# 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/cm³ | 0.921 | g/cm³ | ASTM D792 |
| Base Density [1] | 0.921 | g/cm³ | 0.921 | g/cm³ | 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 [2] | | | | | ASTM D1894 |
| vs. Itself - Dynamic | 0.60 | | 0.60 | | |
| **Films** | **Nominal Value** | **(English)** | **Nominal Value** | **(SI)** | **Test Method** |
| Seal Initiation Temperature [3] | 239 | °F | 115 | °C | Dow Method |
| Water Vapor Transmission Rate [2] | 1.6 | g·mil/100in²/atm/24 hr | 0.63 | g·mm/m²/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/m² | 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



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**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.

[2] 1.0 mil (25µm) coating onto 50 lbKraft paper.

[3] 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.



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