

# ExxonMobil™ LLDPE LL 1001 Series

## Linear Low Density Polyethylene Resin

### Product Description

ExxonMobil™ LL 1001 Series are butene LLDPE blown film resins that have good drawdown. Films made from LL 1001 resins exhibit good tensile and toughness properties.

### General

Availability <sup>1</sup>	<ul style="list-style-type: none"> <li>▪ Latin America</li> <li>▪ North America</li> </ul>
Additive	<ul style="list-style-type: none"> <li>▪ LL 1001X74: Antiblock: 5000 ppm; Slip: 1700 ppm; Processing Aid: No; Thermal Stabilizer: Yes</li> <li>▪ LL 1001X31: Antiblock: No; Slip: No; Processing Aid: No; Thermal Stabilizer: Yes</li> <li>▪ LL 1001X26: Antiblock: No; Slip: No; Processing Aid: Yes; Thermal Stabilizer: Yes</li> <li>▪ LL 1001X76: Antiblock: 7000 ppm; Slip: No; Processing Aid: No; Thermal Stabilizer: Yes</li> </ul>
Applications	<ul style="list-style-type: none"> <li>▪ Agricultural Film</li> <li>▪ Bag in Box</li> <li>▪ Barrier Food Packaging</li> <li>▪ Blown Film</li> <li>▪ Bread Bags</li> <li>▪ Food Packaging</li> <li>▪ Form Fill And Seal Packaging</li> <li>▪ Freezer Film</li> <li>▪ Garment Film</li> <li>▪ General Packaging</li> <li>▪ Heavy Duty Bags</li> <li>▪ Ice Bags</li> <li>▪ Industrial Liners</li> <li>▪ Industrial Packaging</li> <li>▪ Lamination Film</li> <li>▪ Liners</li> <li>▪ Multilayer Packaging Film</li> <li>▪ Packaging Films</li> <li>▪ Produce Bags</li> <li>▪ Refuse Bags</li> <li>▪ Shoppers</li> <li>▪ Stand Up Pouches</li> <li>▪ Trash Bags</li> </ul>
Revision Date	<ul style="list-style-type: none"> <li>▪ 06/11/2020</li> </ul>

Resin Properties	Typical Value (English)	Typical Value (SI)	Test Based On
Density / Specific Gravity	0,918 g/cm <sup>3</sup>	0,918 g/cm <sup>3</sup>	ASTM D792
Melt Index (190°C/2.16 kg)	1.0 g/10 min	1.0 g/10 min	ASTM D1238
Peak Melting Temperature	250 °F	121 °C	ExxonMobil Method

Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
Vicat Softening Temperature	210 °F	99.0 °C	ExxonMobil Method

Film Properties	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Strength at Yield MD	1400 psi	9.6 MPa	ASTM D882
Tensile Strength at Yield TD	1400 psi	10 MPa	ASTM D882
Tensile Strength at Break MD	7300 psi	50 MPa	ASTM D882
Tensile Strength at Break TD	5200 psi	36 MPa	ASTM D882
Elongation at Break MD	570 %	570 %	ASTM D882
Elongation at Break TD	870 %	870 %	ASTM D882
Secant Modulus MD - 1% Secant	28000 psi	190 MPa	ASTM D882
Secant Modulus TD - 1% Secant	33000 psi	230 MPa	ASTM D882
Dart Drop Impact	90 g	90 g	ASTM D1709A
Elmendorf Tear Strength MD	90 g	90 g	ASTM D1922
Elmendorf Tear Strength TD	450 g	450 g	ASTM D1922
Puncture Force	9 lbf	40 N	ExxonMobil Method
Puncture Energy	25 in·lb	2.9 J	ExxonMobil Method

Optical Properties	Typical Value (English)	Typical Value (SI)	Test Based On
Gloss (45°)	45	45	ASTM D2457
Haze	14 %	14 %	ASTM D1003

### Legal Statement

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

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

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### Processing Statement

Film (1.0 mil/25.4 micron) made from LL 1001X26 resin on a 2.5 inch (63.5 mm) blown film line with a 2.5:1 blow-up ratio, a melt temperature of 395-415°F (202-213°C), a 60 mil (1.52 mm) die gap at a rate of 10 lbs/hr/in die circumference (1.79 kg/hr/cm).

### 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.

For additional technical, sales and order assistance: [www.exxonmobilchemical.com/ContactUs](http://www.exxonmobilchemical.com/ContactUs)

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