ExxonMobil
Signature Polymers

Case study

Exceed™ Flow

CLIPSICO PACK increases performance and output while reducing costs for stiff or high tenacity hand wrap film with ExxonMobil Signature Polymers

Cost optimization

Enhanced performance

Production speed increase

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

Enhance the line speed of stiff/high tenacity hand wrap stretch film to unlock opportunities for differentiation and cost savings

Middle East and Africa primarily consume hand wrap stretch films (up to 25 µm). The market is transitioning to higher performing stiff/high tenacity hand wrap stretch film (8-12 µm) solutions to ensure improved pallet stability during the transportation of goods.

CLIPSICO PACK is a manufacturer of PE stretch film and PP straps that was founded in Alexandria, Egypt since 1986 directed by **Rami Shohood, Co-founder and CEO**, and exporting its production to European countries, Middle East and Africa. It focuses on supplying the highest performance packaging solutions to their clients through a wide range of products that covers all the global market needs.

CLIPSICO PACK aimed to improve performance of its stretch films in order to penetrate the stiff/high tenacity wrapping film market. Its goal was to increase production capacity and optimize costs while improving performance as measured by tear resistance and winding force.

Solution

CLIPSICO PACK replaced its current resin with Exceed™ Flow m 1716 metallocene polyethylene

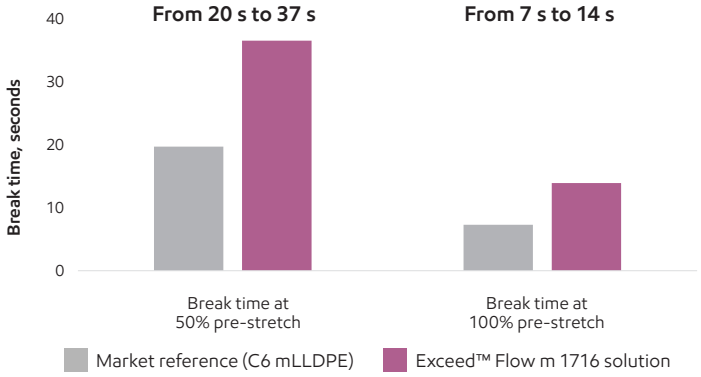
"Exceed Flow m 1716 has allowed us to enter the stiff/high tenacity hand wrap market, where we were previously unable to provide a competitive solution," said **Abd el-Karim Mohamad, Technical Operations Manager, CLIPSICO PACK**. As a result of the enhanced performance using **ExxonMobil Signature Polymers**, we achieved higher line speed at the same gauge and improved holding force compared to the next best alternative. Our close partnership with ExxonMobil Signature Polymers team made sure that we chose the highest performing resin and we had solid test results to determine the best solution."

CLIPSICO PACK | Packaging Solutions

Results

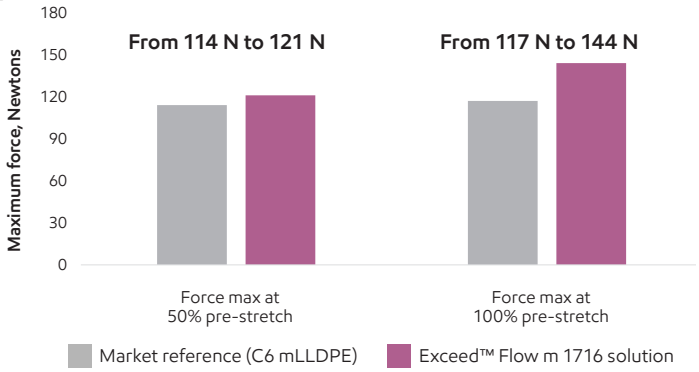
The results of the tests carried out on an ESTL stretch film performance tester (FPT-EVO) were enhanced compared to the previous solution. The introduction of Exceed™ Flow m 1716 metallocene polyethylene enabled a significant decrease in the amount of higher alpha olefins (HAO) polyethylene by 25% in the formulation at a thickness of 12 µm and resulted in:

Tear propagation, break time at 50% and 100% pre-stretch



- At 50% pre-stretch the test exhibited a 17 second increase, which is an 85% increase in break time for Exceed Flow.
- At 100% pre-stretch the test exhibited a 7 second increase, which is a 90% increase in break time for Exceed Flow.

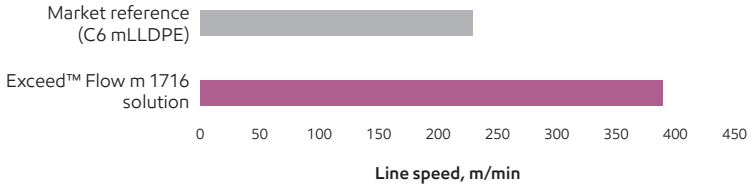
Tear propagation, maximum force at 50% and 100% pre-stretch



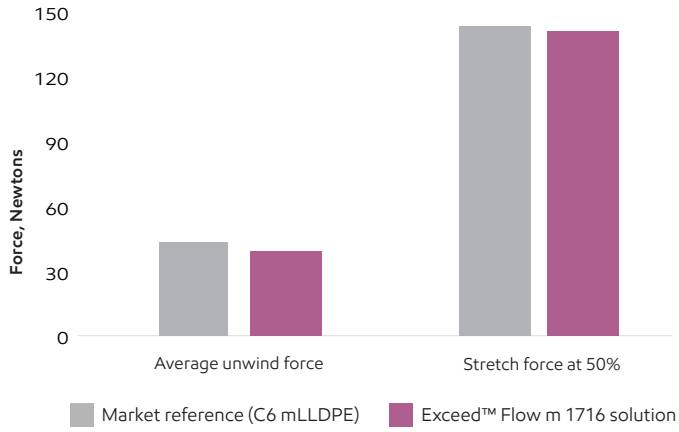
- At 50% pre-stretch the test exhibited a 7 Newton increase, which is up to 6% increase for Exceed Flow.
- At 100% pre-stretch the test exhibited a 27 Newton increase, which is over a 20% increase for Exceed Flow.

Production speed on extrusion line

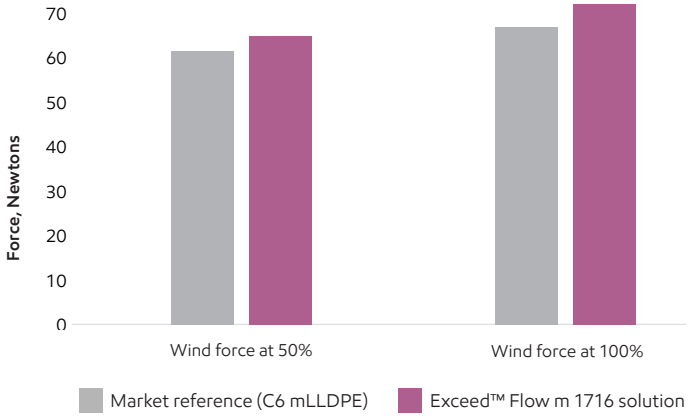
- Exceed Flow offers significantly higher production capacity, an increase of 70%, compared to market reference.



Ultimate test at 1 m/s



- Lower unwind force and stretch force to ease film handling by operators



- Up to 5% higher wind force at 50% and 100% pre-stretch
- Consistent wind force improvement at different pre-stretch values

LIMS request number: R2411-024366. Test method: ExxonMobil method.
ESTL FPT-Ultimate strain: 30 N unwind force, -4% wind strain, 1 m/s line velocity, W stretch pattern, strain increment 10%.
ESTL FPT-Tear: wind strain of 0%, unwind force of 30 N, stretch velocity 1 m/sec, W stretch pattern.

ExxonMobil Signature Polymers

Bring your impossible

What's new: ExxonMobil Signature Polymers

All our polymers are now positioned under a single portfolio brand: ExxonMobil 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
Enable™ 1617	Exceed™ Flow m 1716

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**