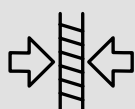


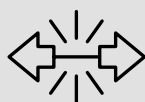


Exceed™ XP Enable™

FilmAmerica delivers thinner greenhouse films and enhanced mechanical performance using Exceed™ Flow+ and Exceed™ Flow performance PE



Thinner
films



High tensile
strength



High tear
resistance



High
dart drop
resistance

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

Challenge

Develop thinner greenhouse films with enhanced mechanical performance

FilmAmerica, a leading converter of agricultural films based in Chile, wanted to develop thinner greenhouse films with similar or better mechanical and optical properties than the market reference films. Thinner films with enhanced performance would deliver a solution that consumed less material, creating potential opportunities to increase market share by being more competitive with imported films. FilmAmerica also wanted the films to be able to protect different types of crops.

Solution

Exceed™ XP and Enable™ performance PE delivered greenhouse film solutions that consumed less material

FilmAmerica and ExxonMobil collaborated to develop a new greenhouse film formulation that delivered films with excellent mechanical performance while using less material to meet the needs of customers/farmers. Film solutions for thermal and non-thermal greenhouses were developed.

ExxonMobil's technical and commercial support team, which recommended the use of Exceed™ XP and Enable™ performance PE, was key to developing a solution with a film gauge of 120-microns, about 20 percent less than the 150-micron market reference film.

In testing, the new greenhouse film solution delivered high tensile strength, superior dart drop and MD tear resistance, offering a potentially longer service life. By reducing the thickness of the film, less material was consumed which also allowed for the potential to generate less plastic waste during manufacturing.

"Collaborating on the development of this new film with the ExxonMobil team was of genuine value. It involved a series of development stages, the highlight of which was the formulation development process with its iteration phases to improve the quality of the film," said Horacio Castro, Plant Manager, FilmAmerica. "Searching for the optimal processing parameters to achieve a thinner film with high mechanical resistance which can reduce waste was also important. The success of the project was due to a great synergy between FilmAmerica and ExxonMobil."

Results

Exceed™ XP and Enable™ based greenhouse films create new business opportunities

Exceed XP and Enable performance PE allowed the thickness of the new formulation greenhouse films to be reduced by 20 percent to 120-microns, while important mechanical properties were improved.

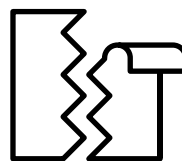
Data from tests conducted in the ExxonMobil laboratory show that the greenhouse films that included Exceed XP and Enable performance PE had an MD tear resistance that is 1.7x higher than a customer reference film, and 1.3x higher than a market reference thermal greenhouse film. For non-thermal greenhouse films, MD tear resistance is 2.5x higher and dart drop resistance 1.2x higher than a customer reference film.

The solution enabled the amount of LDPE in the formulation to be reduced considerably, which can enable performance improvements.

Delighted with the results, FilmAmerica has created a new family of greenhouse films. "The development of this new high-quality greenhouse film family has been transformative for FilmAmerica," said Francisca Montes, Marketing Manager, FilmAmerica. "Our objectives with respect to delivering a solution with the sustainability benefit of consuming less material through downgauging, and meeting the needs of our customers have been successfully achieved. This new solution has made us more competitive, creating new business opportunities."

THERMAL GREENHOUSE FILMS

MD tear resistance

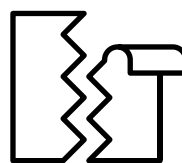


1.7x higher
than customer reference film

1.3x higher
than market reference film

NON-THERMAL GREENHOUSE FILMS

MD tear resistance

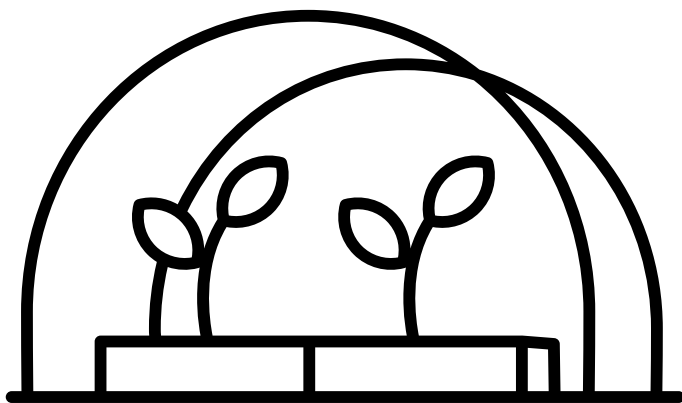


2.5x higher
than customer
reference film

Dart drop resistance



1.2x higher
than customer
reference film



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.



© 2024 ExxonMobil. ExxonMobil, the ExxonMobil logo, the interlocking "X" device and other product or service names used herein are trademarks of ExxonMobil, unless indicated otherwise. This document may not be distributed, displayed, copied or altered without ExxonMobil's prior written authorization. To the extent ExxonMobil authorizes distributing, displaying and/or copying of this document, the user may do so only if the document is unaltered and complete, including all of its headers, footers, disclaimers and other information. You may not copy this document to or reproduce it in whole or in part on a website. ExxonMobil does not guarantee the typical (or other) values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, freedom from patent infringement, suitability, accuracy, reliability, or completeness of this information or the products, materials or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. This document is not an endorsement of any non-ExxonMobil product or process, and we expressly disclaim any contrary implication. The terms "we," "our," "ExxonMobil Product Solutions" and "ExxonMobil" are each used for convenience, and may include any one or more of ExxonMobil Product Solutions Company, Exxon Mobil Corporation, or any affiliate either directly or indirectly stewarded.

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. Here’s a quick overview of brands and grade names that will change in this document:

Legacy Commercial Name	New Commercial Name
Exceed™ XP	Exceed™ Flow+
Enable™	Exceed™ Flow

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