ExxonMobil

# Thin, high performance power pre-stretch (PPS) film with sustainability benefits

High perfomance power pre-stretch can now be made with certified-circular polymers without compromising performance, helping customers create solutions with sustainability benefits.

- High ultimate stretch level: up to 400%
- Good puncture and tear propagation resistance at high stretch levels
- Excellent load stability
- Downgauging opportunities
- Includes recycled* content

* Through mass balance attribution

**This solution contains certified-circular polymers. Exxtend™ technology for advanced recycling** can help widen the range of plastic materials that can be recycled and helps maintain the performance of material over multiple recycling loops. Product quality and performance of the certified circular polymers are identical to polymers made from virgin raw materials, so customers can be confident when using them in existing applications.

COLINES®

# Challenge:

**Create high performance film tailored for power pre-stretch applications while offering the opportunity of downgauging and using recycled* content for sustainability benefits.**

The packaging value chain is looking to make the most out of our resources when creating packaging solutions. As part of helping customers create sustainable solutions, ExxonMobil wanted to support the creation of high-end thin wrap film using less plastic per pallet load unit. Additionally, including recycled* content with certified circular polymers provides further sustainability benefits.

* Through mass balance attribution.

# Solution:

**Extrusion technology with trouble-free 12 micron films with extreme stretch-ability up to 400% including certified circular polymers.**

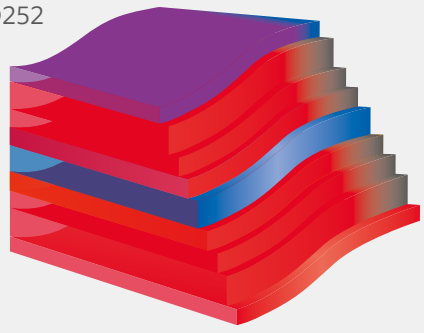
A collaboration between ExxonMobil and **Colines** has created a 12 µm, 9-layer power pre-stretch film using recycled content. The solution is designed to reach levels in the range of 400% pre-stretch elongation.

## High performing power pre-stretch film

9-layer film structure leveraging Exxtend™ technology for advanced recycling

**Thickness: 12 µm**

- Exceed™ XP 8346CB
- Exceed™ 3518CB
- Exceed™ 3812CB
- Vistamaxx™ 6000
- Vistamaxx™ 6202
- ExxonMobil™ LD252

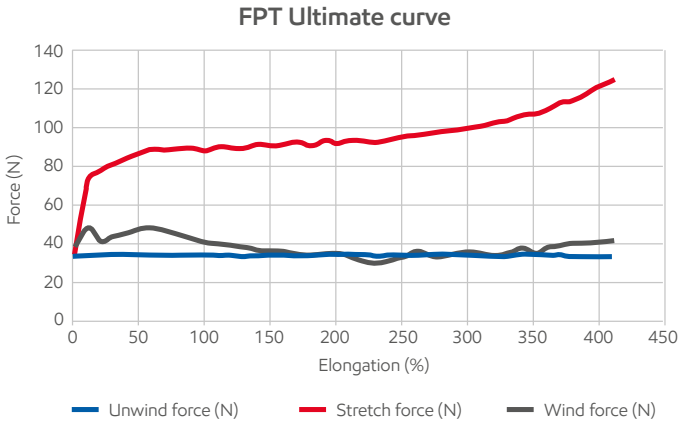


| ExxonMobil performance PE for high power pre-stretch | | |
|---|---|---|
| **Grade** | **Density (g/cm³)*** | **Melt index (g/10 min)*** |
| Exceed XP 8346CB | 0.916 | 3.5 |
| Exceed 3812CB | 0.912 | 3.8 |
| Exceed 3518CB | 0.918 | 3.5 |
| Vistamaxx 6000 | 0.889 | 3.7 |
| ExxonMobil LDPE 252 | 0.923 | 3.8 |
| Test method (based on)* | ASTM D1505 | ASTM D1238 |

# Result:

**Thin, high performance power pre-stretch (PPS) film**

**High ultimate stretch level, good puncture and increased tear propagation resistance at high stretch levels.**
Can reach up to 400% ultimate stretch.




* Test method: Ultimate strain
FPT-750 equipment: 30 N unwind force, -4% wind strain, 4000 mm/s line velocity, W stretch pattern

Data from test performed by Colines.

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