

# ExxonMobil™ LLDPE LL 3003 Series

## Linear Low Density Polyethylene Resin

### Product Description

ExxonMobil™ LL 3003 Series are ethylene 1-hexene copolymer linear low density polyethylene cast film resins. Films made from LL 3003 resins have outstanding tensile properties, as well as stiffness and toughness. These superior properties, along with excellent drawability, make LL 3003 versatile packaging film resins.

### General

|              |                                                                                                                                                                                                                              |  |  |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Additive     | <ul style="list-style-type: none"> <li>LL 3003.32: Antiblock: No; Slip: No; Processing Aid: No; Thermal Stabilizer: Yes</li> <li>LL 3003.39: Antiblock: No; Slip: No; Processing Aid: No; Thermal Stabilizer: Yes</li> </ul> |  |  |
| Applications | <ul style="list-style-type: none"> <li>Cast Film</li> <li>Cast Stretch Film</li> <li>Packaging Films</li> </ul>                                                                                                              |  |  |
| Form(s)      | <ul style="list-style-type: none"> <li>Pellets</li> </ul>                                                                                                                                                                    |  |  |

| Resin Properties           | Typical Value (English) | Typical Value (SI)      | Test Based On     |
|----------------------------|-------------------------|-------------------------|-------------------|
| Density                    | 0.918 g/cm <sup>3</sup> | 0.918 g/cm <sup>3</sup> | ASTM D1505        |
| Melt Index (190°C/2.16 kg) | 3.2 g/10 min            | 3.2 g/10 min            | ASTM D1238        |
| Peak Melting Temperature   | 255 °F                  | 124 °C                  | ExxonMobil Method |

| Thermal                     | Typical Value (English) | Typical Value (SI) | Test Based On |
|-----------------------------|-------------------------|--------------------|---------------|
| Vicat Softening Temperature | 199 °F                  | 93 °C              | ASTM D1525    |

| Film Properties               | Typical Value (English) | Typical Value (SI) | Test Based On     |
|-------------------------------|-------------------------|--------------------|-------------------|
| Tensile Strength at Yield MD  | 1300 psi                | 8.7 MPa            | ASTM D882         |
| Tensile Strength at Yield TD  | 1200 psi                | 8.2 MPa            | ASTM D882         |
| Tensile Strength at Break MD  | 6900 psi                | 47 MPa             | ASTM D882         |
| Tensile Strength at Break TD  | 4700 psi                | 33 MPa             | ASTM D882         |
| Elongation at Break MD        | 510 %                   | 510 %              | ASTM D882         |
| Elongation at Break TD        | 820 %                   | 820 %              | ASTM D882         |
| Secant Modulus MD - 1% Secant | 19000 psi               | 130 MPa            | ASTM D882         |
| Secant Modulus TD - 1% Secant | 21000 psi               | 150 MPa            | ASTM D882         |
| Dart Drop Impact              | 100 g                   | 100 g              | ASTM D1709A       |
| Elmendorf Tear Strength MD    | 170 g                   | 170 g              | ASTM D1922        |
| Elmendorf Tear Strength TD    | 580 g                   | 580 g              | ASTM D1922        |
| Puncture Force                | 7 lbf                   | 32 N               | ExxonMobil Method |
| Puncture Energy               | 23 in-lb                | 2.6 J              | ExxonMobil Method |

| Optical Properties | Typical Value (English) | Typical Value (SI) | Test Based On |
|--------------------|-------------------------|--------------------|---------------|
| Gloss (45°)        | 91                      | 91                 | ASTM D2457    |
| Haze               | 2.0 %                   | 2.0 %              | ASTM D1003    |

### Legal Statement

Contact your ExxonMobil Chemical Customer Service Representative for potential food contact application compliance (e.g. FDA, EU, HPFB).

This product is not intended for use in medical applications and should not be used in any such applications.

### Processing Statement

Film (0.8 mil / 20 micron) made from LL 3003.32 resin on a 3.5 inch cast film line with a 8.25 inch melt curtain, 80°F (27°C) chill roll temperature at a 400 ft/min (122 m/min) take-off speed and a melt temperature of 530°F (277°C).

### Notes

Typical properties: these are not to be construed as specifications.

<sup>1</sup> Product may not be available in one or more countries in the identified Availability regions. Please contact your Sales Representative for complete Country Availability.