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# Polyolefin film solutions with extreme high-temperature resistance

The synergy solution combining **Exceed™ XP performance PE polymers** and **ExxonMobil™ PP** of 2-4 melt flow ratio (MFR) delivers step out mechanical performance and high-heat resistance for a range of flexible film applications including heavy duty sacks, hot-fill packaging and liners.

## High-temperature resistance

No film shrinkage up to 140°C

## Creep resistance

Film creep reduced by up to 40%

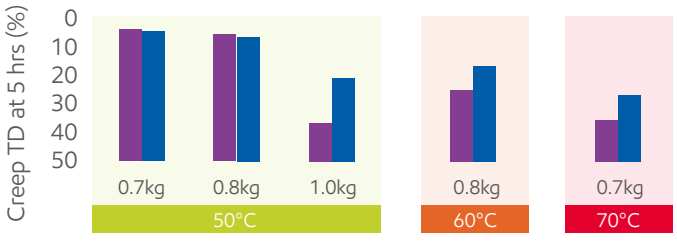
## Extreme toughness

Up to 50% higher dart-drop impact film strength

Temperature resistance and toughness based on 90 µm 3-layer film with 25% ExxonMobil PP of 2-4 MFR.
Creep resistance compared to an all-PE film solution with same gauge at room temperature.

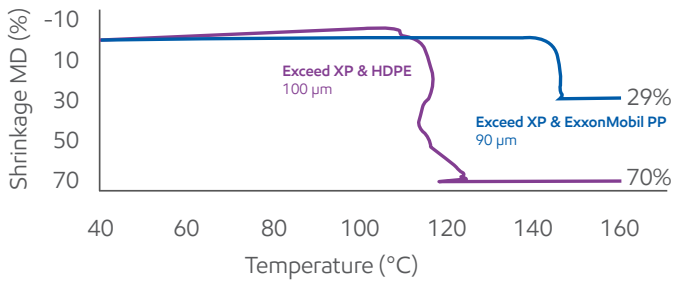
For example, using ExxonMobil PP to replace HDPE in heavy duty sack formulations offers extreme stiffness and high-temperature resistance, outstanding creep resistance, and excellent dart impact and MD tear resistance. The unique synergy between Exceed XP and ExxonMobil PP can create opportunities for more flexible packaging applications, especially for film that requires high temperature resistance. This solution offers impressive creep resistance with up to 25% potential downgauging opportunities, which can provide related cost savings. Industry applications include:

- **Heavy duty bags and sacks**
- **Compression liners**
- **Hot-fill packaging**
- **Stand-up pouch packaging**




Lower creep at higher temperature and higher load up to 140°C

No shrinkage

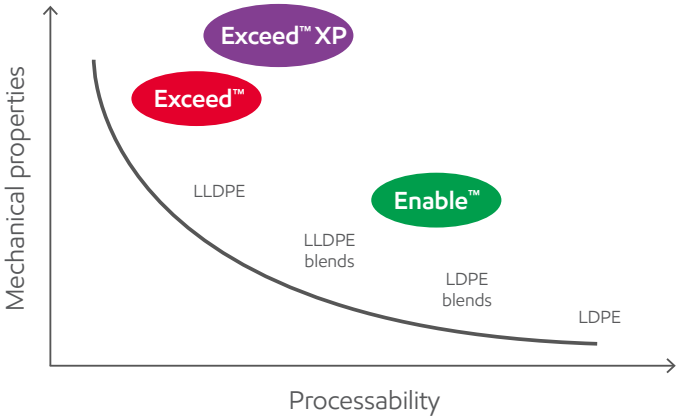



* All data from tests performed by or on behalf of ExxonMobil

**Exceed™ XP when eXtreme Performance matters**
Step-out mechanical performance
and excellent processability

**Exceed™ for superior performance**
Excellent mechanical performance with outstanding sealing properties combined with best-in-class optics

**Enable™ for optimum solutions**
Combining excellent processing and bubble stability with HAO properties




Game-changing film technology is combining **Exceed™ XP** performance PE polymers and **ExxonMobil™ PP** to deliver heavy duty sack films with extreme performance and high-heat resistance. This new technology pushes blown film boundaries to create new opportunities for high temperature applications on blown film assets.

Contact your ExxonMobil representative to learn more about this game-changing innovation. Scan for more information:

| Test | Test method based on |
|---|---|
| Tensile | ASTM D882 |
| Dart impact | ASTM D-1709 |
| Density | ASTM D-1505 |
| Puncture force | Exxonmobil test method |
| Elmendorf tear | ASTM-D-1922-09 |
| Creep | Exxonmobil test method |
| Flexible crack | ASTM F-3039 |
| Haze | ASTM D-1003 |
| Seal strength | ASTM F-2029 |
| Retramat | ISO 14616 |
| Flexural modulus (1% secant) | Exxonmobil test method |
| Melt index | ASTM D1238 |



Contact your ExxonMobil representative for more information:
**exxonmobilchemical.com/HDS**

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