



Exceed™ Stiff+

## Inplac uses ExxonMobil Signature Polymers to create tougher heavy duty sacks without requiring upgauging



Bag drop



Tear resistance



Easy processing

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

**Improve HDS mechanical properties while maintaining excellent extrusion capacity, machinability, and load stability without upgauging.**

Heavy duty sacks (HDS) are ideal for packaging heavy and bulky products. As a leader in HDS production, Inplac manufactures 25kg and 50kg valve and form-fill-seal bags for markets like agribusiness, food, construction, chemicals, and mining. Known for quality, safety, and innovation, Inplac markets across the world.

To strengthen its presence in Brazil and the U.S., Inplac aimed to develop an HDS solution that met various technical specifications without upgauging, especially for 50kg packages. The challenge was to outperform the incumbent HDPE-rich solution at 102.5µm, while maintaining excellent extrusion capacity, machinability, and load stability.

### Solution

Inplac engaged with the ExxonMobil Signature Polymers technical team, who recommended leveraging Exceed Stiff+ m 0926, a high-performance metallocene polyethylene resin known for its exceptional balance of toughness and stiffness. Exceed Stiff+ performance polyethylene can improve mechanical properties and streamline production processes in flexible packaging applications and can provide:

- **Outstanding tear resistance:** Particularly in the machine direction (MD), making it ideal for heavy duty sack (HDS) applications.
- **Excellent puncture and dart drop resistance:** Enhances the durability and reliability of packaging.
- **Process simplification:** Allows for the development of a single structure/formulation that meets a wide range of end-user specifications, reducing the need for multiple formulations.

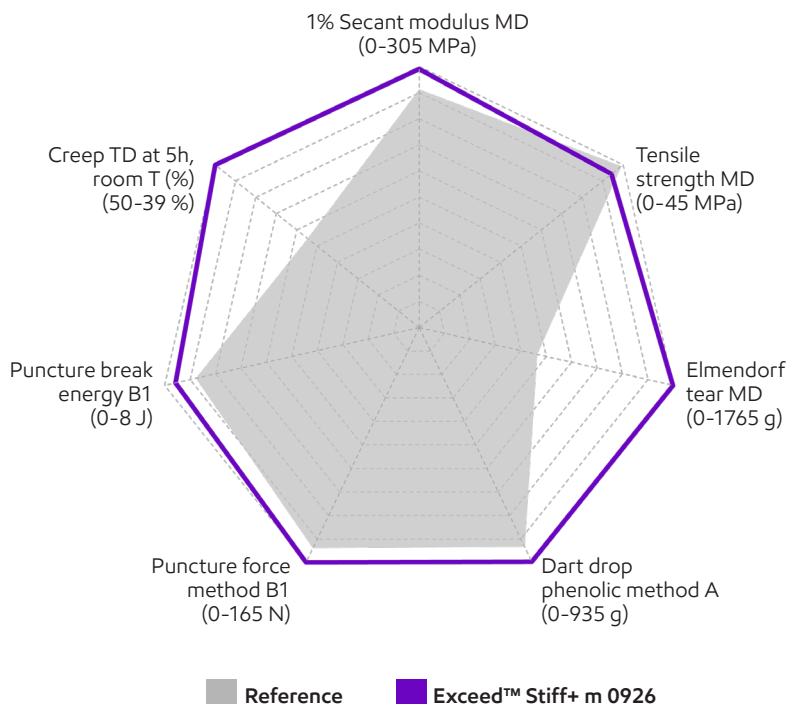
## Results

The Inplac collaboration with ExxonMobil led to the development of a new HDS packaging solution for films at 102.5µm. Exceed™ Stiff+ m 0926 resin played a pivotal role in achieving superior tear resistance in MD and creep performance, while maintaining good dart drop and puncture resistance at a higher film stiffness, outperforming the incumbent solution.

Inplac also performed a bag drop test, with impressive results. Bags survived 10 drops from a 3-meter height without failures as well as a 9-meter height bag drop without failure. The use of Exceed Stiff+ polymers simplified Inplac's processes and developed one formulation to meet a wide range of end-user specifications.

"We previously required at least one formulation per market," stated Roberto Marcondes de Mattos, co-founder of Inplac. "Through our collaboration with ExxonMobil, we have one formulation meeting different specific requirements, for multiple markets. This innovation has strengthened our market position and opened new business opportunities with a single packaging solution."

Now positioned to meet the market expansion and demand, Inplac currently operates four sealing-cutting machines twenty-four hours a day and will install two more machines by the end of May utilizing the Exceed Stiff+ resin-based formulation created with ExxonMobil Signature Polymers.



## Test methods

Property	Based on
1% Secant modulus	Based on ASTM D-882
Tensile properties	Based on ASTM D-882
Elmendorf tear	Based on ASTM D-1922
Dart drop	Based on ASTM D-1709
Puncture	ExxonMobil method
Creep at 80% yield and room temperature	ExxonMobil method

Data from tests performed by or on behalf of ExxonMobil

**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 business goals.



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## 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. The composition of the products are unchanged, it is only the names that updated. We will be making these modifications over the next few months, through mid 2025, 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 been changed in this document:

<b>Legacy Commercial Name</b>	<b>New Commercial Name</b>
Exceed™ S 9243	Exceed™ Stiff+ m 0926

Want to see what's changed in our portfolio? Go to [exxonmobilchemical.com/sptransform](https://exxonmobilchemical.com/sptransform)