

## Product Datasheet



# ExxonMobil™ LLDPE LL 1001AV Blown

## Linear Low Density Polyethylene Resin

### Product Description

ExxonMobil™ LL 1001AV is an ethylene 1-butene linear low density polyethylene resin that offers excellent drawdown and puncture resistance combined with high gloss and clarity. It is frequently used as a blend partner with LDPE resins to improve film properties and processability. TnPP is not intentionally added to LL 1001AV resin.

### General

|                           |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                        |                                                                                                                                                                                                                 |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Availability <sup>1</sup> | <ul style="list-style-type: none"> <li>Africa &amp; Middle East</li> <li>Asia Pacific</li> </ul>                                                                                                                                                    | <ul style="list-style-type: none"> <li>Europe</li> <li>Latin America</li> </ul>                                                                                                                                                        | <ul style="list-style-type: none"> <li>North America</li> </ul>                                                                                                                                                 |
| Additive                  | <ul style="list-style-type: none"> <li>Antiblock: No</li> <li>Slip: No</li> </ul>                                                                                                                                                                   | <ul style="list-style-type: none"> <li>Processing Aid: No</li> <li>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> </ul> | <ul style="list-style-type: none"> <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> </ul> | <ul style="list-style-type: none"> <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> |
| Form(s)                   | <ul style="list-style-type: none"> <li>Pellets</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   | 248 °F                  | 120 °C                  | ExxonMobil Method |

| Thermal                     | Typical Value (English) | Typical Value (SI) | Test Based On     |
|-----------------------------|-------------------------|--------------------|-------------------|
| Vicat Softening Temperature | 207 °F                  | 97.0 °C            | ExxonMobil Method |

| Film Properties               | Typical Value (English) | Typical Value (SI) | Test Based On     |
|-------------------------------|-------------------------|--------------------|-------------------|
| Tensile Strength at Yield MD  | 1400 psi                | 9.3 MPa            | ASTM D882         |
| Tensile Strength at Yield TD  | 1500 psi                | 10 MPa             | ASTM D882         |
| Tensile Strength at Break MD  | 6500 psi                | 45 MPa             | ASTM D882         |
| Tensile Strength at Break TD  | 5200 psi                | 36 MPa             | ASTM D882         |
| Elongation at Break MD        | 550 %                   | 550 %              | ASTM D882         |
| Elongation at Break TD        | 910 %                   | 910 %              | ASTM D882         |
| Secant Modulus MD - 1% Secant | 26000 psi               | 180 MPa            | ASTM D882         |
| Secant Modulus TD - 1% Secant | 31000 psi               | 210 MPa            | ASTM D882         |
| Dart Drop Impact              | 90 g                    | 90 g               | ASTM D1709A       |
| Elmendorf Tear Strength MD    | 110 g                   | 110 g              | ASTM D1922        |
| Elmendorf Tear Strength TD    | 450 g                   | 450 g              | ASTM D1922        |
| Puncture Force                | 9 lbf                   | 40 N               | ExxonMobil Method |
| Puncture Energy               | 26 in-lb                | 3.0 J              | ExxonMobil Method |

| Optical Properties | Typical Value (English) | Typical Value (SI) | Test Based On |
|--------------------|-------------------------|--------------------|---------------|
| Gloss (45°)        | 51                      | 51                 | ASTM D2457    |
| Haze               | 18 %                    | 18 %               | ASTM D1003    |

## Product Datasheet

**ExxonMobil™ LLDPE LL 1001AV Blown**  
Linear Low Density Polyethylene Resin**Legal Statement**

Tris(nonylphenol)phosphite (TNPP) CAS# 26523-78-4 is not intentionally used by ExxonMobil in this product. Although this product is not routinely tested for its presence, based on product composition knowledge this substance is not expected to be present. However, the fact that this substance is not intentionally used by ExxonMobil in this product does not exclude that trace levels of this substance may be present as a result of the specific characteristics of the raw materials and/or of the manufacturing process.

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).

**Processing Statement**

Film (1.0 mil/25.4 micron) made from LL 1001AV 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)

©2024 ExxonMobil. ExxonMobil, the ExxonMobil logo, the interlocking "X" device and other product or service names used herein are trademarks of ExxonMobil, unless indicated otherwise. This document may not be distributed, displayed, copied or altered without ExxonMobil's prior written authorization. To the extent ExxonMobil authorizes distributing, displaying and/or copying of this document, the user may do so only if the document is unaltered and complete, including all of its headers, footers, disclaimers and other information. You may not copy this document to or reproduce it in whole or in part on a website. ExxonMobil does not guarantee the typical (or other) values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, freedom from patent infringement, suitability, accuracy, reliability, or completeness of this information or the products, materials or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. This document is not an endorsement of any non-ExxonMobil product or process, and we expressly disclaim any contrary implication. The terms "we," "our," "ExxonMobil Product Solutions" and "ExxonMobil" are each used for convenience, and may include any one or more of ExxonMobil Product Solutions Company, Exxon Mobil Corporation, or any affiliate either directly or indirectly stewarded.

[exxonmobilchemical.com](http://exxonmobilchemical.com)