

## DOW™ LDPE 410E

The Dow Chemical Company - *Low Density Polyethylene*

Units

**Action** **Legend** ([Open](#))



### General Information

#### Product Description

DOW LDPE 410E Low Density Polyethylene Resin is a high clarity resin designed for lamination film and clarity over wrap applications. This resin does not contain slip and antiblock additives. It can be readily extruded using conventional blown film techniques utilising melt temperatures between 170 and 195°C; and cast film using temperatures between 180 and 240 °C. This resin when properly fabricated shows: excellent processability and draw down, outstanding toughness and impact properties, superior optical properties, excellent tensile and tear strength.

#### Applications:

- Lamination films
- Food packaging films
- Hygiene films
- Cast films
- Air-bubble film
- Foamed PE
- Extrusion coating

#### Complies with:

- U.S. FDA 21 CFR 177.1520(c)2.2
- EU, No 10/2011

Consult the regulations for complete details.

#### General

|                 |   |
|-----------------|---|
| Material Status | • Commercial: Active                              |
| Availability    | • Europe  |
| Agency Ratings  | • EU No 10/2011      • FDA 21 CFR 177.1520(c) 2.2 |
| Forms           | • Pellets   |

### ASTM & ISO Properties <sup>1</sup>

| Physical                                       | Nominal Value | Unit              | Test Method |
|--|---------------|-------------------|-------------|
| Density / Specific Gravity                     | 0.925         | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)      | 2.0           | g/10 min          | ISO 1133    |
| Mechanical                                     | Nominal Value | Unit              | Test Method |
| Coefficient of Friction (vs. Itself - Dynamic) | 0.60 to 0.80  |                   | ASTM D1894  |
| Films  | Nominal Value | Unit              | Test Method |
| Film Thickness - Tested                        | 50            | µm                |             |
| Secant Modulus - 2% Secant, MD (50 µm)         | 190           | MPa               | ASTM D882   |
| Secant Modulus - 2% Secant, TD (50 µm)         | 200           | MPa               | ASTM D882   |
| Tensile Strength - MD (Yield, 50 µm)           | 10.0          | MPa               | ASTM D882   |
| Tensile Strength - TD (Yield, 50 µm)           | 11.0          | MPa               | ASTM D882   |
| Tensile Strength - MD (Break, 50 µm)           | 22.0          | MPa               | ASTM D882   |
| Tensile Strength - TD (Break, 50 µm)           | 20.0          | MPa               | ASTM D882   |
| Tensile Elongation - MD (Break, 50 µm)         | 450           | %                 | ASTM D882   |
| Tensile Elongation - TD (Break, 50 µm)         | 650           | %                 | ASTM D882   |
| Dart Drop Impact (50 µm)                       | 110           | g                 | ASTM D1709A |
| Elmendorf Tear Strength - MD (50 µm)           | 500           | g                 | ASTM D1922  |
| Elmendorf Tear Strength - TD (50 µm)           | 400           | g                 | ASTM D1922  |
| Thermal  | Nominal Value | Unit              | Test Method |
| Vicat Softening Temperature                    | 96.0          | °C                | ISO 306/A   |
| Optical  | Nominal Value | Unit              | Test Method |

|                      |        |            |
|----------------------|--------|------------|
| Gloss (20°, 50.0 µm) | 80     | ASTM D2457 |
| Haze (50.0 µm)       | 6.90 % | ASTM D1003 |

### Processing Information

| Extrusion        | Nominal Value | Unit |
|------------------|---------------|------|
| Melt Temperature | 170 to 195    | °C   |

| Extrusion Notes     |
|---------------------|
| Blow-up ratio 1:2.5 |

### Notes

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

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