

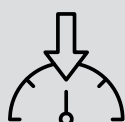


Exceed™ Flow

Colines, Saica and ExxonMobil Signature Polymers create thin, coreless high tenacity hand wrap stretch films incorporating 35% post-consumer recycled content (PCR)



High tenacity



Downgauging
opportunity



Consistent
processing



Incorporates
up to 35% PCR
content

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

Stretch film is widely used for pallet wrapping and load bundling, protecting products from dust, moisture, pilferage and shifting during transportation and storage, while maintaining product visibility. High-performance stretch wrap can help to significantly reduce the risk of damage to contents in transit. However, with global regulatory frameworks like the Packaging and Packaging Waste Regulation (PPWR)¹ in Europe, brand owners and converters now face the challenge of incorporating PCR into stretch films without compromising performance.

As part of helping customers develop stretch film solutions that comply with evolving regulations and reduce the use of virgin plastics, the ExxonMobil Signature Polymers team and Colines aimed to create a coreless, thin-gauge hand wrap film solution incorporating PCR content.

A coreless approach eliminates the need for paper cores, resulting in wrapping processes that can use fewer materials.

Thick commodity films form stable internal cores more easily than thin 12 µm high tenacity hand wrap (HTHW) films, which are more prone to deformation. Coreless rolls can be hard to fully unwind, especially near the end. Precise tension control during winding is essential to avoid film breakage.

Solution

Collaboration with Colines led to a 12 µm high tenacity coreless hand wrap film with incorporation of 35% PCR

Exceed™ Flow m 1716 metallocene polyethylene was selected for its high tenacity, which contributes to greater containment force and improved load stability. When combined with PCR from Saica Natur Cycle Plus, Exceed Flow m 1716 flows more easily to the edge of the die, resulting in faster line speeds, lower pressure and low motor load compared to incumbent high-tenacity grades.

¹ <https://eur-lex.europa.eu/eli/reg/2025/40/oj>

Results

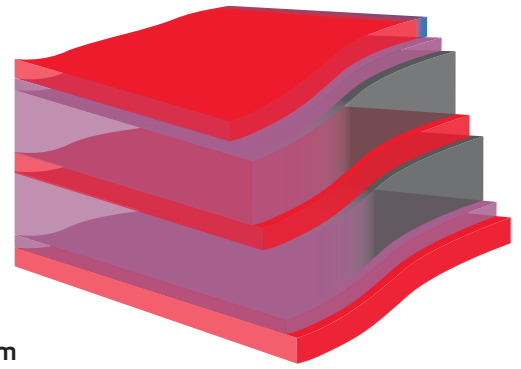
Six years ago, we introduced a 10 µm high tenacity hand wrap film. This film delivered containment force comparable to conventional 20 µm commodity films, while reducing film consumption by an impressive 40%.

Now, in 2025, we are introducing an Exceed™ Flow m 1716 based coreless 12 µm high tenacity hand wrap film incorporating 35% PCR, with similar performance characteristics.

The main driver for coreless production is helping reduce resource consumption. Consider a customer/distributor consuming one full container of hand wrap reels per month:

- Approximately 190 reels per pallet
- 31 pallets per container
- $190 \times 31 = 5,900$ reels per container
- Each reel contains approximately 0.5 kg of cardboard core
- $5,900 \times 0.5 = 2,950$ kg of paper core waste per container

"Incorporating PCR into films can be challenging," said Mr. Nicola Lombardini, Head of R&D and Member of the Board at Colines. "ExxonMobil Signature Polymers resins provide the necessary characteristics to maintain film performance. Our partnership ensures we consistently meet or exceed customer expectations. With this innovation, we're not only achieving technical excellence but also achieving sustainability benefits: enabling circularity through PCR incorporation and eliminating the need for nearly 3 tons of cardboard reel cores."



Thickness: 12 µm

■ Vistamaxx™ 6202

■ ExxonMobil™ C4LL 2818

■ Exceed™ Flow m 1716

■ PCR content from Saica. Reference: NC+ 8020AC PCR



(1) Competitive wound coreless roll, will be very difficult to unwind to the end

(2) Wound coreless roll, produced on a machine featuring patented Noel Technology

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 their business goals.



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