High performance air pillow pouch and air tube bag solutions for secure package delivery

The rapid growth of e-commerce is generating a new demand for packaging globally. Packaging needs to ensure transit safety in variable and challenging delivery conditions. Inflatable cushion bags are commonly used for protective packaging — filling voids, and cushioning fragile goods within a box. These bags help to reduce the friction and risks associated with impact and vibration during the transportation and delivery process.

A key requirement for protective packaging is strength and durability. Yet there is a growing requirement that the packaging industry generate less plastic waste, and be more cost effective. So how can manufacturers do both? ExxonMobil Chemical offers a broad portfolio of performance polyethylene (PE) polymers designed to help manufacturers around the world meet their downgauge needs, simply and easily.

Downgauge opportunity

Strength and durable performance

Air pillow pouch

LLDPE based film, commonly used in North America and Europe

Improved performance with Exceed™ 1018 performance polymer:

- Improved tensile force at break and puncture resistance
- Enhanced dart impact
- Balanced film toughness and stiffness

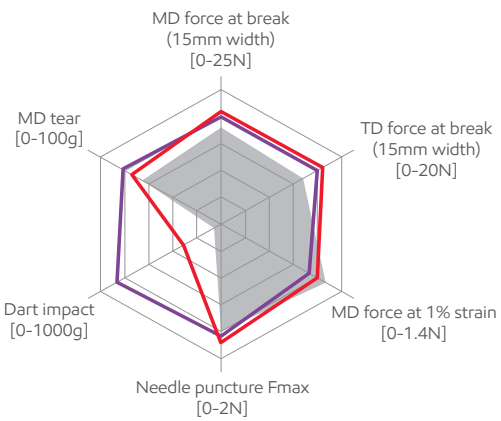
Downgauge solution with Exceed™ XP 8784 performance polymer provides:

- Comparable tensile force at break and puncture at 20% downgauge
- Excellent dart impact
- Cost saving opportunity

Solutions data

	Reference (25µm)	ExxonMobil performance improvement (25µm)	ExxonMobil downgauge (20µm)
Ratio	1 / 2 / 1	1 / 2 / 1	1 / 2 / 1
Outer	C8-LLDPE	Exceed 1018	Exceed XP 8784
Core	mMDPE	30% HDPE 70% Exceed 1018	40% HDPE 60% Exceed XP 8784
Inner	C8-LLDPE	Exceed 1018	Exceed XP 8784

C8-LLDPE (density 0.920g/cm^3, MI 190°C/2.16kg, 1.0 g/10min);
mMDPE (density 0.934g/cm^3, MI 190°C/2.16kg, 0.9 g/10min);
HDPE (density 0.952g/cm^3, MI 190°C/21.6kg, 16 g/10min).



Air tube bag

PE/PA co-extrusion film, typically used in Asia Pacific

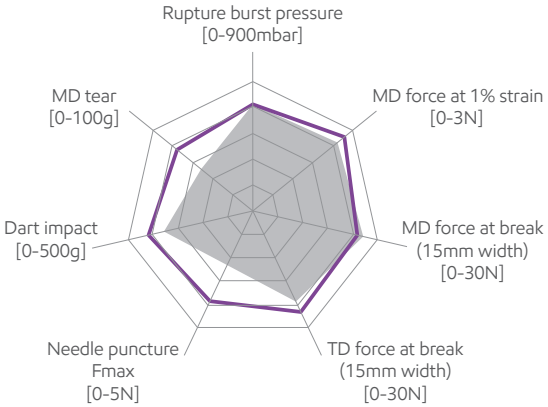
Downgauge solution with Exceed™ XP 8784 performance polymer provides:

- Comparable burst pressure and tensile strength at 10% downgauge
- Improved puncture, dart and MD tear performance
- Balanced film toughness and burst pressure
- Cost saving opportunity

Solution data

	Reference (50µm)	ExxonMobil downgauge (45µm)
Ratio	Same layer ratio: PE / tie / PA / tie / PE 30% / 12.5% / 15% / 12.5% / 30%	
PE layer formula	50% mPE 50% LLDPE + LDPE	35% Enable™ 4002 65% Exceed XP 8784

LLDPE (density 0.918g/cm^3, MI 190°C/2.16kg, 2.0g/10min);
LDPE (density 0.923g/cm^3, MI 190°C/2.16kg, 2.0g/10min).
Enable performance polymers



Typical grade	Melt index (190°C/2.16kg, g/10min)	Density (g/cm^3)
Exceed XP 8784*	0.80	0.914
Enable 4002*	0.25	0.940
Exceed™ 1018**	1.0	0.918

Data effective date:
* 05/22/2018
** 10/01/2018

Test item	Test method
Tensile	ExxonMobil method
Needle Puncture	ExxonMobil method
Dart Impact	ExxonMobil method
Elmendorf Tear	ExxonMobil method
Rupture	ExxonMobil method
MI	Based on ASTM D-1238
Density	Based on ASTM D-1505

All data in this document has been tested by or on behalf of ExxonMobil

Why ExxonMobil PE? Why today?

tomorrow's **performance** today

What some might view as solutions that will only happen in the future, ExxonMobil PE is making possible today – through our innovative and reliable products, collaborative approach, technology leadership and support, and our unmatched global supply and resources.

Why wait for tomorrow to advance your business today? Learn more about how we're helping our customers create innovative solutions now. Contact your ExxonMobil PE representative and begin experiencing tomorrow's performance today in flexible films.

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