estimated density of the polymer if it did not contain any antiblock.

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Additional Information

North America		Europe/Middle East	+800-3694-6367
U.S. & Canada:	1-800-441-4369		+31-11567-2626
	1-989-832-1426	Italy:	+800-783-825
Mexico:	+1-800-441-4369		
Latin America		South Africa	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	Asia Pacific	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

www.dowplastics.com

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Published: 2000-11-30

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