ExxonMobil
Signature Polymers

Case study



Exceed™ Flow

Poly Rafia boosts high-tenacity stretch film productivity with Exceed™ Flow m 1716 performance polyethylene

- Improved productivity
- Reduced energy consumption
- Better tear propagation
- Increased holding force

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

Poly Rafia, a leading converter of flexible films based in Mexico, wanted to improve productivity of their high tenacity stretch film process and utilize the full capacity of their 5-layer SML cast film extrusion line, while gaining improvements in the film performance. The incumbent solution was meeting their demands, though they felt there was room to improve productivity and target new brand owners looking to reduce plastic packaging thickness with a low-gauge, manually applied high-performance stretch film.

Solution

The ExxonMobil Signature Polymers team introduced Exceed™ Flow m 1716, a next-generation resin designed for high-performance stretch film applications. Poly Rafia, one of the first customers in Latin America to try this novel resin, incorporated the grade in the structure of their high-performance manual stretch film, processed via cast film extrusion.

The solution delivered significant value through several key aspects. It featured processing enhancements that enabled stable, high-speed production while reducing scrap generation. ExxonMobil played a crucial role by offering formulation guidance and on-site technical support. Additionally, the solution aligned seamlessly with Poly Rafia's innovation-driven strategy and approach to plastic circularity.

"The implementation of a rigorous, continuous testing plan with the FPT-EVO has led to a remarkable level of consistency and quality in their products. Our close partnership and regular dialogue on how to improve testing campaigns have been key to these successful outcomes," mentioned Jelle Dendauw from ESTL.

POLY RAFIA SML estl

Results

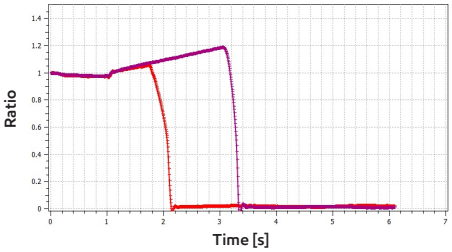
The adoption of Exceed™ Flow m 1716 delivered measurable improvements both in production capacity and in the performance of the final film. Poly Rafia was able to increase line speed up to 35%* due to the significant improvement in film stability. As a result of this higher output, the customer also reported an additional benefit of 8% lower energy consumption for the film processing step.

"By using high-performance resins such as Exceed Flow m 1716, SML's stretch film line unlocks its full technical potential and achieves outstanding results – both in terms of product quality and line performance. Exceed Flow m 1716 combined with SML's extrusion equipment boosts the achievable output to a next level, even on thin gauge films, and leads to a reduction in production costs", summarizes Thomas Rauscher, Product Manager at SML.

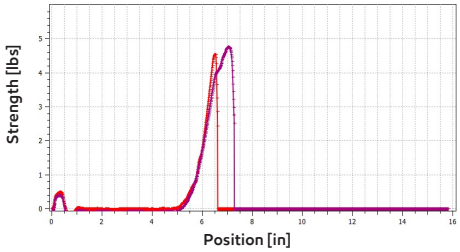
"Using this new grade the machine runs very stable, allowing for uninterrupted work, less scrap, and minimizing down time", said Jesús Aldemar, Production Supervisor at Poly Rafia. Furthermore the stretch film resulted in better mechanical properties when compared to the incumbent solution, represented in higher tear propagation resistance, better puncture and superior holding force, offering a higher quality manual stretch film to the market.



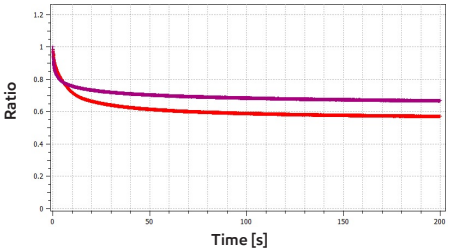
Tear propagation



Puncture resistance



Holding force



Exceed™ Flow m 1716 Exceed™ Flow m 1020

*Line speed info, energy consumption, properties data and graphs provided byPoly Rafia based on tests performed in ESTL FPT-EVO equipment.

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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