ExxonMobil
Signature Polymers

Case Study

Exceed™ Tough+

Plastyverg turns to Exceed™ Tough+ performance PE for stretch hood solutions without the use of EVA, that are designed for recyclability*

Potential key benefits:

- Designed for recyclability*
- High stretchability and holding force
- High puncture resistance
- Easy to process

Challenge

Create high-integrity stretch hood films without the use of EVA that can help improve recyclability

Plastyverg, a leading converter of a range of flexible films based in Chile, needed to create stretch hood films that could offer improved recyclability over the incumbent. Faced with competition from imported stretch hood film solutions, Plastyverg wanted to improve its competitiveness as demand for solutions that offer sustainability benefits increases. To help achieve this objective, Plastyverg decided to switch from its EVA-based films, which can be challenging to mechanically recycle, to a stretch hood film solution that does not contain EVA.

"Due to sustainability related concerns and Extended Producer Responsibility (EPR) laws in Chile there is increasing demand from Brand Owners for film solutions that can be easier to recycle. As a result, many customers have been turning to imported stretch hood films to meet their needs," said Aníbal Gamboa, General Manager, Plastyverg. "To remain competitive, Plastyverg needed to change its existing EVA-based stretch hood solution to a solution that does not contain EVA, which can be easier to recycle while maintaining film performance."

Solution

Exceed™ Tough+ enables a stretch hood solution that does not contain EVA that can be easier to recycle

Plastyverg and ExxonMobil™ collaborated to develop a solution for stretch hood applications that does not contain EVA. The technical and commercial support team of ExxonMobil's polyethylene business, an experienced leader in developing solutions designed for recyclability while maintaining performance, recommended using their Exceed Tough+ performance PE in the film formulation.

While the primary objective of creating a stretch hood solution that does not contain EVA, which can be easier to recycle, was achieved, the mechanical properties—required to help protect products on pallets and help provide load stability for safety—were also improved versus the EVA-based solution. Plastyverg also noted that the solution that did not contain EVA resulted in better coefficient of friction control compared to the EVA-based solution.

*Recyclable in the few communities with programs and facilities in place that collect and recycle plastic film

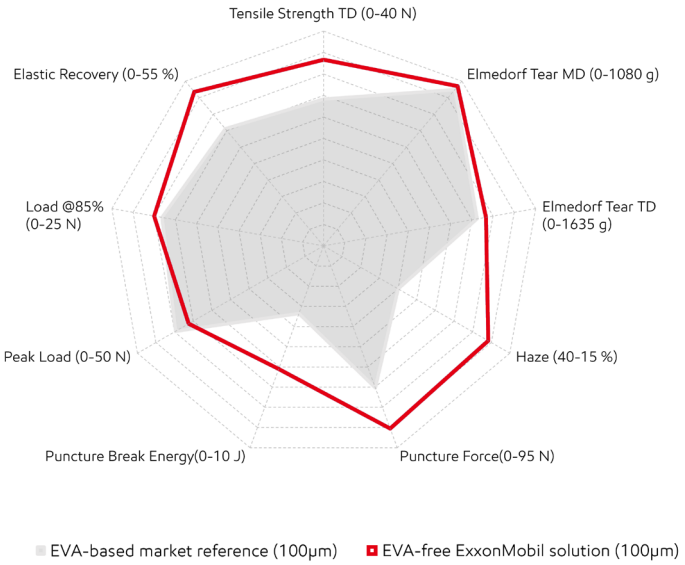
Plastyverg

Compared to the existing EVA-based solution, the 5-layer co-extruded solution, based on Exceed™ Tough+ performance PE, offers:

- Improved recyclability*
- Excellent extrusion capacity and bubble stability for good thickness profile control.
- 5% higher holding force, which is key for pallet stability and safe transportation.
- Up to 30% higher elastic recovery, which can contribute to easy stretching and efficient stretch hood operation.
- Up to 28% higher puncture force, which can lead to less failures, especially in the case of products with sharp edges, and better product protection.
- Opportunities to tailor the formulation with additives that can provide excellent aging properties, offering quality and safety regardless of weather conditions.

Data from tests conducted by, or on behalf of, ExxonMobil™ and/or Plastyverg

*Recyclable in the few communities with programs and facilities in place that collect and recycle plastic film



Results

Easier to recycle Exceed Tough+ performance PE-based stretch hood film solutions help create new business opportunities

The stretch hood film solution based on the Exceed Tough+ performance PE can be easier to recycle and the mechanical properties are enhanced. The solution can withstand the most demanding stresses helping Brand Owners protect and transport their goods safely through the value chain. The solution is well suited for pallets of heavy duty sacks, cardboard boxes, and other load types.

The enhanced mechanical properties offer the potential for an additional sustainability benefit of using less resin as the film can be downgauged, depending on the application type and the stretch hood machine configuration.

“Plastyverg, in collaboration with ExxonMobil, was a pioneer in developing a stretch hood film that does not contain EVA for the South American Pacific Coast market,” said Gamboa.

“This Exceed Tough+ performance PE-based film is the first domestic production of a stretch hood solution that does not contain EVA. Other films that do not contain EVA currently on the market are imported and may not be cost competitive. With positive feedback from more than three customers already, the new solution has been sparking interest amongst different end-users.”

Contact us for more information: **exxonmobilchemical.com/pe**

ExxonMobil Signature Polymers

Bring your impossible

What's new: ExxonMobil Signature Polymers

All our polymers are now positioned under a single portfolio brand: Signature Polymers. The aim is to simplify our product architecture and naming to improve portfolio navigation for you. We would like to stress that our commitment to high quality products remains the same, it is the names that change. Everything else remains the same. We will be making these modifications over the next six months so you will see both old and new grade names highlighted during that time.

Here's a quick overview of brands and grade names that have changed in this document:

Legacy commercial name	New commercial name
Exceed™ XP	Exceed™ Tough+

Some of our existing Exceed, Achieve, Paxon and premium PP/HD grades have moved to Exceed brand; most existing Enable grades have moved to Exceed Flow[+]; most of our existing Exceed XP grades have moved to Exceed Tough[+]; most of our existing Exceed S grades have moved to Exceed Stiff[+]. More details here **https://www.exxonmobilchemical.com/en/brands/signature-polymers/exceed_high_performance_polymers** or contact your ExxonMobil representative to know more.

Want to see what's changed in our portfolio? Go to **exxonmobilchemical.com/sptransform**