



Exceed™ Tough+

Help builders protect their infrastructure with extremely damage-resistant liners

Exceed™ Tough+ performance polymers offer a new benchmark for dart impact resistance in construction class-A and other highly demanding solutions that require eXtreme Performance. This new product portfolio enables converters to fabricate extremely-damage-resistant film that can improve the ability to protect and preserve buildings for potential improved energy efficiency and safety.



Extreme dart impact resistance

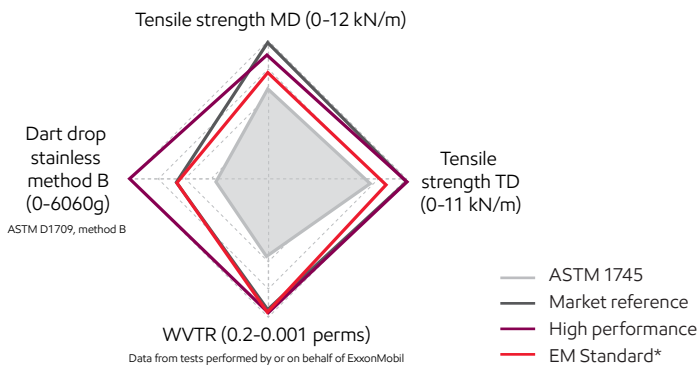


Exceptional melt strength



Enhanced flexibility

Delivered attributes	Derived benefits and potential value
Exceptional melt strength	<ul style="list-style-type: none">Potentially higher extrusion outputOptions for thicker liners while retaining performance
Extreme dart impact resistance	<ul style="list-style-type: none">Surpasses water vapor retarders standard specification class-ADurability for extreme damage resistanceOptions to tailor cost-performance solutions with linear PE blendsOptions to tailor toughness via optimized formulations
Enhanced flexibility	<ul style="list-style-type: none">Efficient installation for builder



Exceed Tough+ performance polymers deliver outstanding dart drop resistance, creating a new performance benchmark for construction liners and creating opportunities to optimize formulations using blends.

*EM Standard: 48% Exceed™ Tough+ m 0211.ML +, 20% CaCO3 MB +, 30% ExxonMobil™ C4LL 1018 +, 2% color MB

Extremely damage resistant liners

Exceed™ Tough+ performance polymers enable converters to efficiently produce incredibly tough construction class-A liners.

These polymers with a 0.2 MI (melt index) at 0.911 density offer a new performance benchmark for construction liner applications, compared to existing linear polyethylene resins. In 10 mil/250 µm films made with Exceed Tough+ m 0211, the dart impact resistance exceeds the class-A standard specification of 2,200 grams.

The extreme performance of the construction liners provides protection during installation.

Derived benefits include:

- Reduced water vapor penetration for potential energy efficiency and reduced risk of mold formation
- Stronger, more puncture resistant film provides a potential reduction in exposure to make structures safer

Innovation opportunities

Converters and producers are able to create new-to-the-world construction liner solutions or they can improve existing liner solutions.

Options include:

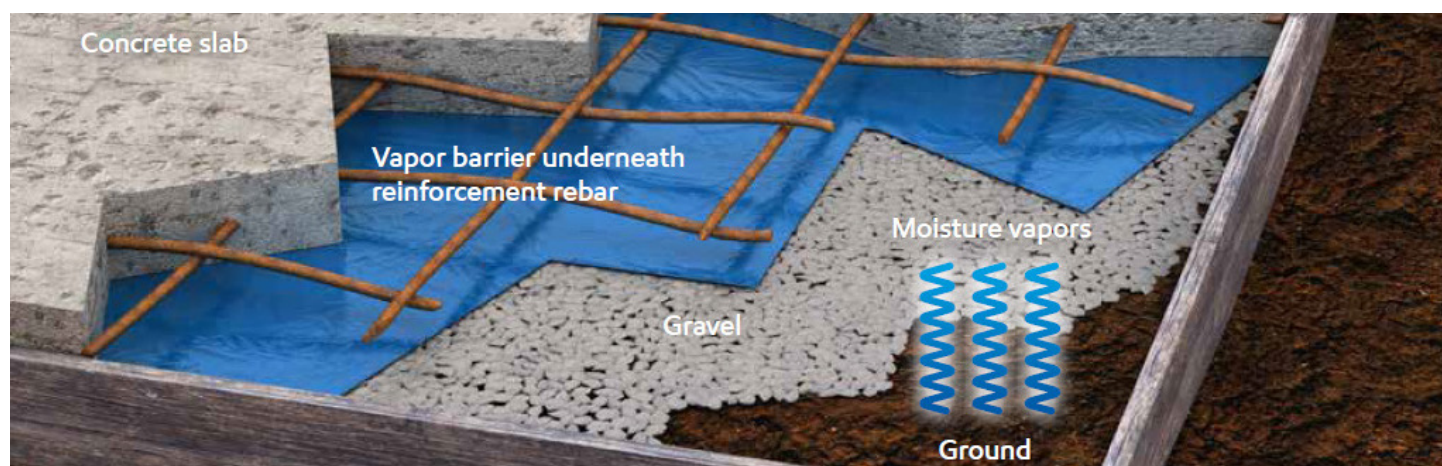
- Tailored liner formulations with lower density linear PE for balanced toughness/barrier performance
- Higher outputs may be possible by leveraging the high melt strength of Exceed Tough+, decreasing dependence on LDPE and enhancing toughness.

Cost optimization

The extreme toughness and bubble stability of Exceed Tough+ allows converters to optimize film formulations with linear blends. These polymers also offer converters opportunities to increase output and improve film consistency even with large bubble sizes. This increases machine utilization and reduces waste from reprocessing.

Grade	Melt index (g/10 min)	Density (g/cm ³)	Melt flow ratio (I ₂₁ /I ₂)	Distinguishing features
Exceed Tough+ m 0211	0.20	0.911	41	<ul style="list-style-type: none">▪ High toughness▪ Exceptional melt strength▪ Enhanced flexibility

Test methods based on: Melt index and Melt flow ratio - ASTM D1238; Density - ExxonMobil method



Contact us for more information: exxonmobilchemical.com/pe

ExxonMobil
Signature Polymers

Bring your impossible



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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, it is the names that change. Everything else remains the same. We will be making these modifications over the next six months 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 changed in this document:

Legacy Commercial Name	New Commercial Name
ExxonMobil™ LLDPE LL1001	ExxonMobil C4LL 1018
Exceed XP 7021	Exceed Tough+ m 0211

Some of our existing Exceed, Achieve, Paxon and premium PP/HD grades have moved to Exceed brand; most existing Enable grades have moved to Exceed Flow[+]; most of our existing Exceed XP grades have moved to Exceed Tough[+]; most of our existing Exceed S grades have moved to Exceed Stiff[+]. More details here https://www.exxonmobilchemical.com/en/brands/signature-polymers/exceed_high_performance_polymers or contact your ExxonMobil representative to know more.

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