

# Bynel® 4125

Linear Low Density Polyethylene  
DuPont Packaging & Industrial Polymers

Message:

BYNEL® Series 4100 series resins are anhydride-modified, linear low-density polyethylene (LLDPE) resins. All BYNEL Series 4100 series resins are available in pellet form for use in conventional extrusion and coextrusion equipment designed to process polyethylene resins.

BYNEL 4100 series resins adhere to a variety of materials. They are most often used to adhere to EVOH, polyamide, PE and ethylene copolymers.

Series 4100 resins can be used in coextrusion processes including:

- blown film
- cast film/sheet
- blow molding
- melt and solid phase thermoforming
- sheet and tubing

LLDPE resins are known for their temperature resistance, clarity and toughness.

These physical properties make the 4100 series resins work well in applications such as:

- boil-in-bag structures
- blow molded containers in which drop strength is important
- bag-in-box films
- film where LLDPE is the heat seal layer.

| General Information                       |  |                   |                      |
|---|--|-------------------|----------------------|
| Features                                  | Good adhesion                          |                   |                      |
| Uses                                      | Films                                  |                   |                      |
|   | Blow molding applications              |                   |                      |
|   | Bags                                   |                   |                      |
|   | Pipe fittings                          |                   |                      |
|   | cast film                              |                   |                      |
|   | Sheet                                  |                   |                      |
|   | Container                              |                   |                      |
| Agency Ratings                            | FDA 21 CFR 175.105                     |                   |                      |
| Forms                                     | Particle                               |                   |                      |
| Processing Method                         | Solid Phase Press. Form. Thermoforming |                   |                      |
|   | Blow molding                           |                   |                      |
|   | Co-extrusion molding                   |                   |                      |
|   | Extrusion                              |                   |                      |
|   | Thermoforming                          |                   |                      |
| Physical                                  | Nominal Value                          | Unit              | Test Method          |
| Specific Gravity                          | 0.930                                  | g/cm <sup>3</sup> | ASTM D792, ISO 1183  |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 2.5                                    | g/10 min          | ASTM D1238, ISO 1133 |
| Thermal                                   | Nominal Value                          | Unit              | Test Method          |
| Vicat Softening Temperature               | 109                                    | °C                | ASTM D1525, ISO 306  |
| Melting Temperature                       | 126                                    | °C                | DSC, ISO 3146        |

#### Additional Information

The value listed as Melting Point, DSC, was tested in accordance with ASTM D3418. Freezing Point (DSC), ASTM D3418: 110°C

| Extrusion             | Nominal Value | Unit |
|-----------------------|---------------|------|
| Cylinder Zone 1 Temp. | 160           | °C   |
| Cylinder Zone 2 Temp. | 185           | °C   |
| Cylinder Zone 3 Temp. | 235           | °C   |
| Cylinder Zone 4 Temp. | 260           | °C   |
| Cylinder Zone 5 Temp. | 260           | °C   |
| Adapter Temperature   | 260           | °C   |
| Melt Temperature      | < 260         | °C   |
| Die Temperature       | 260           | °C   |

#### Extrusion instructions

Processing conditions shown are for coextrusion with nylon.

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