

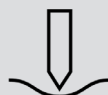


Exceed™ Exceed™ Tough Exceed™ Flow

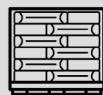
Hindustan Coca-Cola Beverages and Filmtec collaborated with ExxonMobil Signature Polymers to create a high performance 17µm nano cast stretch film solution



High holding
force



Excellent
puncture
resistance



Consistent
wrapping force



Downgauging
opportunity

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

Material efficiency remains a central focus for industries worldwide, with many leading companies actively seeking innovative and cost-effective solutions for product design.

In the industrial packaging sector, three key players — Hindustan Coca-Cola Beverages (HCCB), Filmtec LLP (Filmtec) and ExxonMobil Signature Polymers — joined forces to transform packaging practices through the adoption of nano cast stretch film technology.

HCCB, a prominent bottling partner of The Coca-Cola Company and a leader in India's beverage industry, aimed to increase material efficiency of plastics in its industrial packaging. Filmtec, known for its cutting-edge stretch film production capability, pioneered the nano cast stretch technology that can produce stretch films with up to 55 layers. Working closely with ExxonMobil Signature Polymers, the project's aim was to create a downgauged cast stretch film without compromising on the mechanical performance such as high holding force and stretchability while improving the overall production process for HCCB.

Solution

The project was focused on downgauging the conventional 23µm cast stretch film to 17µm, reducing plastic packaging thickness without compromising on containment force. Leveraging the technical expertise of the ExxonMobil Signature Polymers team and Filmtec's advanced film conversion capabilities, the team created an innovative nano cast stretch film solution using ExxonMobil Signature Polymers high performance Exceed™ Tough m 3812, Exceed™ m 3518 and Exceed™ Flow m 1716 resins. The solution led to 26% reduction in film thickness.

Results

Reduced material consumption per pallet

The new 17µm nano cast stretch film demonstrated superior performance, achieving a stretch ratio of over 300%, compared to the 200% stretch ratio of a conventional 23µm film.

This improved downgauged solution led to an estimated 40% reduction in total material consumption in the stretch film per pallet.

The increased number of pallets wrapped per roll can lead to a reduction in the frequency of roll change, which can positively impact logistics and inventory.

Metric	23µm reference	17µm nano film	Change
Roll weight (kg)	15	15	--
Number of wraps per pallet	24	24	--
Weight of film per pallet (g)	470	280	-40%
Number of pallets wrapped per roll	32	53	+65%
Net material reduction with nanostretch	Up to 40%		

Product performance

Despite the reduced thickness, the 17µm nano stretch film matched the performance* of the conventional film in several key areas:

- Containment force
- Puncture resistance
- Wrapping consistency

Additionally, the downgauged nano stretch film also successfully passed HCCB's rigorous 500km transit trial, validating its reliability in real world conditions.

*Based on validation tests performed by HCCB.



Conclusion

This collaboration between HCCB, Filmtec and ExxonMobil Signature Polymers showcased the strength of industry partnerships in delivering scalable, impactful and innovative solutions that can help companies leverage the material efficiency of plastics. This innovative nano stretch film solution can help HCCB meet their goal of reducing their plastic packaging thickness.

ExxonMobil
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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.