**ExxonMobil**

# Outstanding high clarity film at high throughput rates

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Exceed™ and Enable™ metallocene polyethylene (mPE) resins allow converters to produce outstanding, high clarity packaging films at high throughput rates.

This patented coextrusion technology uses Exceed mPE 1018 resin in the outer layers and Enable mPE 27-03 resin in the core layer. This allows converters to produce packaging films which combine outstanding optical properties, excellent mechanical and sealing properties.

| Delivered attributes | Derived benefits & potential value |
|---|---|
| Outstanding optical properties | High clarity for product promotion and branding opportunities |
| Excellent mechanical properties | Improve package integrity performance (less damage and waste) |
| Outstanding sealing performance | Faster sealing allows higher packaging line speed |
| Resource efficiency through downgauging opportunities for thinner, stronger films | Downgauging opportunities for thinner, stronger films<br>Better package integrity<br>Less material use<br>Less damage, less waste |

Exceed™ and Enable™ mPE resin-based films are ideal for use in:
• Lamination packaging film
• Bread bags film
• Produce bags film
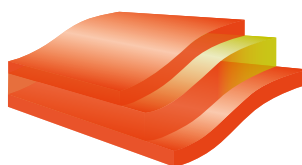• Blown stretch film

## Increased output

Enable mPE 27-03 resin is easier to process and provides converters with the opportunity to increase output. Tests have shown that by using 20% of Enable mPE 27-03 resin, film output can be increased by 20% compared with using Exceed mPE 1018 resin series in the core.

Running Enable mPE 27-03 resin in the core layer at high output yields films with outstanding optical properties, and excellent mechanical and sealing properties:
• Tear remains very high
• Outstanding dart impact strength
• High tear strength

### Figure 1:
Typical three-layer film structure resin



Thickness: 50 µm
Layer distribution: 1/2/1

| | |
|---|---|
| **100%** | Exceed mPE 1018 |
| **80%** | Exceed mPE 1018 |
| **20%** | Enable mPE 27-03 |
| **100%** | Exceed mPE 1018 |

| film properties | | typical value | test method (based on) | unit |
|---|---|---|---|---|
| Tensile strength at break | MD/TD | 51/47 | ASTM D 882 | MPa |
| 1% Secant modulus | MD/TD | 192/206 | ASTM D 882 | MPa |
| Elmendorf tear strength | MD/TD | 10.3/15.9 | ASTM D 1922 | g/µm |
| Dart drop impact (A/Face) | | >22 | ASTM D 1709 | g/µm |
| Haze | | 4.6 | ASTM D 1003 | % |
| Gloss (45° angle) | | 84 | ASTM D 2457 | % |
| Clarity | | 85 | ASTM D 1746 | % |

| Polymer properties | Exceed mPE 1018 resin | Enable mPE 27-03 resin | Test method (based on) | Unit |
|---|---|---|---|---|
| Melt index | 1.0 | 0.3 | ExxonMobil | g/10 min |
| Density | 0.918 | 0.927 | ExxonMobil | g/cm$^3$ |

Contact us for more information:
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