



# AVENTIR LLB-01

## LINEAR LOW DENSITY POLYETHYLENE

Technical Data Sheet | FIN-X Polymers

### PRODUCT DESCRIPTION

This type of LLDPE is a copolymer of ethylene and 1-butene produced with Ziegler-Natta catalysts in a gas phase polymerization process.

### GENERAL

| Category           | Details                                     |
|--------------------|---------------------------------------------|
| Processing Methods | Blown Film (Co)Extrusion                    |
| Characteristics    | Toughness and strength                      |
| Applications       | Agricultural, Food and Industrial Packaging |

### RESIN PROPERTIES

| Property / condition                                | Test method | English value           | SI value                |
|-----------------------------------------------------|-------------|-------------------------|-------------------------|
| Melt Flow Rate, MFR <sub>2</sub> (2.16 kgf / 190°C) | ASTM D1238  | 1.0 g/10 min            | 1.0 g/10 min            |
| Density (23°C)                                      | ASTM D1505  | 0.918 g/cm <sup>3</sup> | 0.918 g/cm <sup>3</sup> |
| Slip                                                | ---         | 850 ppm                 | 850 ppm                 |
| Antiblock                                           | ---         | 5,000 ppm               | 5,000 ppm               |
| Antioxidant Package                                 | ---         | Yes                     | Yes                     |

### FILM PROPERTIES [1]

| Property / condition                                                                 | Test method | English value | SI value |
|--------------------------------------------------------------------------------------|-------------|---------------|----------|
| Evaluated Film Thickness                                                             | ---         | 1.0 mils      | 25.4 µm  |
| Dart Impact Strength (38.0 mm [1.5 in], 0.66 m [26.0 in], F50)                       | ASTM D1709A | 90 g          | 90 g     |
| Elmendorf Tear Strength - MD                                                         | ASTM D1922  | 90 g          | 90 g     |
| Elmendorf Tear Strength - TD                                                         | ASTM D1922  | 450 g         | 450 g    |
| Tensile Strength at Yield - MD (20.0 in/min [508 mm/min])                            | ASTM D882   | 1,400 psi     | 10 MPa   |
| Tensile Strength at Yield - TD (20.0 in/min [508 mm/min])                            | ASTM D882   | 1,400 psi     | 10 MPa   |
| Tensile Strength at Break - MD (20.0 in/min [508 mm/min])                            | ASTM D882   | 7,300 psi     | 50 MPa   |
| Tensile Strength at Break - TD (20.0 in/min [508 mm/min])                            | ASTM D882   | 5,200 psi     | 36 MPa   |
| Tensile Elongation at Break - MD (20.0 in/min [508 mm/min])                          | ASTM D882   | 570%          | 570%     |
| Tensile Elongation at Break - TD (20.0 in/min [508 mm/min])                          | ASTM D882   | 870%          | 870%     |
| Tensile Secant Modulus of Elasticity - MD (1% Elongation, 0.051 in/min [1.3 mm/min]) | ASTM D882   | 28,000 psi    | 193 MPa  |
| Tensile Secant Modulus of Elasticity - TD (1% Elongation, 0.051 in/min [1.3 mm/min]) | ASTM D882   | 33,000 psi    | 228 MPa  |
| Haze                                                                                 | ASTM D1003  | 14.0%         | 14.0%    |
| Specular Gloss (45°)                                                                 | ASTM D2457  | 45.0          | 45.0     |

### PROCESSING CONDITIONS OF EVALUATED FILM

| Property           | English value | SI value     |
|--------------------|---------------|--------------|
| Die Diameter       | 2.5 in        | 64 mm        |
| Die Gap            | 60 mils       | 1.5 mm       |
| Melt Temperature   | 405 °F        | 207 °C       |
| Blow-up Ratio, BUR | 2.5 ---       | 2.5 ---      |
| Specific Output    | 10.00 Lb/h/in | 1.79 kg/h/cm |

### NOTES

1. The data presented here is true and accurate to the best of our knowledge. Likewise, the values are nominal and should not be taken as minimum or maximum specifications. No warranty, express or implied, is made regarding resin performance. The customer must validate these properties according to his own evaluations on his machine and in his laboratory.

### REGULATORY NOTES

This resin complies with the following FDA regulation: 21 CFR 177.1520: Olefinic Polymers. This regulation describes polyolefin resins that can be used safely for food packaging and preservation at low temperatures and at ambient temperatures. This resin is not designed for use in medical applications and should not be used in such applications.