



# DOWLEX™ 3010 Polyethylene Resin

## Overview

DOWLEX™ 3010 Polyethylene Resin is a polyethylene polymer designed to offer high performance properties such as excellent Environmental Stress Crack Resistance (ESCR), tear strength, abrasion resistance, and strong heat seals in thin extrusion coatings.

- Linear Low Density Polyethylene
- For flexible packaging, overwraps and lamination applications

Complies with:

- U.S. FDA 21 CFR 177.1520 (c)
- Canadian HPFB No Objection (With Limitations)
- EU, No 10/2011
- Japan Hygienic Styrene Plastics Association
- This resin may be used to manufacture articles for use in packing or holding food during cooking. This statement refers to the extraction limitations only, not to the product's physical utility.
- Consult the regulations for complete details.

## Additive

- Antiblock: No
- Slip: No
- Processing Aid: No

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.921 g/cm <sup>3</sup>	0.921 g/cm <sup>3</sup>	ASTM D792
Base Density <sup>1</sup>	0.921 g/cm <sup>3</sup>	0.921 g/cm <sup>3</sup>	Dow Method
Melt Index (190°C/2.16 kg)	5.4 g/10 min	5.4 g/10 min	ASTM D1238
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Coefficient of Friction <sup>2</sup> vs. Itself - Dynamic	0.60	0.60	ASTM D1894
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Seal Initiation Temperature <sup>3</sup>	239 °F	115 °C	Dow Method
Water Vapor Transmission Rate <sup>2</sup>	1.6 g·mil/100in <sup>2</sup> /a tm/24 hr	0.63 g·mm/m <sup>2</sup> /atm /24 hr	ASTM F1249
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	212 °F	100 °C	ASTM D1525
Melting Temperature (DSC)	255 °F	124 °C	Dow Method
Extrusion	Nominal Value (English)	Nominal Value (SI)	Test Method
Melt Temperature	600 to 620 °F	316 to 327 °C	
Maximum Line Speed	26.7 ft/sec	8.1 m/sec	Dow Method
Minimum Coating Thickness	0.28 mil	7.1 µm	Dow Method
Minimum Coating Weight	4.2 lb/ream	6.8 g/m <sup>2</sup>	Dow Method
Neck-in (610°F (321°C), 1.0 mil (25.4 µm))	4.9 in	124.5 mm	Dow Method

## Extrusion Notes

Fabrication Conditions For Extrusion Coating Film:

- Screw Size: 3.5" (89 mm) 30:1 L/D
- Screw Type: Single Flight with Maddock Mixer
- Die Gap: 20 mil (0.508 mm)
- Melt Temperature: 600 °F (315 °C)
- Output: 250 lb/hr
- Screw Speed: 90 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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<sup>1</sup> 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/cm<sup>3</sup>. Base density is the estimated density of the polymer if it did not contain any antiblock.

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<sup>2</sup> 1.0 mil (25µm) coating onto 50 lbKraft paper.

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<sup>3</sup> 1.0 mil (25µm) coating onto 50 lbKraft paper.

Temperature at which 1 lb/in. (4.4 N/25.4 mm) heat seal strength is achieved.

Heat Seal Strengths, Topwave HT Tester 0.5 S dwell, 40 psi bar pressure, pull speed 150 mm/sec.

