ExxonMobil

# Enable™ 2005 Series

## Performance Polymer

### Product Description

Enable™ 2005 resins are ethylene 1-hexene copolymers. Enable™ performance polymer resins offer an outstanding balance between processing and film properties, including tensile, impact and puncture. Easier processing and excellent properties lead to significant high pressure LDPE replacement in many applications, yet with superior drawdown and enhanced toughness. TnPP is not intentionally added to Enable™ 2005 resins.

### General

| | | | |
|---|---|---|---|
| Availability [1] | ▪ Africa & Middle East<br>▪ Asia Pacific | ▪ Europe<br>▪ Latin America | ▪ North America |
| Additive | ▪ Enable™ 2005MC: Antiblock: No; Slip: No; Processing Aid: Yes; Thermal Stabilizer: Yes<br>▪ Enable™ 2005PA: Antiblock: No; Slip: No; Processing Aid: No; Thermal Stabilizer: Yes<br>▪ Enable™ 2005ME: Antiblock: 2000 ppm; Slip: 500 ppm; Processing Aid: Yes; Thermal Stabilizer: Yes | | |
| Applications | ▪ Agricultural Film<br>▪ Blown Film<br>▪ Cast Film<br>▪ Cast Stretch Film<br>▪ Collation Shrink | ▪ Food Packaging<br>▪ Form Fill And Seal Packaging<br>▪ Heavy Duty Bags<br>▪ Lamination Film<br>▪ Multilayer Packaging Film | ▪ Shrink Film<br>▪ Stand Up Pouches<br>▪ Stretch Film |
| Revision Date | ▪ 06/03/2020 | | |

| Resin Properties | Typical Value (English) | | Typical Value (SI) | | Test Based On |
|---|---|---|---|---|---|
| Density / Specific Gravity | 0.920 | g/cm³ | 0.920 | g/cm³ | ASTM D792 |
| Melt Index (190°C/2.16 kg) | 0.50 | g/10 min | 0.50 | g/10 min | ASTM D1238 |
| Peak Melting Temperature | 239 | °F | 115 | °C | ExxonMobil Method |

| Thermal | Typical Value (English) | | Typical Value (SI) | | Test Based On |
|---|---|---|---|---|---|
| Vicat Softening Temperature | 225 | °F | 107 | °C | ExxonMobil Method |

| Film Properties | Typical Value (English) | | Typical Value (SI) | | Test Based On |
|---|---|---|---|---|---|
| Tensile Strength at Yield MD | 1400 | psi | 9.9 | MPa | ASTM D882 |
| Tensile Strength at Yield TD | 1600 | psi | 11 | MPa | ASTM D882 |
| Tensile Strength at Break MD | 8800 | psi | 60 | MPa | ASTM D882 |
| Tensile Strength at Break TD | 8000 | psi | 60 | MPa | ASTM D882 |
| Elongation at Break MD | 480 | % | 480 | % | ASTM D882 |
| Elongation at Break TD | 710 | % | 710 | % | ASTM D882 |
| Secant Modulus MD - 1% Secant | 30000 | psi | 210 | MPa | ASTM D882 |
| Secant Modulus TD - 1% Secant | 34000 | psi | 240 | MPa | ASTM D882 |
| Dart Drop Impact | 240 | g | 240 | g | ASTM D1709A |
| Elmendorf Tear Strength MD | 90 | g | 90 | g | ASTM D1922 |
| Elmendorf Tear Strength TD | 570 | g | 570 | g | ASTM D1922 |
| Puncture Force | 12 | lbf | 54 | N | ExxonMobil Method |
| Puncture Energy | 33 | in·lb | 3.8 | J | ExxonMobil Method |

| Optical Properties | Typical Value (English) | | Typical Value (SI) | | Test Based On |
|---|---|---|---|---|---|
| Gloss (45°) | 57 | | 57 | | ASTM D2457 |
| Haze | 7.8 | % | 7.8 | % | 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.

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.

## Processing Statement

Film (1 mil / 25.4 micron) made on a 2.5 inch (63.5 mm) blown film line with a 2.5:1 blow-up ratio, a melt temperature of 380- 400°F (193 - 204°C), a 30 mil (0.76 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.

[1] 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

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