

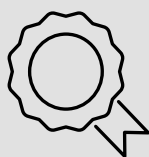


Exceed™ Stiff+ m performance polymers

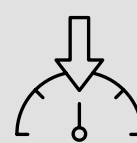
## Plastilene and Reciclene collaborate with ExxonMobil to develop collation shrink films that maintain packaging integrity with the incorporation of recycled content



Incorporated recycled content



Maintains packaging integrity



Downgauging opportunity

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

**Incorporate recycled content into collation shrink films while maintaining performance**

Plastilene, headquartered in Bogotá, Colombia, is a plastics converter with over fifty years of experience in the Andean region. Plastilene had previously developed a high performance solution using 100% virgin PE resin, with Exceed™ Stiff+ m 0238 metallocene polyethylene. Collation shrink film is a recognized application where Exceed Stiff+ can deliver high value in terms of holding force and shrink properties. The company decided to develop a formulation incorporating Post Consumer Recycled content (PCR) in the structure with the requirement that package integrity was maintained.

“Our customers demand that films containing recycled content perform as well as those featuring virgin resin,” said Ricardo Estrada, Sustainability & Global Procurement VP, Plastilene. “To accomplish this task, it is important to secure high-quality post-consumer content.”



Waste picker segregating materials at Recitoc

### Solution

**High quality post-consumer content combined with formulation advice and testing support**

Effectively incorporating recycled content requires contributions from across the value chain. Local plastics collectors are critical to correctly classify the post-consumer material. They are a critical resource for this type of product development. Plastilene supports the collectors by providing them with compactors, trucks, and other resources.

ExxonMobil’s role in the project involved not only providing the resin but also collaborating with PCR supplier Reciclene to understand the recycle composition in order to make better formulation suggestions.

The process started with a close collaboration between the Plastilene Group procurement team and waste pickers associations like Recitoc who collect and sort the plastic residues following instructions and training delivered by Plastilene Group. “For waste pickers, recycling has turned into a work opportunity where not only can it help change our life quality but also that of our families. One of the materials that has generated a positive impact to waste collectors is the plastic that is picked and sold to Reciclene” said Marcela Ramos, Legal Representative, Recitoc.

The content is transported to Reciclene where it is cleaned and processed to make CICLOLENE PCR standardized resin. "This is where collaboration across the value chain is essential" said Estrada. "We can produce high-quality commercial PCR resin which, when combined with ExxonMobil performance polymers, enables Plastilene to extrude high performance collation shrink film," he noted.

To reach the targeted performance, ExxonMobil collaborated with Reciclene to make formulation suggestions. This involved performing a detailed analysis at the ExxonMobil Technology Center to characterize six different types of PCR and decide which one was the best fit for this application.

## Results

### Supporting plastics circularity

As a result of the value chain collaboration, Plastilene produced collation shrink film incorporating recycled content while maintaining performance. Exceed™ Stiff+ m 0238 provides high holding force to support the inclusion of PCR.

This development was designed to contribute to the Plastilene Group Sustainable Innovation Strategy Commitments, and to support extended producer responsibility (EPR) local requirements for brand owners.

"In Postobón we are committed to circular economy of plastics, valorization of materials and reduction of packaging contamination, that is why we highly value those suppliers like Plastilene that walk with us through that path and support compliance of our goals and challenges" said Martha Ruby Falla, Sustainability Director, Postobón.

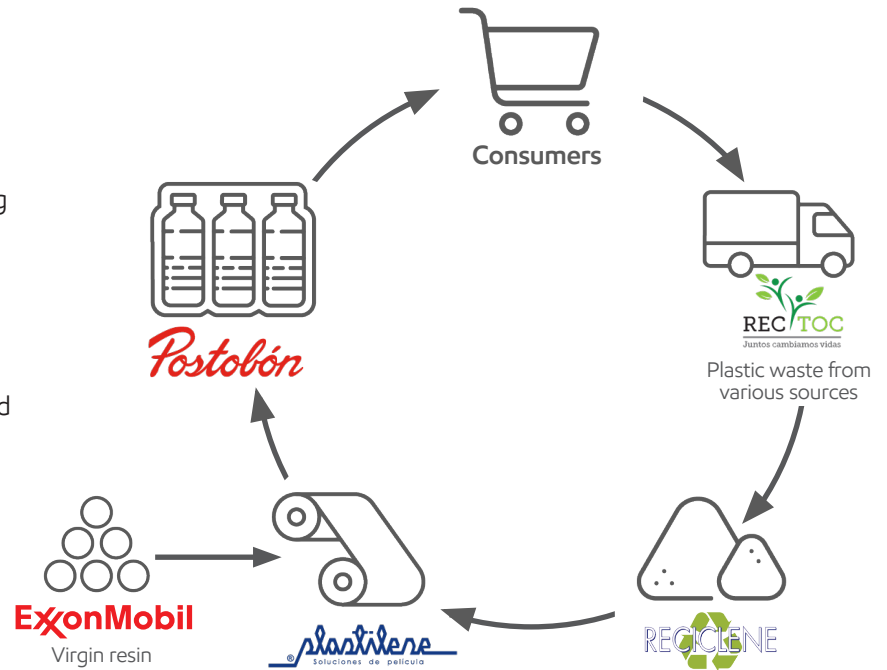
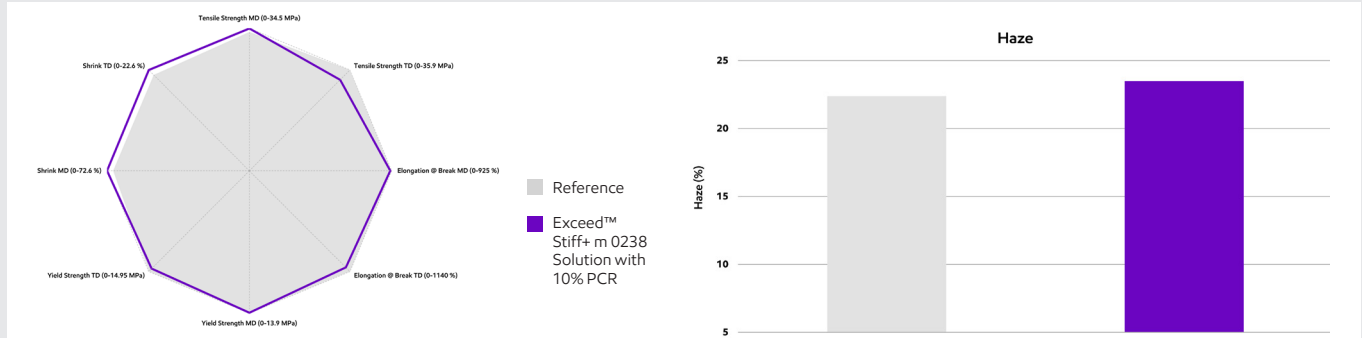


Image shows a conceptual plastic circularity concept applied to this case study. Various recycled content sources are collected and then incorporated into the final shrink film to help maintain consistent quality of the recycled content.

### Test results reported by Plastilene



Test item	Test methods followed by Plastilene
Tensile properties	ASTM D882
Haze	ASTM D1003
Shrink	Plastilene method

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## 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. 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 will be changed in this document:

### **Legacy Commercial Name**

Enable™ 4002MC

### **New Commercial Name**

Exceed™ Stiff+ m 0238

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