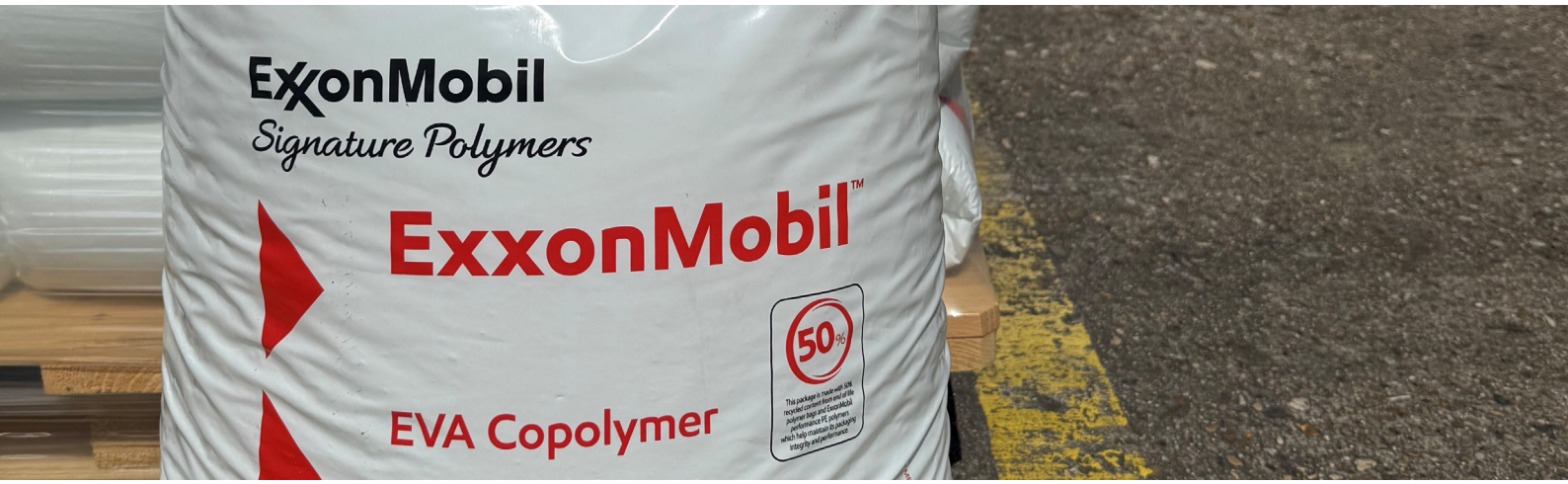
ExxonMobil Signature Polymers

Case study



Exxtra™ Seal Exceed™ Tough+

ExxonMobil Signature Polymers help maintain packaging performance in heavy duty sacks that incorporate 50% recycled content

Incorporates recycled content

Good bag drop performance

Maintains packaging integrity

Data and results presented herein apply specifically to the noted application under this case study.
Your results may differ depending on factors such as operating conditions, equipment and materials used.

Challenge

ExxonMobil wanted to help support a plastics circular economy by bagging some of its resins in heavy duty sacks (HDS) incorporating recycled polyethylene (PE) content. The company wanted to develop a solution that would include recycled PE content without compromising performance.

Solution

The ExxonMobil Meerhout Polymer Plant (MPP) in Belgium is delivering some of its PE resins to customers in HDS that incorporate 50% recycled PE content. Packaging performance properties and the original thickness of the HDS are maintained, thanks to the addition of Exceed™ Tough+ high performance polymers and Exxtra™ Seal advanced performance polymers, which help to compensate for any physical property degradation due to the incorporation of recycled content.

"Our performance PE polymers are proven to be excellent boosters in film formulations incorporating recycled content," said Inge Daems, Regional Technology Manager. "Exceed Tough+ and Exxtra Seal performance PE can help deliver mechanical properties in line with industry standards for high integrity sacks, while bag drop performance outperforms the reference virgin PE film formulations in ExxonMobil testing."

50%

This package is made with 50% recycled content from end of life polymer bags and ExxonMobil performance PE polymers which help maintain its packaging integrity and performance.

Exceed Tough+ m 1019 metallocene polyethylene is designed to deliver enhanced toughness (puncture/tear resistance), while Exxtra Seal m 1012 metallocene polyethylene can help to increase bag drop resistance and can enhance sealing performance compared to reference film formulations. The recycled content is supplied by The Selene Group, which recycles end of life polymer bags from a logistics center where polymer bags are opened and their contents emptied and then used to fill bulk trucks. Selene then sorts, washes, de-inks, and re-pelletizes the used bags into what Selene refers to as "Premium Recycle Polymer". A thorough assessment is conducted by Selene to confirm the performance of the recycled polymer before it is combined with Exceed Tough+ and Exxtra Seal resins to make the new HDS being used by MPP, called Selene NextBag™.

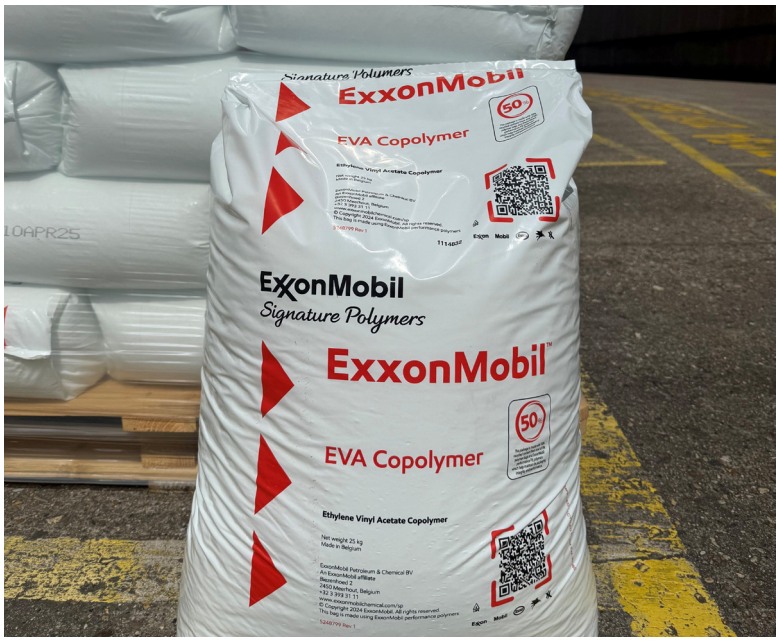
NEXTBAG RECOVERY. RECYCLE. REUSE. Selene Reliable. Responsible.

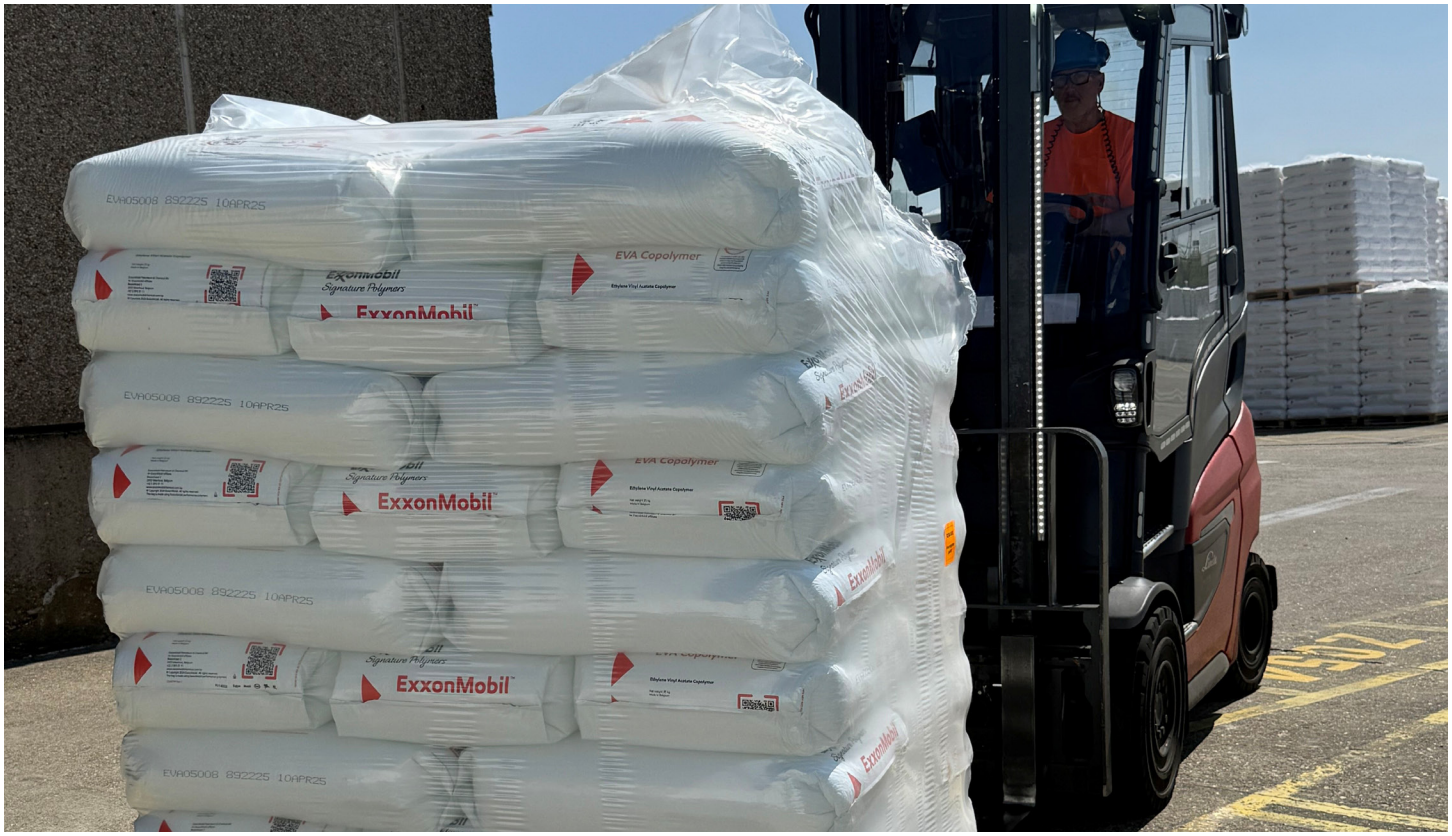
Results

"Value chain collaboration is key to the industry developing solutions that incorporate recycled content," said Bram Denie, Regional Sales Manager, ExxonMobil Product Solutions. "Great teamwork with Selene helped address the many challenges faced in bringing this solution to market."

"This technology innovation represents a step in contributing to a circular plastics economy," said Stefaan Roose, Regional Logistics and Distribution Manager. "Recycling valuable end of life plastic bags from logistics operations and then using them as a raw material to make new plastic bags helps to close the loop."

"The rest of the worldwide plants network are transitioning to Exceed™ Tough+ performance PE-based packaging solutions that can provide thinner films globally," he added.





ExxonMobil
Signature Polymers

Bring your impossible

ExxonMobil Signature Polymers was born from the belief that people fuel progress. From automotive and construction to packaging, agriculture, industrial, and beyond, we leverage the scale and reach of ExxonMobil to deliver the insights and innovations that empower our diverse, global partners to take their businesses to new heights. We continuously work to provide the listen-first, service-driven, game-changing collaboration that unlocks opportunities for our partners and advances and their business goals.