



Exceed™ Flow Exxtra™ Seal

A new era of high performance thermoforming films: How ExxonMobil, W&H, and Plastilene redefined optical and mechanical performance



Superior
optical clarity
and gloss



Enhanced
puncture
resistance



Enhanced
impact
resistance



Improved
thermoforming
behavior

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

Elevating local thermoforming film performance.

Grupo Plastilene faced the challenge of elevating locally produced thermoforming film performance. By implementing Tube Water Quench (TWQ) blown film technology, the company developed a high performance local solution that matches and replaces imported structures while delivering premium optics, mechanical strength, barrier performance and strong shelf impact.

Achieving these demanded structures would require:

- **Reliable hermetic sealing**, even under light contamination.
- **Exceptional clarity and gloss** to enhance product presentation.
- **Optimized materials and layer ratios** balancing barrier, thermoformability, and recognized pathways.

Beyond lab qualification, the film had to prove itself in real world thermoforming applications—especially meat and cheese packaging—where films extruded using TWQ technology are characterized by a more amorphous structure, higher puncture resistance, higher optical quality, and low curling providing clear advantages versus regular coex-barrier films.

Solution

TWQ capability, high-performance resins, and Plastilene's conversion expertise.

A longtime regional leader in thermoforming films, Grupo Plastilene strengthened its technology platform by integrating TWQ extrusion from Windmöller & Hölscher (W&H), in close collaboration with ExxonMobil. Prior to this investment, conventional blown barrier technology limited performance in deep-draw applications. The adoption of TWQ in 2021 marked a transformative leap in optical, mechanical, and thermoforming capability.

“TWQ expands the design space for barrier thermoforming films — cast-like optics, stable gauge, and a wider sealing window that enables deeper draws with less scrap. It’s the right foundation to replace imports with local quality.”

Diego Amaya, Sales Manager LATAM, W&H

TWQ’s rapid water-quench cooling delivers:

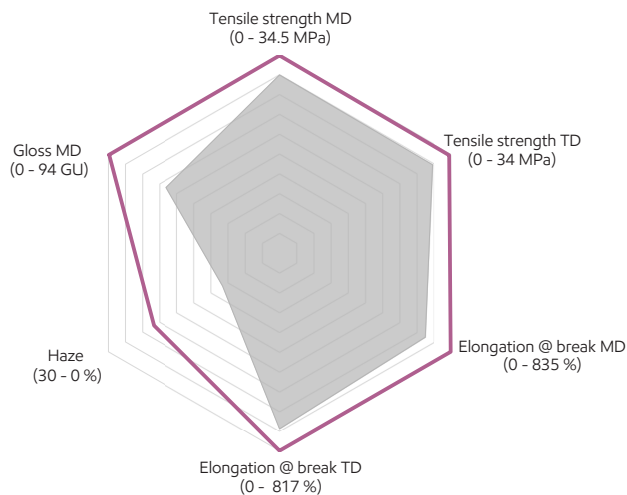
- Outstanding clarity and gloss
- Superior puncture and impact resistance
- Improved thermoforming behavior
- Excellent gauge consistency—outperforming conventional blown technologies

To fully leverage TWQ, Plastilene incorporated ExxonMobil’s high-performance polyethylene resins:

- **Exceed™ Flow m 0520**, providing toughness and deep-draw durability.
- **Exxtra™ Seal POP 2008**, ensuring robust hermetic sealing and contributing to exceptional optical performance.

This combination enabled the development of medium- and high-barrier structures with superior strength, clarity, and sealability. Importantly, there are no changes in oxygen or water vapor barrier values between the two technologies, with both delivering satisfactory results of OTR < 1.0 cc/m²·day and WVTR < 3.0 g/m²·day — levels fully suitable for the products intended to be packaged using these solutions.

Today, Plastilene is the only converter in Colombia operating TWQ technology, delivering a unique, locally produced thermoforming solution of global class performance.



● Water quench film ● Blown film

Data from tests performed by Plastilene.

Results

Proven performance, operational gains, and a new value proposition for the market.

The collaboration between Plastilene and ExxonMobil represents a technological milestone for Colombia’s flexible barrier thermoforming packaging sector:

- **Exceptional thermoforming performance**, with stable deep draws and high puncture resistance.
- **Enhanced optical properties**, elevating product visibility and shelf appeal.
- **Operational efficiency**, supported by ExxonMobil’s formulation and processing expertise, shortening development cycles and reducing scale-up waste.
- **Local supply security**, giving brand owners access to high-performance barrier films produced domestically with consistent quality.
- **Business expansion**, enabling Plastilene to enter new, performance-driven market segments.

Real-world validation with Carnes Casablanca confirmed strong forming behavior, excellent sealing, and premium shelf appearance.

Conclusion

A new regional benchmark in thermoforming performance

Combining TWQ technology, ExxonMobil’s advanced resin portfolio, and Plastilene’s conversion expertise sets a new benchmark for thermoforming films. The result is a solution that delivers world class performance, strengthens local competitiveness, and offers a platform for continuous improvement through innovation. It enables further advancements such as improved material efficiency and next-generation barrier solutions.

“I can’t imagine distributing cold cuts, pork, or chicken in glass or cardboard... The first purchase driver is freshness, and a film that allows the best product display is a total win.”

Javiv Barjun,
General Manager,
Carnes Casablanca

ExxonMobil
Signature Polymers

Bring your impossible



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