



Exceed™ Stiff+

# Stronger geomembrane solutions help provide advanced performance for tough load applications



Outstanding mechanical properties



Environmental stress crack resistance



Processability

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.

Exceed™ Stiff+ performance polymer provides outstanding mechanical properties, environmental stress crack resistance (ESCR) and processability for geomembrane films. The unique properties of Exceed Stiff+ m 0238 allow the production of stronger films compared to existing market alternatives, delivering geomembrane sheets with high durability and excellent chemical resistance. In addition, the exceptional processability offered by this polymer improves processing consistency for large bubble sizes.

**Suggested uses include:**

- Geomembranes
- Pond liners
- Geotextiles

**Melt index**  
g/10 min

0.25

**Density**  
g/cm<sup>3</sup>

0.940

**Melt flow ratio**  
M121/M12

>60

Test methods based on: Melt index and Melt flow ratio - ASTM D1238;  
Density - ASTM D1505

Delivered attributes	Derived benefits and potential value
High melt strength	Bubble stability
Toughness (puncture, tensile, tear)	Durability
High ESCXR	Opportunity for long service life

## Market comparisons

A monolayer film based on Exceed™ Stiff+ m 0238 performance polymer delivers the following benefits:

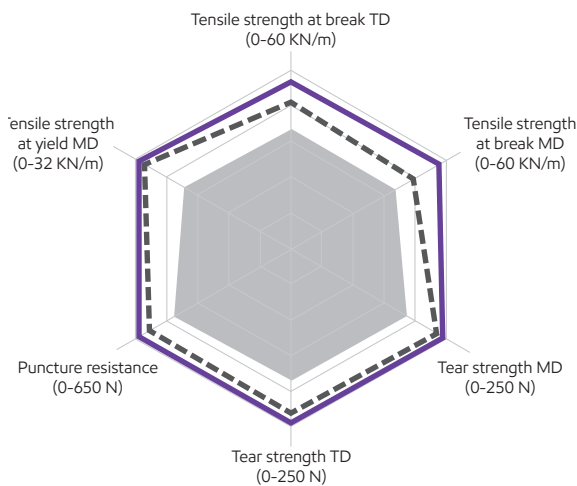
- High durability
- Good processability
- Excellent chemical resistance

## Sheet integrity for optimum environmental protection

Using Exceed Stiff+ m 0238 in your formulation, you can now produce improved films for geomembrane applications. With Exceed Stiff+ m 0238, geomembrane films can be fabricated to offer improved toughness and puncture performance that exceeds GM13 standards.

Geomembrane films made using Exceed Stiff+ m 0238 offer improved liner integrity and greater flexibility than HDPE. Because of this enhancement in flexibility, geomembrane films made with Exceed Stiff+ m 0238 can be prefabricated. Prefabricated sheets means fewer field seams so customers will realize savings in both job time and costs.

**Figure 1:** Selected properties of a 1.5 mm Exceed Stiff+ m 0238 formulated film versus a commercial 1.5 mm HDPE film.



## Cost optimization

Exceed Stiff+ m 0238 provides excellent processability for consistent film production and high-speed operations. Savings can be achieved across the value chain through greater durability, compared to films made with conventional geomembrane sheet formulations. Less manufacturing and post-consumer waste can be realized during installation because of the high integrity of sheets produced using Exceed Stiff+ m 0238.

## In summary

If you're looking for, stronger films to improve high integrity geomembrane sheets with an enhanced environmental footprint look no further than Exceed Stiff+ m 0238.



**Table 1:** Product data for Exceed Stiff+ m 0238 formulated film and the reference film.

	Melt index (g/10 min)	Density (g/cm <sup>3</sup> )	Exceed Stiff+ m 0238 1.5 mm monolayer film	Reference MDPE 1.5 mm film	GM13 (smooth) 1.5 mm film
Layer ratio			1	1	1
Exceed Stiff+ m 0238 MDPE	0.25	0.940	●	●	
Carbon black masterbatch			●	●	
Anti oxidant masterbatch			●	●	

Test methods based on: Tensile - ASTM D6693; Puncture resistance - ASTM D4833; Tear resistance - ASTM D1746

**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 their business goals.



© 2025 ExxonMobil. ExxonMobil, the ExxonMobil logo, the interlocking "X" device and other product or service names used herein are trademarks of ExxonMobil, unless indicated otherwise. This document may not be distributed, displayed, copied or altered without ExxonMobil's prior written authorization. To the extent ExxonMobil authorizes distributing, displaying and/or copying of this document, the user may do so only if the document is unaltered and complete, including all of its headers, footers, disclaimers and other information. You may not copy this document to or reproduce it in whole or in part on a website. ExxonMobil does not guarantee the typical (or other) values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, freedom from patent infringement, suitability, accuracy, reliability, or completeness of this information or the products, materials or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. This document is not an endorsement of any non-ExxonMobil product or process, and we expressly disclaim any contrary implication. The terms "we," "our," "ExxonMobil Product Solutions" and "ExxonMobil" are each used for convenience, and may include any one or more of ExxonMobil Product Solutions Company, Exxon Mobil Corporation, or any affiliate either directly or indirectly stewarded.

## 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
Enable™ 4002	Exceed™ Stiff+ m 0238

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](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)