

# DOW™ LDPE 312E

## Low Density Polyethylene Resin

### The Dow Chemical Company



#### Product Description

DOW LDPE 312E is a fractional melt index low density polyethylene resin, containing slip and antiblock additives. DOW LDPE 312E has been specially designed for superior processability on blown film lines leading to significant output improvements. The resin offers additionally excellent draw down. It can be used pure or in blends with LLDPE resins.

#### Applications:

Health & hygiene films, Food packaging, Collation shrink, Agricultural films, Shopping bags, Garbage bags, Lamination films

#### Main Characteristics:

- Excellent processability and draw down
- Good physical properties in blends with LLDPE
- Can be readily extruded using conventional blown film techniques at melt temperatures between 160 and 195°C

#### DOW LDPE 312E should comply with:

- U.S. FDA 21 CFR 177.1520 (c)2.2
- EU, No 10/2011
- Canadian HPFB No Objection
- U.S. FDA-DMF
- Consult the regulations for complete details.

#### General

Material Status	• Commercial: Active
Availability	• Europe
Additive	• Antiblock (900 ppm)      • Slip (385 ppm)
Agency Ratings	• DMF Unspecified Rating      • FDA 21 CFR 177.1520(c) 2.2 • EU No 10/2011      • HPFB (Canada) No Objection
Forms	• Pellets

Physical	Nominal Value Unit	Test Method
Specific Gravity	0.923 g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	0.75 g/10 min	ASTM D1238

Mechanical	Nominal Value Unit	Test Method
Coefficient of Friction	0.15	ASTM D1894

Films	Nominal Value Unit	Test Method
Film Thickness - Tested	50 µm	
Film Puncture Energy (50 µm)	1.80 J	Internal Method
Film Puncture Force (50 µm)	50.0 N	Internal Method
Film Puncture Resistance (50 µm)	4.00 J/cm <sup>3</sup>	Internal Method
Secant Modulus		ASTM D882
2% Secant, MD: 50 µm, Blown Film	175 MPa	
2% Secant, TD: 50 µm, Blown Film	185 MPa	
Tensile Strength		ASTM D882
MD: Yield, 50 µm, Blown Film	11.0 MPa	
TD: Yield, 50 µm, Blown Film	11.0 MPa	
MD: Break, 50 µm, Blown Film	25.0 MPa	
TD: Break, 50 µm, Blown Film	23.0 MPa	
Tensile Elongation		ASTM D882
MD: Break, 50 µm, Blown Film	390 %	
TD: Break, 50 µm, Blown Film	570 %	
Dart Drop Impact (50 µm, Blown Film)	170 g	ASTM D1709A
Elmendorf Tear Strength		ASTM D1922
MD: 50 µm, Blown Film	350 g	
TD: 50 µm, Blown Film	260 g	

Optical	Nominal Value Unit	Test Method
Gloss (45°, 50.0 µm, Blown Film)	58	ASTM D2457
Haze (50.0 µm, Blown Film)	9.2 %	ASTM D1003

#### Revision History

**DOW™ LDPE 312E**  
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Tuesday, July 03, 2012

Extrusion	Nominal Value Unit
Melt Temperature	160 to 195 °C

**Extrusion Notes**

Fabrication Conditions For Blown Film:

- Screw Type: Universal
- Output: 25 kg/hr
- Die Diameter: 150 mm.
- Blow-Up Ratio: 2.5
- Screw Speed: 77 rpm

**Notes**

<sup>1</sup> Typical properties: these are not to be construed as specifications.

**Revision History**

Document Created: Tuesday, July 03, 2012  
Added to Prospector: June, 2008  
Last Updated: 2/20/2012