



Exceed™ Tough+ Exxtra™ Seal

Cross-laminated PE Film

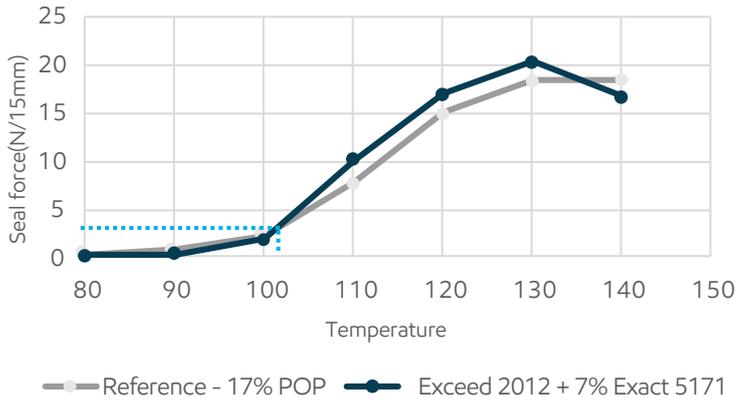
Cross laminated PE films made with Exxtra™ Seal, Exceed™ Tough+ and Exact™ polyolefin elastomers (POE) deliver excellent tear and toughness properties, while providing downgauging opportunities. Significant cost savings are possible through a higher laminator speed, lower plastomer content and lower lamination temperature.

	<p>Outstanding tear strength</p>		<p>Downgauging opportunity</p>		<p>Extreme dart drop</p>		<p>Excellent tensile strength</p>
--	----------------------------------	--	--------------------------------	--	--------------------------	--	-----------------------------------

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.

Delivered attributes	Derived benefits & potential value
<ul style="list-style-type: none"> ▪ Outstanding tear and toughness 	<ul style="list-style-type: none"> ▪ Potential for downgauging and reducing material use ▪ Longer durability and film life ▪ Less wastage
<ul style="list-style-type: none"> ▪ Lower plastomer content ▪ Lower lamination temperature ▪ Lower SIT 	<ul style="list-style-type: none"> ▪ Cost savings
<ul style="list-style-type: none"> ▪ Film processing 	<ul style="list-style-type: none"> ▪ Excellent bubble stability and extrudability ▪ Higher line speed and output without any blocking issues ▪ Energy savings

Lamination layer solution with Exxtra™ Seal performance polymer and Exact™ POE – 2 ply

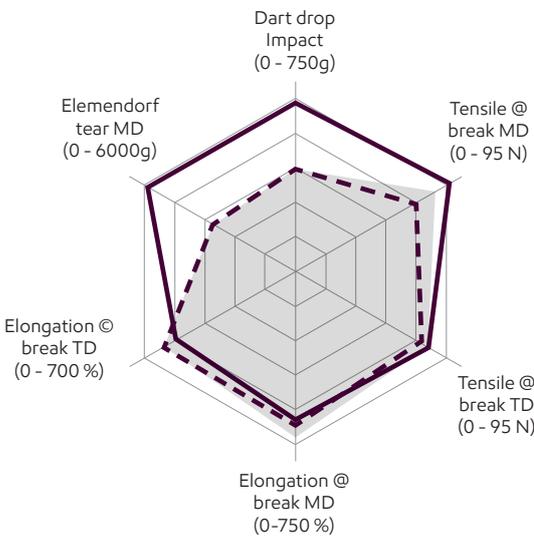


Data for 64 micron 3 layer blown film - Data Traceability - LIMS: R2108-004661

Exxtra Seal m 2012 + Exact 5171 based solution offers:

- Cost effective: lower plastomer content
- Comparable seal initiation temperature
- Reduced blocking on blown film line

Core and inner layer solution with Exceed™ Tough+ performance polymer – 2 ply laminate (90 gsm)



Data Traceability - LIMS: R2108-004661

Exceed Tough+ and C4 LLDPE based solution offers:

- Comparable mechanical performance as compared to C6-LLDPE based reference

Exceed™ Tough+ m 0814.ML based solution offers:

- Step-out mechanical properties with excellent dart and tear
- Scope for downgauging

	Reference 64 µm	Exceed Tough+ m 0814.ML 64 µm	Exceed Tough+ and C4 LLDPE 64 µm
Ratio	15% /70% /15%	15% /70% /15%	15% /70% /15%
Lamination	C6 LLDPE + 17% POP + 3% UV MB + 1% PPA MB	Exxtra Seal m 2012.MA + Exact 5171 + UV MB + PPA MB	Exxtra Seal m 2012.MA + Exact 5171 + UV MB + PPA MB
Core	C6 LLDPE + HTA001+ UV MB	Exceed Tough+ m 0814.ML + ExxonMobil™ HD 5295 + UV MB	ExxonMobil™ C4LL 1018.AV + ExxonMobil HD 5295 + UV MB
Inner	C6 LLDPE + UV MB + PPA MB	Exceed Tough+ m 0814.ML + UV MB + PPA MB	Exceed Tough+ m 1019.ML + UV MB + PPA MB
HAO content	69.7	67.8	27.8

Test	OP number	Test method based on	Key grades	MI (g/10 min)	Density (g/ccm)
Tensile at Break	BRDTC OP-114	ExxonMobil method	Exxtra Seal m 2012.MA	2	0.912
1% Secant Modulus	BRDTC OP-114	ExxonMobil method	Exact 5171	1	0.868
Elmendorf Tear	BRDTC OP 137	ExxonMobil method	Exceed Tough+ m 0814.ML	0.8	0.914
Dart Impact	BRDTCOP-113, STC 114	ExxonMobil method	Exceed Tough+ m 1019.ML	1	0.918
Seal Strength	BRDTCOP-118	ExxonMobil method	ExxonMobil HD 5295	0.32*	0.952
Puncture (needle) properties	STC 106	ExxonMobil method	C6 LLDPE	0.85	0.918
Seal Strength	BTEC PLFL-242.001	ExxonMobil method	C8 POP	1	0.87
			ExxonMobil C4LL 1018.AV	1	0.918

*MI at 5 kg load

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 and their business goals.



© 2026 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.