

LLDPE

LLDPE 2645

LINEAR LOW DENSITY POLYETHYLENE (LLDPE)

DOWLEX™ 2645 Polyethylene Resin is designed for the production of a wide variety of industrial and consumer films (though it is not recommended for silage stretch film). Films made from this resin exhibit a combination of excellent toughness and tear resistance. The product also delivers very good processability on conventional LLDPE machinery.

Typical Application

- Various industrial and consumer film applications

International Compliance

- EU, No 10/2011
- U.S. FDA FCN 741

Film Properties

| Properties | Test Method | Typical Value | Unit |
|--|--------------|---------------|------|
| Film Thickness – Tested | | 50 | µm |
| Film Puncture Energy (50 µm) | ASTM D5748 | 5.80 | J |
| Film Puncture Force (50 µm) | ASTM D5748 | 76.0 | N |
| Tensile Modulus – 2% Secant, MD (50 µm) | ISO 527-3 | 139 | MPa |
| Tensile Modulus – 2% Secant, TD (50 µm) | ISO 527-3 | 147 | MPa |
| Tensile Stress – MD: Yield (50 µm) | ISO 527-3 | 7.50 | MPa |
| Tensile Stress – TD: Yield (50 µm) | ISO 527-3 | 6.30 | MPa |
| Tensile Stress – MD: Break (50 µm) | ISO 527-3 | 39.0 | MPa |
| Tensile Stress – TD: Break (50 µm) | ISO 527-3 | 40.0 | MPa |
| Tensile Elongation – MD: Break (50 µm) | ISO 527-3 | 560 | % |
| Tensile Elongation – TD: Break (50 µm) | ISO 527-3 | 670 | % |
| Dart Drop Impact (50 µm) | ISO 7765-1/A | 480 | g |
| Elmendorf Tear Strength – MD (50 µm) | ASTM D1922 | 560 | g |
| Elmendorf Tear Strength – TD (50 µm) | ASTM D1922 | 910 | g |
| Vicat Softening Temperature ¹ | ASTM D1525 | 107 | °C |
| Gloss (45°, 50 µm) | ASTM D2457 | 59 | |
| Haze (50 µm) | ISO 14782 | 10.2 | % |

Physical Properties

| Properties | Test Method | Typical Value | Unit |
|----------------------------|-------------|---------------|-------------------|
| Density | ASTM D792 | 0.918 | g/cm ³ |
| Melt Index (190°C/2.16 kg) | ISO 1133 | 0.85 | g/10 min |

Processing Guidelines

Fabrication Conditions for Blown Film Resin:

- Die Gap: 1.5 – 2.5 mm
- Melt Temperature: 190 to 240 °C
- Blow-Up Ratio: 1.5 to 3.1
- Recommended Gauge Range: 10 to 150 µm

1. These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

2. ¹ Blown Film, BUR 2.5, 1.5 mm die gap.