



# DOW™ LLDPE DFDA-7047 NT 7

The Dow Chemical Company - Linear Low Density Polyethylene Resin

Tuesday, November 5, 2019

## General Information

### Product Description

DOW™ DFDA-7047 NT7 linear low density polyethylene is an ethylene-butene copolymer designed for blown film applications.

#### Main Characteristics:

- Butene linear low density polyethylene
- Blown film extrusion
- Pellet form

#### Complies with:

- EU, No 10/2011
- U.S. FDA, 21 CFR 177.1520(c)3.2a
- Canadian HPFB No Objection (with Limitations)
- JHOSPA (Japan Hygienic Olefin and Styrene Plastics Association)

Consult the regulations for complete details.

### General

|                   |                                                  |                                                             |            |
|-------------------|--------------------------------------------------|-------------------------------------------------------------|------------|
| Material Status   | • Commercial: Active                             |                                                             |            |
| Availability      | • Europe                                         | • North America                                             |            |
| Additive          | • Antiblock: No                                  | • Processing Aid: No                                        | • Slip: No |
| Agency Ratings    | • EU No 10/2011<br>• FDA 21 CFR 177.1520(c) 3.2a | • HPFB (Canada) No Objection<br>• JHOSPA Unspecified Rating |            |
| Forms             | • Pellets                                        |                                                             |            |
| Processing Method | • Blown Film                                     |                                                             |            |

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

| Physical                            | Nominal Value | Unit                  | Test Method     |
|-------------------------------------|---------------|-----------------------|-----------------|
| Density / Specific Gravity          | 0.920         |                       | ASTM D792       |
| Melt Mass-Flow Rate (190°C/2.16 kg) | 1.0           | g/10 min              | ASTM D1238      |
| Films                               | Nominal Value | Unit                  | Test Method     |
| Film Thickness - Tested             | 1             | mil                   |                 |
| Film Puncture Energy                | 22.0          | in·lb                 | Internal Method |
| Film Puncture Force                 | 8.00          | lbf                   | Internal Method |
| Film Puncture Resistance            | 145           | ft·lb/in <sup>3</sup> | Internal Method |
| Film Toughness - MD                 | 1170          | ft·lb/in <sup>3</sup> | ASTM D882       |
| Film Toughness - TD                 | 1150          | ft·lb/in <sup>3</sup> | ASTM D882       |
| Secant Modulus                      |               |                       | ASTM D882       |
| 1% Secant, MD                       | 32000         | psi                   |                 |
| 2% Secant, MD                       | 27400         | psi                   |                 |
| Secant Modulus                      |               |                       | ASTM D882       |
| 1% Secant, TD                       | 36000         | psi                   |                 |
| 2% Secant, TD                       | 30400         | psi                   |                 |
| Tensile Strength - MD (Yield)       | 1550          | psi                   | ASTM D882       |
| Tensile Strength - TD (Yield)       | 1600          | psi                   | ASTM D882       |
| Tensile Strength - MD (Break)       | 5300          | psi                   | ASTM D882       |
| Tensile Strength - TD (Break)       | 3900          | psi                   | ASTM D882       |

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| Films                                     | Nominal Value | Unit | Test Method |
|-------------------------------------------|---------------|------|-------------|
| Tensile Elongation - MD (Break)           | 580           | %    | ASTM D882   |
| Tensile Elongation - TD (Break)           | 690           | %    | ASTM D882   |
| Dart Drop Impact                          | 90            | g    | ASTM D1709A |
| Elmendorf Tear Strength - MD <sup>2</sup> | 170           | g    | ASTM D1922  |
| Elmendorf Tear Strength - TD <sup>2</sup> | 320           | g    | ASTM D1922  |
| Thermal                                   | Nominal Value | Unit | Test Method |
| Vicat Softening Temperature               | 216           | °F   | ASTM D1525  |
| Melting Temperature (DSC)                 | 250           | °F   | ISO 3146    |
| Optical                                   | Nominal Value | Unit | Test Method |
| Gloss (45°)                               | 33            |      | ASTM D2457  |
| Haze                                      | 19.0          | %    | ASTM D1003  |

### Processing Information

#### Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 3.5in.; 30:1ratio L/D
- Screw Type: DSB II
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 420°F
- Output: 12 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5 to 1
- Screw Speed: 39 rpm
- Frost Line Height: 51 in.

#### Notes

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

<sup>2</sup> Method B