



EXTENDO® PORTFOLIO

Product	Thickness μm	OTR cm ³ /m ² /d	WVTR g/m ² /d	Sealability MST°C	Typical Applications
High Moisture Barrier					
XQTA	25 / 30	-	3.0	95°C	snack, bakery, nutritional bars, confectionery
XQTL	25 / 30	-	3.0	70°C	bakery, nutritional bars, confectionery, personal care, household products
High Barrier					
XTMH	20 / 30 / 40	13.0	5.5 / 3.5 / 2.5	105°C	cereals, bakery, nutritional bars, fresh pasta, dairy and meat products
XTHR	20	13.0	5.5	-	cereals, dairy and meat products, fresh pasta, lidding applications
XFWL	28 / 35	18.0	3.5 / 3.0	85°C	bakery, confectionery, meat
XFWM	28	18.0	3.0	75°C	bakery, confectionery
XFUL	20	18.0	5.5	75°C	bakery, confectionery
XMMH	20	13.0	5.5	120°C	cereals, bakery, fresh pasta, nutritional bars
XRDH	28 / 35 / 50	18.0	6.0 / 4.5 / 3.0	105°C	cereals, bakery, confectionery, nutritional bars
XRDL	35	18.0	4.5	75°C	bakery, confectionery, nutritional bars
Ultra High Barrier					
D758	20	0.5	5.0	90°C	bakery, confectionery, nuts and dry snacks, nutritional bars, pet food
XTMU	20 / 30	0.10	5.5 / 3.5	105°C	bakery, nuts and dry snacks, nutritional bars, pet food
D751	19	0.10	0.10	105°C	bakery, nuts and dry snacks, coffee, supplements, cosmetics, pet food
XZMU	20 / 30	0.10	0.15	105°C	bakery, nuts and dry snacks, coffee, supplements, cosmetics, pet food
XZMX	15 / 18 / 30	0.10	0.10	105°C	bakery, nuts and dry snacks, coffee, supplements, cosmetics, pet food, wet wipes
XZRH	28 / 35	0.10	0.10	105°C	bakery, nuts and dry snacks, coffee, supplements, cosmetics, pet food, wet wipes
XZRL	35	0.10	0.10	75°C	bakery, dry snacks, coffee, supplements, cosmetics, pet food, wet wipes

transparent films

matt films

white voided films

metallized films

Methods used: OTR in cm³/m²/d @23°C, 0% RH (ASTM D3985) -- WVTR in g/m²/d @38°C, 90% RH (ASTM F1249)

Better Taste, Less Waste

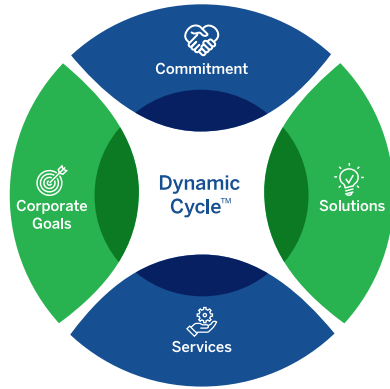
The key benefits of EXTENDO® films are:

- Oxygen barrier
- Mineral Oil barrier*
- Water Vapour barrier
- Aroma barrier**



* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV) and Sepack Lab s.r.l.

**tests performed by Flavologic GmbH



Dynamic Cycle™ is Taghleef's set of initiatives aimed to address **Sustainability** issues within and for our stakeholders. It translates into strategic choices, advanced know-how, a focused investment strategy and the most compliant portfolio.

It is Taghleef's **trusted consulting voice** that interacts with all its partners to contribute to the quality of life of generations to come.

Dynamic Cycle™ is Taghleef's **holistic approach to Sustainability** that encompasses not only Taghleef's Solutions and Services, but also its Corporate Goals and Commitment towards Sustainability.

Dynamic Cycle™ Solutions offer our customers access to a **wide range of Recycle-Ready and Innovative Film Solutions**.

This portfolio showcases **Taghleef's EXTENDO® high barrier films range** available in Europe, that provides **lightweight solutions with improved recyclability** compared to traditional multi-material barrier structures, as certified by independent third-party organizations (certificates available upon request).

reDESIGN™

Make the switch from Traditional to Innovative & Recycle-Ready Solutions



reDESIGN™ is a tailor-fit service for our customers as part of Dynamic Cycle™ initiative. Taghleef works closely with authorities, industry experts and certification bodies throughout the entire process to offer **Innovative and Recycle-Ready packaging solutions**. With reDESIGN™, Taghleef leads the switch from a traditional packaging structure to a solution that best meets customers' specific packaging requirements.

By partnering with Taghleef, together, we can discover ways to move to **high-performing solutions** that are aligned with Circular Economy principles.

With EXTENDO®, we can provide high performing and PP based solutions as an alternative to traditional multi-material structures, while **offering excellent barrier properties for product protection and extended shelf-life**.

EXTENDO® HIGH BARRIER FILMS

Attention to product protection, performances and sustainability

The EXTENDO® film range is an innovative packaging solution that combines the advantages of BoPP with the **excellent performance** of high barrier polymers. The result is a best-in-class film ideal for food and consumer applications.

EXTENDO® films offer **excellent barrier* protection** to keep food fresh, extend shelf life and **reduce food waste**. EXTENDO® films are robust thanks to an integrated barrier and **easy to convert** like standard BoPP films.

EXTENDO® films can ideally replace multi-material laminates containing Aluminium foil, metPET and PVdC components. These high barrier films extend product shelf life by preserving its aroma and taste, while protecting it from migration of mineral oils.

Thanks to their special barrier design, EXTENDO® films integrate the concept of the Circular Economy: they contribute to packaging optimization in terms of materials and weight - with benefits to logistics and distribution - while enhancing recyclability** and reducing the consumption of fossil-based resources.

Available in highly transparent, matt, white voided and metallized, EXTENDO® high barrier films offer brand owners a full portfolio of choices for appealing, safe and cost effective packaging.

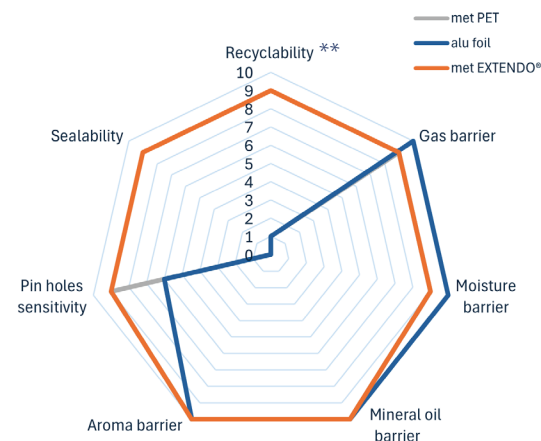
*tests performed: see page 3

**independent third-party certifications available upon request

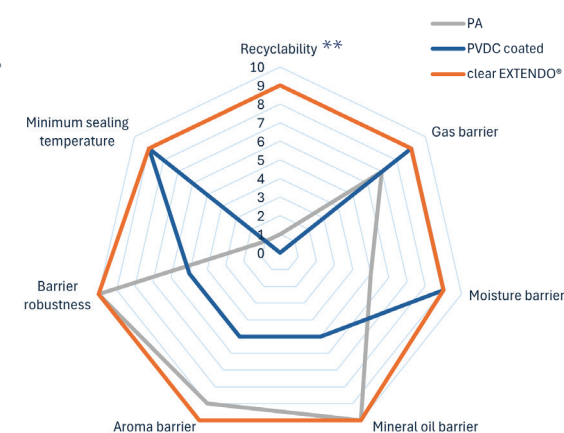
EXTENDO® Recycle-Ready Solutions

EXTENDO® is the next generation range of high barrier films specifically designed to meet the Circular Economy requirements, coupled with outstanding performance and superior food protection. **EXTENDO® solutions are committed to deliver solutions in line with current applicable recyclability design guidelines.**

The radar charts below summarize the advantages of EXTENDO® compared to traditional barrier films in terms of product protection, machine performance and recyclability**.



Metallized EXTENDO® films compared to Alu foil and metPET barrier films



Transparent EXTENDO® films compared to PVdC coated and PA clear barrier films



XQTA

BoPP film that offers high moisture barrier properties, excellent transparency, acrylic coated on both sides.



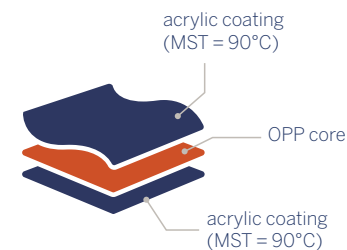
EXTENDO® XQTA provides improved moisture and mineral oils barriers compared to standard BoPP films. The WVTR is designed for applications with medium to high barrier requirements, whilst gas barrier is like standard BoPP films. This film is chlorine free.

EXTENDO® XQTA can be used as monoweb for horizontal and vertical packaging applications or laminated to other substrates.

Typically used for applications such as dry biscuits or snacks bags, bakery, nutritional bar and confectionery boxes over wrap.

PROPERTIES

- Improved moisture barrier
- Low minimum seal temperature (MST=90°C) both sides and lap seal
- Consistent and stable slip on both sides
- Excellent support for printing on both sides
- Excellent optical properties
- Improved barrier mineral oils compared to standard BoPP*



XQTA

Nominal Thickness (μm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
25	22.4	44.6	90
30	27.0	37.0	
WVTR: 3.0 g/m²/d (38°C, 90% RH)			

* tests performed by Sepack Lab s.r.l.. Specific document is available on request



XQTL

BoPP film that offers high moisture barrier properties, excellent transparency, acrylic coated on one side, with an ultra low heat sealing coating on the other.

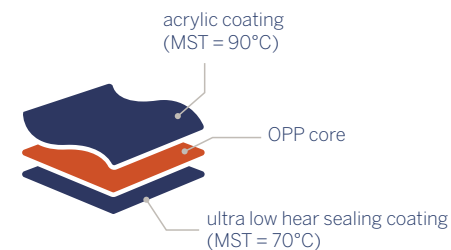
EXTENDO® XQTL provides improved seal performance, while ensuring high moisture and mineral oils barriers. The WVTR is designed for applications with medium to high barrier requirements, whilst gas barrier is like standard BoPP films. This film is chlorine free.

EXTENDO® XQTL can be used as single-web for horizontal high speed packaging applications or laminated to other substrates.

Typically used for applications such as dry biscuits or bakery, nutritional bars, confectionery, personal care or household products.

PROPERTIES

- Improved moisture barrier
- Ultra wide sealing range with low minimum seal temperature (MST=70°C)
- Consistent and stable slip on both sides
- Excellent seal strength and hot-tack
- Excellent support for printing on acrylic side
- Improved barrier mineral oils compared to standard BoPP*



XQTL

Nominal Thickness (μm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
25	22.5	44.4	70
30	27.1	36.9	
WVTR: 3.0 g/m²/d (38°C, 90% RH)			

* tests performed by Sepack Lab s.r.l.. Specific document is available on request



XTMH

BoPP film that offers high gas barrier properties, excellent transparency and gloss, heat sealable on both sides.



EXTENDO® XTMH provides high oxygen, aroma, flavor and mineral oil barriers. The OTR is designed for applications with medium to high barrier requirements, whilst moisture barrier and seal performance are like standard BoPP films. This film is chlorine free.

EXTENDO® XTMH can be converted like standard BoPP films and laminated against CPP films, BoPP films, paper or PE films.

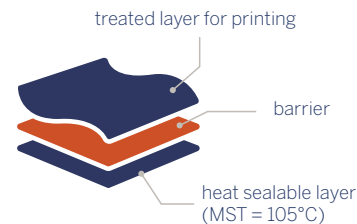
Typically used for applications such as cereals, bakery, nutritional bars, fresh pasta, dairy and meat products.

PROPERTIES

- High gas barrier
- Superior barrier to mineral oils*
- Excellent aroma barrier**
- Superior barrier robustness
- High transparency and gloss
- Qualified as alternative to other clear barrier films (e.g. PVdC coating, PA)



XTMH



Nominal Thickness (μm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
20	18.2	54.9	105
30	27.3	36.6	
40	36.4	27.5	
O ₂ TR: 13 cm³/m²/d (23°C, 0% RH)			

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV)

**tests performed by Flavologic GmbH



XTHR

BoPP film that offers high gas barrier properties, excellent transparency and gloss, non heat sealable.



CEREALS



DAIRY



MEAT



FRESH PASTA



LIDDING

EXTENDO® XTHR provides high oxygen, aroma, flavor and mineral oil barriers. The OTR is designed for applications with medium to high barrier requirements, whilst moisture barrier is in line with standard BoPP films. Thanks to the improved heat resistance, it is suitable as external layer of laminates. This film is chlorine free.

EXTENDO® XTHR can be converted like standard BoPP films and laminated against CPP films, BoPP films, paper or PE films.

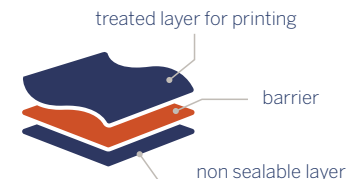
Typically used for applications such as cereals, dairy and meat products, fresh pasta and lidding applications.

PROPERTIES

- High gas barrier
- Reduced tendency to stick to heat seal jaws
- Superior barrier to mineral oils*
- Excellent aroma barrier**
- Superior barrier robustness
- High transparency and gloss
- Chlorine-free film
- Qualified as alternative to other clear barrier films (e.g. PA)



XTHR



Nominal Thickness (μm)	Unit Weight (g/m ²)	Yield (m ² /kg)	Min. Sealing Temperature (°C)
20	18.2	54.9	-
O ₂ TR: 13 cm ³ /m ² /d (23°C, 0% RH)			

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV)

**tests performed by Flavologic GmbH



XFWL

BoPP film that offers high gas barrier properties, excellent transparency and gloss, controlled slip. Both sides are heat sealable, one side has a very wide seal range, for flow wrap.



EXTENDO® XFWL is especially designed to replace PVdC coated films, providing high oxygen, aroma, flavor and mineral oil barriers. This film is chlorine free.

EXTENDO® XFWL key features include excellent slip properties and a very wide seal range, for single-web horizontal and vertical flow wrap applications. It can also be converted like standard BoPP films and laminated to other substrates.

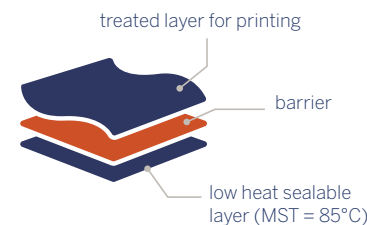
Typically used for applications such as flow wrap of bakery products, biscuits, chocolates and sliced meat packs.

PROPERTIES

- High gas barrier
- Superior barrier to mineral oils*
- Excellent aroma barrier**
- Superior barrier robustness
- Very wide sealing range
- Controlled slip properties
- High transparency and gloss
- Qualified as alternative to PVdC coated films



XFWL



Nominal Thickness (μm)	Unit Weight (g/m ²)	Yield (m ² /kg)	Min. Sealing Temperature (°C)
28	25.5	39.2	85
35	31.9	31.4	
O ₂ TR: 18 cm ³ /m ² /d (23°C, 0% RH)			

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV)

**tests performed by Flavologic GmbH



XFWM

BoPP film that offers high gas barrier and improved moisture barrier properties, excellent transparency and gloss, controlled slip. Both sides are heat sealable, one side has an ultra wide seal range, for flow wrap.



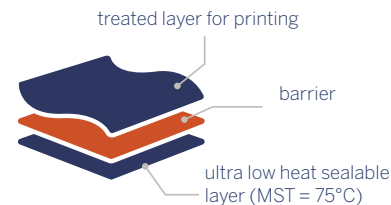
EXTENDO® XFWM is especially designed to replace PVdC coated films, providing high oxygen, aroma, flavor and mineral oil barriers, together with an improved protection against moisture. This film is chlorine free.

EXTENDO® XFWM key features include excellent slip properties and an ultra wide seal range, for single-web horizontal and vertical flow wrap applications. It can also be converted like standard BoPP films and laminated to other substrates.

Typically used for applications such as flow wrap of bakery products, biscuits, chocolates and confectionery.

PROPERTIES

- High gas barrier
- Superior barrier to mineral oils*
- Excellent aroma barrier**
- Superior barrier robustness
- Ultra wide sealing range
- Controlled slip properties
- High transparency and gloss
- Improved water vapour barrier properties
- Qualified as alternative to PVdC coated films



XFWM

Nominal Thickness (μm)	Unit Weight (g/m ²)	Yield (m ² /kg)	Min. Sealing Temperature (°C)
28	25.5	39.2	75
O ₂ TR: 18 cm ³ /m ² /d (23°C, 0% RH) WVTR: 3.0 g/m ² /d (38°C, 90% RH)			

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV)

**tests performed by Flavologic GmbH



XFUL

BoPP film that offers high gas barrier properties, excellent transparency and gloss, controlled slip. Both sides are heat sealable, one side has an ultra wide seal range, not treated, for flow wrap.



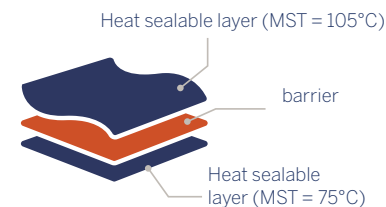
EXTENDO® XFUL is especially designed to replace PVdC coated films, providing high oxygen, aroma, flavor and mineral oil barriers. This film is chlorine free.

EXTENDO® XFUL key features include excellent slip properties and an ultra wide seal range, for single-web horizontal and vertical flow wrap applications.

Typically used for applications such as flow wrap of bakery products, biscuits and chocolate.

PROPERTIES

- High gas barrier
- Superior barrier to mineral oils*
- Excellent aroma barrier**
- Superior barrier robustness
- Ultra wide sealing range
- Controlled slip properties
- High transparency and gloss
- Not treated
- Qualified as alternative to PVdC films



XFUL

Nominal Thickness (μm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
20	18.2	54.9	75
O ₂ TR: 18 cm³/m²/d (23°C, 0% RH) W _v TR: 5.5 g/m²/d (38°C, 90% RH)			

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV)

**tests performed by Flavologic GmbH



XMMH

BoPP matt film that offers high gas barrier properties, heat sealable on both sides.



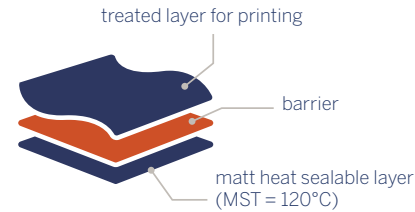
EXTENDO® XMMH provides high oxygen, aroma, flavor and mineral oil barriers. The OTR is designed for applications with medium to high barrier requirements, whilst moisture barrier and seal performance are like standard BoPP films. This film is chlorine free.

EXTENDO® XMMH can be converted like standard BoPP films and laminated against CPP films, BoPP films, paper or PE films.

Typically used for applications such as cereals, bakery products, fresh pasta and nutritional bars.

PROPERTIES

- High gas barrier
- Superior barrier to mineral oils*
- Excellent aroma barrier**
- Superior barrier robustness
- One side matt silk appearance, other side glossy
- Qualified as alternative to other matt barrier films (e.g. PVdC coating, PA)



XMMH

Nominal Thickness (µm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
20	18.0	55.6	120
O ₂ TR: 13 cm³/m²/d (23°C, 0% RH)			

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV)

**tests performed by Flavologic GmbH



XRDH

BoPP white voided film that offers high gas barrier properties, heat sealable on both sides.



EXTENDO® XRDH is a white voided film that provides high oxygen, aroma, flavor, mineral oil and light barriers. The OTR is designed for applications with medium to high barrier requirements, whilst moisture barrier and seal performance are like standard white voided BoPP films. This film is chlorine free.

EXTENDO® XRDH is especially designed for heat sealing and cold seal applications. It can be converted like standard BoPP films and laminated against CPP films, BoPP films, paper or PE films.

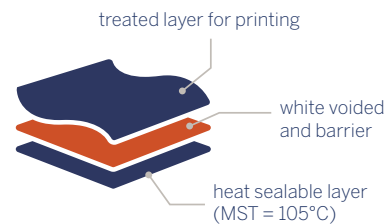
Applications include light and oxygen-sensitive products like cereals, bakery products, chocolate, confectionery and nutritional bars.

PROPERTIES

- High gas barrier
- Superior barrier to mineral oils*
- Excellent aroma barrier**
- Light and UV barrier
- Superior barrier robustness
- White voided, high gloss
- Qualified as alternative to other white voided barrier films (e.g. PVdC coating)



XRDH



Nominal Thickness (µm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
28	19.6	51.0	105
35	24.5	40.8	
50	35.0	28.6	
O ₂ TR: 18 cm³/m²/d (23°C, 0% RH)			

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV)

**tests performed by Flavologic GmbH



XRDL

BoPP white voided film that offers high gas barrier properties. Both sides are heat sealable, one side has an ultra wide seal range.



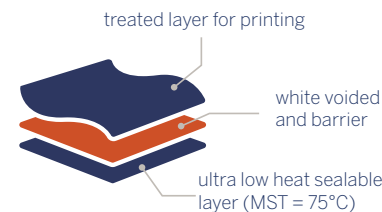
EXTENDO® XRDL is a white voided film that provides high oxygen, aroma, flavor, mineral oil and light barriers. The OTR is designed for applications with medium to high barrier requirements, whilst moisture barrier and seal performance are like standard white voided BoPP films. This film is chlorine free.

EXTENDO® XRDL key features include excellent slip properties and an ultra wide seal range, for single-web horizontal and vertical flow wrap applications. It can also be converted like standard BoPP films and laminated to other substrates.

Applications include light and oxygen-sensitive products like cereals, bakery products, chocolate, confectionery and nutritional bars.

PROPERTIES

- High gas barrier
- Superior barrier to mineral oils*
- Excellent aroma barrier**
- Light and UV barrier
- Superior barrier robustness
- Ultra wide sealing range
- White voided, high gloss
- Qualified as alternative to other white voided barrier films (e.g. PVdC coating)



XRDL

Nominal Thickness (µm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
35	24.5	40.8	75
O₂TR: 18 cm³/m²/d (23°C, 0% RH)			

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV)

**tests performed by Flavologic GmbH



D758

BoPP film that offers ultra high gas barrier properties, excellent transparency, acrylic coated on one side.



BAKERY



CONFECTIONERY



NUTS & DRY
SNACKS



NUTRITIONAL
BAR



PET FOOD

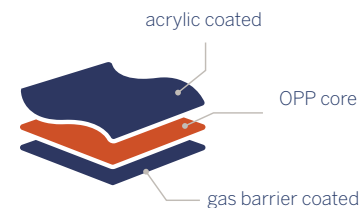
EXTENDO® D758 provides excellent gas barrier, aroma and MOB protection and is designed for applications in lamination as outer or single-web with an over-lacquer to protect the barrier coated side. This film is chlorine free.

EXTENDO® D758 can be used as barrier layer in adhesive lamination to cast polypropylene or blown polyethylene to provide hermetic seals, it is usually reverse printed on coated barrier side.

Typically used for applications such as bakery products, confectionery, nuts, dry snacks, nutritional bars and pet foods.

PROPERTIES

- Ultra high gas barrier
- Enhanced barrier to water, oxygen and mineral oil
- Good inks and adhesive receptivity on both sides
- Enhanced flavor and aroma barrier
- Consistent, stable COF and enhanced sealing performance provided by the outside acrylic coated side



D758

Nominal Thickness (μm)	Unit Weight (g/m ²)	Yield (m ² /kg)	Min. Sealing Temperature (°C)
20	17.6	56.8	90
O ₂ TR: 0.5 cm ³ /m ² /d (23°C, 0% RH) WVTR: 5 g/m ² /d (38°C, 90% RH)			



XTMU

BoPP film that offers ultra high gas barrier properties, excellent transparency and gloss, heat sealable on both sides.



BAKERY



NUTS & DRY
SNACKS



NUTRITIONAL
BAR



PET FOOD

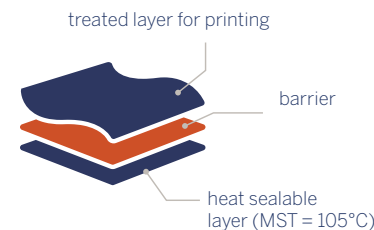
EXTENDO® XTMU provides high oxygen, aroma, flavor and mineral oil barriers. The OTR is designed for ultra high barrier applications, whilst moisture barrier and seal performance aligned to standard BoPP films. This film is chlorine free. Testing is recommended for high moisture applications.

EXTENDO® XTMU can be converted like standard BoPP films and it is designed for use in laminates with CPP films, BoPP films, paper or PE films.

Typically used for applications such as bakery products, nuts, dry snacks, nutritional bars and pet food.

PROPERTIES

- Ultra high gas barrier
- Excellent barrier to mineral oils*
- Excellent aroma barrier **
- Superior barrier robustness
- High transparency and gloss
- Qualified as alternative to other clear barrier films (e.g. PVdC coating, PA)



XTMU

Nominal Thickness (μm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
20	18.2	54.9	105
30	27.3	36.6	
O ₂ TR: 0.10 cm³/m²/d (23°C, 0% RH)			

* tests performed by Sepack Lab s.r.l.

**tests performed by Flavologic GmbH



D751

BoPP metallized film that offers ultra high gas and water vapour barrier properties, heat sealable.



BAKERY



NUTS & DRY
SNACKS



COFFEE



SUPPLEMENTS



COSMETICS



PET FOOD

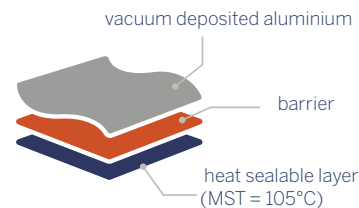
EXTENDO® D751 is designed to provide outstanding moisture, oxygen, aroma, flavor, mineral oil and light barriers, for ultra high barrier applications.

EXTENDO® D751 can be converted like standard metallized BoPP films and laminated with CPP films, BoPP films, paper or PE films.

Applications include laminates for oxygen, light and moisture-sensitive products like bakery, nuts, dry snacks, dry soups, coffee, supplements, cosmetics and pet food.

PROPERTIES

- Ultra high gas barrier
- Ultra high water vapour barrier
- Light and UV barrier
- Qualified as alternative to Al foil and metallized PET barriers



D751

Nominal Thickness (µm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
19	17.0	58.8	105
O ₂ TR: 0.10 cm³/m²/d (23°C, 0% RH) WVTR: 0.10 g/m²/d (38°C, 90% RH)			



XZMU

BoPP metallized film that offers ultra high gas barrier properties, heat sealable.



BAKERY



NUTS & DRY
SNACKS



COFFEE



SUPPLEMENTS



COSMETICS



PET FOOD

EXTENDO® XZMU is designed to provide outstanding moisture, oxygen, aroma, flavor, mineral oil and light barriers, for ultra high barrier applications. Testing is recommended for high moisture applications.

EXTENDO® XZMU can be converted like standard metallized BoPP films and laminated with CPP films, BoPP films, paper or PE films.

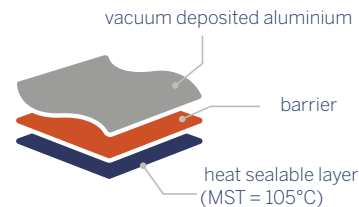
Applications include laminates for oxygen, light and moisture-sensitive products like bakery, nuts, dry snacks, coffee, supplements, cosmetics and pet food.

PROPERTIES

- **Superior barrier robustness**
- Ultra high gas barrier
- Excellent barrier to mineral oils*
- Excellent aroma barrier**
- Excellent water vapour barrier
- Light and UV barrier
- Qualified as alternative to Al foil and metallized PET barriers



XZMU



Nominal Thickness (µm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
20	18.2	54.9	105
30	27.3	36.6	
O ₂ TR: 0.10 cm³/m²/d (23°C, 0% RH) WVTR: 0.15 g/m²/d (38°C, 90% RH)			

* tests performed by Sepack Lab s.r.l.

**tests performed by Flavologic GmbH



XZMX

BoPP metallized film that offers ultra high gas and water vapour barrier properties, heat sealable.

EXTENDO® XZMX is designed to provide outstanding moisture, oxygen, aroma, flavor, mineral oil and light barriers, for ultra high barrier applications.

EXTENDO® XZMX can be converted like standard metallized BoPP films and laminated with CPP films, BoPP films, paper or PE films.

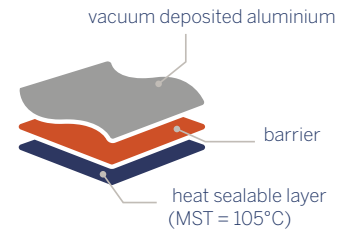
Applications include laminates for oxygen, light and moisture-sensitive products like bakery, nuts, dry snacks, coffee, supplements, cosmetics, pet food and wet wipes.

PROPERTIES

- Ultra high gas barrier
- Superior barrier to mineral oils*
- Excellent aroma barrier**
- Superior water vapour barrier
- Light and UV barrier
- Qualified as alternative to Al foil and metallized PET barriers



XZMX



Nominal Thickness (µm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
15	13.7	73.3	105
18	16.4	61.0	
30	27.3	36.6	
O ₂ TR: 0.10 cm³/m²/d (23°C, 0% RH) WVTR: 0.10 g/m²/d (38°C, 90% RH)			

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV)

**tests performed by Flavologic GmbH



XZRH

BoPP metallized white voided film that offers ultra high gas barrier properties, heat sealable.

EXTENDO® XZRH is designed to provide outstanding moisture, oxygen, aroma, flavor, mineral oil and light barriers, for ultra high barrier applications.

EXTENDO® XZRH can be converted like standard metallized BoPP films and laminated with CPP films, BoPP films, paper or PE films.

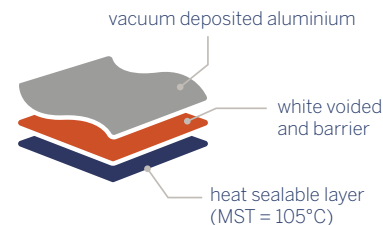
Applications include laminates for oxygen, light and moisture-sensitive products like bakery, nuts and dry snacks, coffee, supplements, cosmetics, pet food and wet wipes.

PROPERTIES

- Ultra high gas barrier
- Superior barrier to mineral oils*
- Excellent aroma barrier**
- Superior water vapour barrier
- Light and UV barrier
- White high gloss appearance on non metallized side
- Qualified as alternative to other barrier films (e.g. Al foil, metPET)



XZRH



Nominal Thickness (µm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
28	20.2	49.5	105
35	25.2	39.7	
O ₂ TR: 0.10 cm³/m²/d (23°C, 0% RH) WVTR: 0.10 g/m²/d (38°C, 90% RH)			

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV)

**tests performed by Flavologic GmbH



XZRL

BoPP metallized white voided film that offers ultra high gas barrier properties, heat sealable, ultra wide heat seal range on one side.

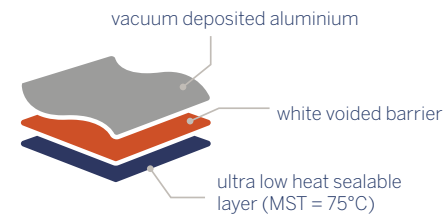
EXTENDO® XZRL is designed to provide outstanding moisture, oxygen, aroma, flavor, mineral oil and light barriers, for ultra high barrier applications.

EXTENDO® XZRL can be converted like standard metallized BoPP films and laminated with other BoPP films.

Applications include laminates for oxygen, light and moisture-sensitive products like bakery, dry snacks, coffee, supplements, cosmetics, pet food and wet wipes.

PROPERTIES

- Ultra high gas barrier
- Superior barrier to mineral oils*
- Excellent aroma barrier**
- Superior water vapour barrier
- Light and UV barrier
- One side ultra wide heat seal range
- White high gloss appearance on non metallized side
- Qualified as alternative to Al foil and metallized PET barriers, structure simplification



XZRL

Nominal Thickness (µm)	Unit Weight (g/m²)	Yield (m²/kg)	Min. Sealing Temperature (°C)
35	25.2	39.7	75
O ₂ TR: 0.10 cm³/m²/d (23°C, 0% RH) WVTR: 0.10 g/m²/d (38°C, 90% RH)			

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV)

**tests performed by Flavologic GmbH

Alternative raw material sources



Made with recycled content, the reLIFE™ EXTENDO® portfolio includes PCR Chemical Recycling (*Food Contact Compliant, ISCC Plus Certified, Mass Balance Approach*).



Bio PP Films derive from renewable resources of vegetable origin and are compliant with ISCC Plus Certification (*Mass Balance Approach*).

At their end of life, these films can be recycled in the existing PP or polyolefin recycling streams.



Phthalates are not intentionally added to Ti's BoPP film formulation. However some of these compounds could be present due to the production process of the polymer. Taghleef can offer, upon request, BoPP films manufactured with selected raw materials based on phthalate-free catalyst system.

Innovative Solutions for Flexible Packaging

EXTENDO® films can be laminated with other BoPP films from Taghleef's portfolio to merge together:

Barrier

Barrier is an essential requirement provided by packaging to protect a product and increase its shelf life. Taghleef Industries offers a wide variety of barrier films for flexible packaging applications that will meet your specific need.

Ti's EXTENDO® product range is designed for high and ultra-high barrier applications, providing a very low transmission rate of oxygen and moisture, a proven barrier to mineral oils*, and superior aroma and flavor protection**.

Heat resistance

Heat resistance is an important property of films in contact with sealing jaws, to prevent sticking issues and thermal shrinkage while ensuring the application of an adequate thermal energy to the sealant layer, for a proper sealing of the pack.

Taghleef Industries' heat resistant BoPP product range includes non-heat sealable films in transparent and matte versions and grades with improved thermal stability.

Sealing performance

Sealing properties are essential in Flexible Packaging to provide a proper closure of the pack.

Taghleef Industries' BoPP portfolio includes solutions with improved sealing performances in terms of operating window, seal strength, hot tack, seal integrity and easy opening.

* tests performed by Fraunhofer Institute for Process Engineering and Packaging (IVV) and Sepack Lab s.r.l.

**Tests performed by FlavoLogic GmbH

Case Study: reDESIGN™



	Traditional structure	Ti's proposal
	OPET 12µm / Alu 8µm / PE 80µm	TTR 18µm / EXTENDO® XZMX 18µm / PP cast 80µm
Recyclability	Not recyclable	18 out of 20 points with interzero® zero waste solutions
Robustness (easy to print and laminate)	Excellent	Excellent

The implementation of Taghleef Industries' reDESIGN™ proposal for coffee packaging has resulted in several key benefits:

- **Improved recycling***: the structure allows for an easy and efficient recycling through existing PP or polyolefin recycling streams, contributing to a more circular economy.
- **Guaranteed product protection**: the superior barrier properties of our EXTENDO® films safeguard coffee freshness and aroma, leading to a high quality product for consumers.
- **Consolidated performance**: excellent machinability and high robustness allow for seamless integration into existing production lines, minimizing disruption and costs.

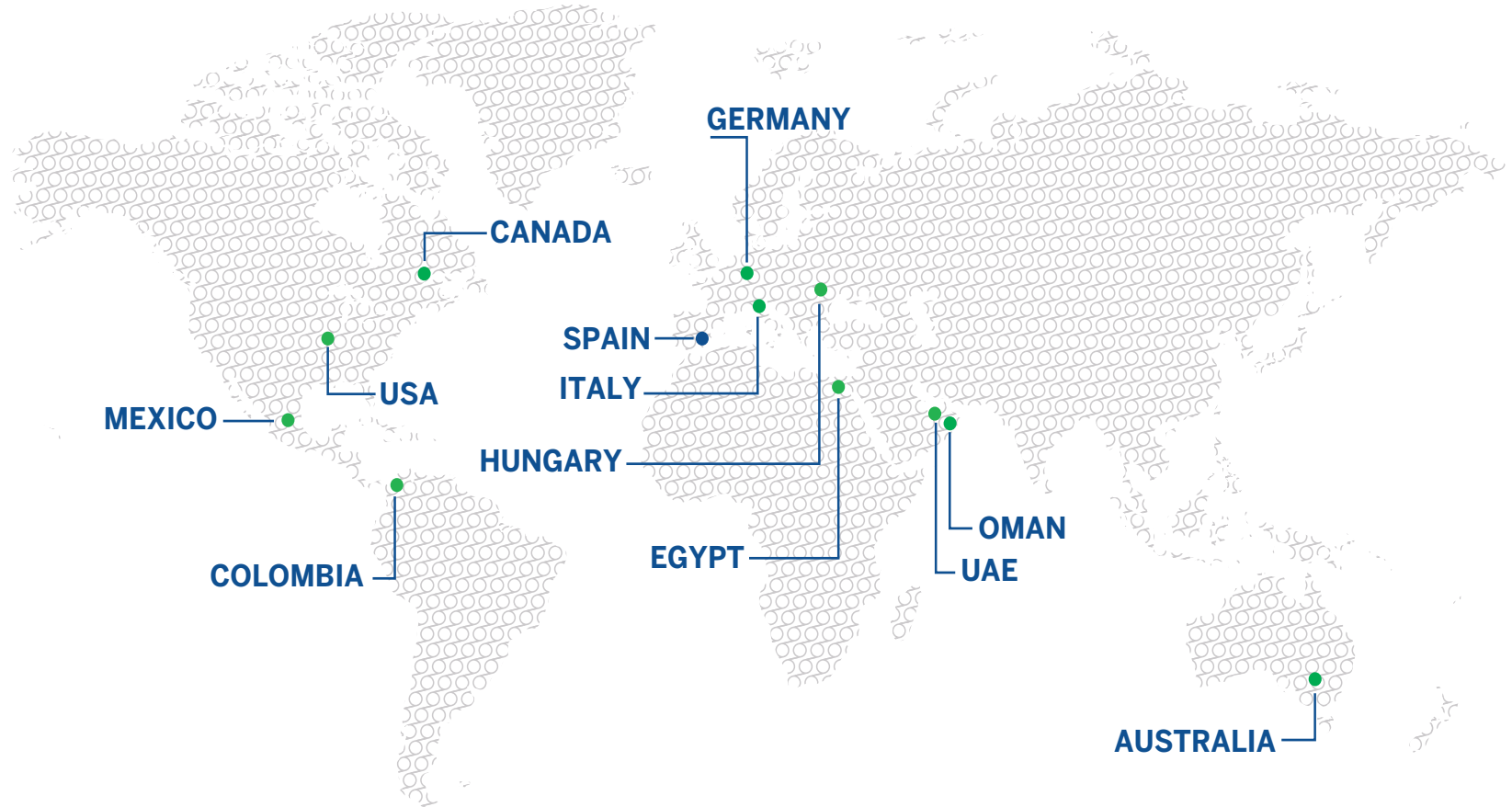
*independent third-party certifications (Interzero, Recyclclass) available upon request



OUR PRESENCE

Meeting your needs:

- Food safety and freshness
- Improved shelf-life through outstanding oxygen and moisture barriers
- Supporting Circular Economy
- PP based barrier films
- Multiple choices and easy to convert film
- Superior mechanical features for process efficiency
- Anticipation of regulatory requirements
- Close to you thanks to our global presence
- Expanded distribution channels
- Reduce costs



EXTENDO[®]

HIGH BARRIER FILMS

powered by



flexiblepackaging@ti-films.com
ti-films.com

