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DOW™ LDPE 312E
Low Density Polyethylene Resin

Overview

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 compliy 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.

Additive

- Antiblock: 900 ppm
- Slip: 385 ppm

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.923	g/cm³	0.923	g/cm³	ASTM D792
Melt Index (190°C/2.16 kg)	0.75	g/10 min	0.75	g/10 min	ASTM D1238
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Coefficient of Friction	0.15		0.15		ASTM D1894
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Film Thickness - Tested	2.0	mil	50	µm	
Film Puncture Energy (2.0 mil (50 µm))	15.9	in·lb	1.80	J	Dow Method
Film Puncture Force (2.0 mil (50 µm))	11.2	lbf	50.0	N	Dow Method
Film Puncture Resistance (2.0 mil (50 µm))	48.3	ft·lb/in³	4.00	J/cm³	Dow Method
Secant Modulus					ASTM D882
2% Secant, MD : 2.0 mil (50 µm), Blown Film	25400	psi	175	MPa	
2% Secant, TD : 2.0 mil (50 µm), Blown Film	26800	psi	185	MPa	
Tensile Strength					ASTM D882
MD : Yield, 2.0 mil (50 µm), Blown Film	1600	psi	11.0	MPa	
TD : Yield, 2.0 mil (50 µm), Blown Film	1600	psi	11.0	MPa	
MD : Break, 2.0 mil (50 µm), Blown Film	3630	psi	25.0	MPa	
TD : Break, 2.0 mil (50 µm), Blown Film	3340	psi	23.0	MPa	
Tensile Elongation					ASTM D882
MD : Break, 2.0 mil (50 µm), Blown Film	390	%	390	%	
TD : Break, 2.0 mil (50 µm), Blown Film	570	%	570	%	
Dart Drop Impact					ASTM D1709A
2.0 mil (50 µm), Blown Film	170	g	170	g	
Elmendorf Tear Strength					ASTM D1922
MD : 2.0 mil (50 µm), Blown Film	350	g	350	g	
TD : 2.0 mil (50 µm), Blown Film	260	g	260	g	
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Gloss (45°, 1.97 mil (50.0 µm), Blown Film)	58		58		ASTM D2457

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Optical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Haze (1.97 mil (50.0 µm), Blown Film)	9.2	%	9.2	%	ASTM D1003

Extrusion	Nominal Value	(English)	Nominal Value	(SI)
Melt Temperature	320 to 383	°F	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

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

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