



Catalogue

smartPac

ACTIVE PACKAGING



QUIMAS[®]
POST_HARVEST.TECHNOLOGY



Catalogue

What is SmartPac?

SmartPac is an **active packaging** system based on polyethylene sheets and bags, into which sodium metabisulfite ($\text{Na}_2\text{S}_2\text{O}_5$) particles have been incorporated. When these particles come into contact with the natural moisture of the fruit, they generate a controlled release of **sulfur dioxide (SO_2)** within the package.

This **SO_2** acts as an antifungal agent, inhibiting the development of pathogens such as *Botrytis cinerea*, the main cause of post-harvest decay.

By being integrated directly into the plastic material, **SmartPac provides uniform, continuous**, and controlled

protection throughout storage, transportation, and distribution.

This helps to keep the fruit fresh, healthy, and with better visual quality for longer, reducing losses and improving logistical efficiency.



Key SmartPac Features



HIGH RELATIVE HUMIDITY

PRESERVES FIRMNESS

FUNGAL CONTROL

VERSATILE AND ADAPTABLE
TO DIFFERENT CONDITIONS

SMARTPAC IS THE MOST
EFFICIENT, EFFECTIVE,
AND USER-FRIENDLY WAY
TO PACKAGE YOUR FRUIT.

SMARTPAC BENEFITS



EFFECTIVE FUNGAL CONTROL



EXTENDED FRESHNESS AND FIRMNESS



DESIGN ADAPTED TO YOUR COOLING TIMELINES



COMPLIES WITH REGULATIONS FOR FOOD-CONTACT PACKAGING



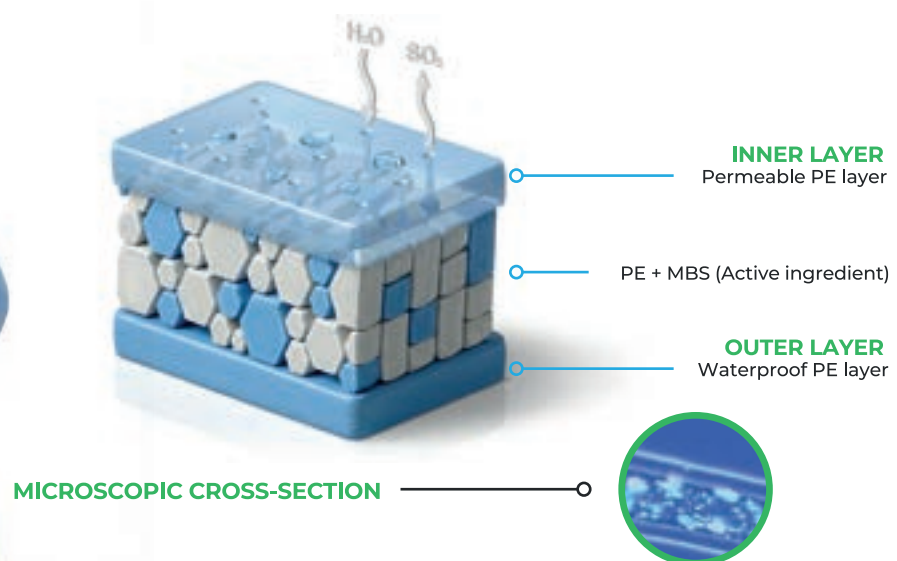
THE ONLY 100% RECYCLABLE SOLUTION



HOW DOES SMARTPAC WORK?

SmartPac technology incorporates **sodium metabisulfite**. Upon **contact** with the fruit's moisture, it generates a **homogeneous** and **constant release of sulfur dioxide (SO₂)** for fungal control. It also acts as a barrier that maintains the high humidity necessary to preserve freshness.

Multilayer Technology:

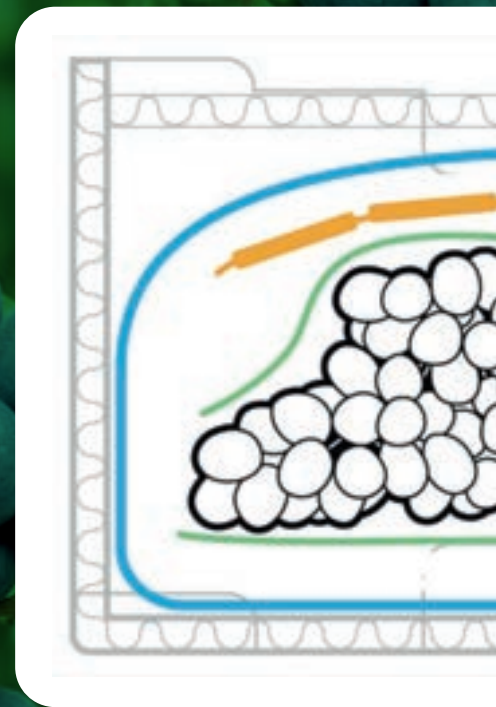


The alternative to traditional packaging

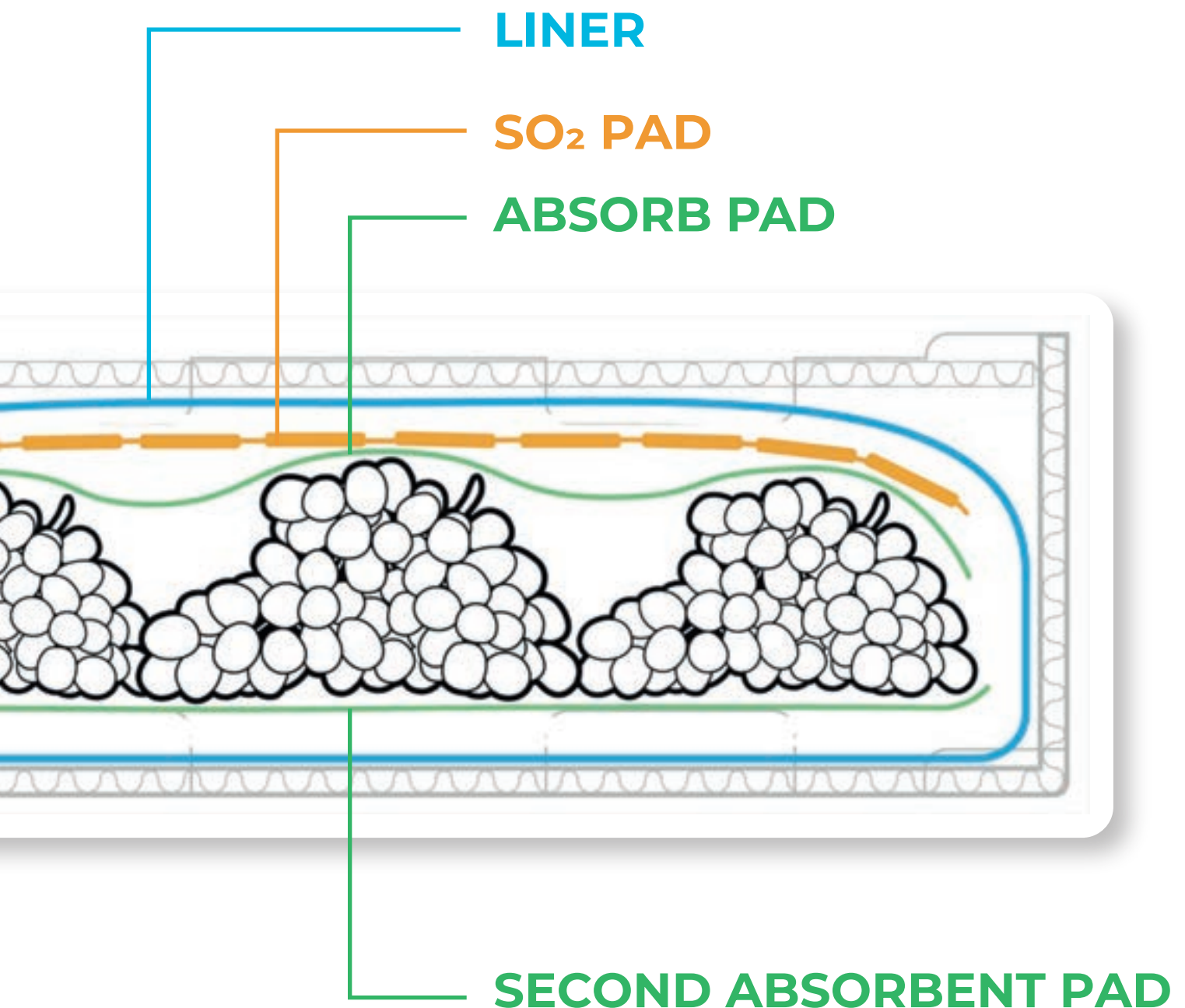
Traditional systems often rely on multiple devices and layers to protect the fruit, **delaying the packing process**, cooling, and Sulfur Dioxide diffusion, while increasing labor, cooling, and storage **costs**.

Furthermore, it **requires higher SO₂ concentrations** to penetrate these layers and achieve fungal control.

SmartPac offers effective protection from a single element, streamlining the operational process and cooling, while optimizing SO₂ availability in the fruit.



Traditional system





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OUR **PRODUCT LINE**

BLUEBERRIES

Perforated liner

SmartPac is available as a perforated liner with **SO₂ release**, allowing for quick handling of the **packing process**, reduced **precooling** times, lower dehydration, and efficient **fungal control**.

Additionally, the liner can be **heat-sealed** to meet commercial requirements.

Perforated liner	Box size (cm)	Packaging format	Liner size (cm)	Target Market	Ventilated area
PTBAG042	24x32	4,4 oz	59,5x38	Europe-Asia	0,10%
PTBAG043	25x40	Pint	72x44,5	Europe-Asia	0,10%
PTBAG052	40x60	Punnet UK	102x57	Europe-Asia	0,10%
PTBAG034	25x40	Pint	72x44,5	USA	0,30%

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Direct fumigation

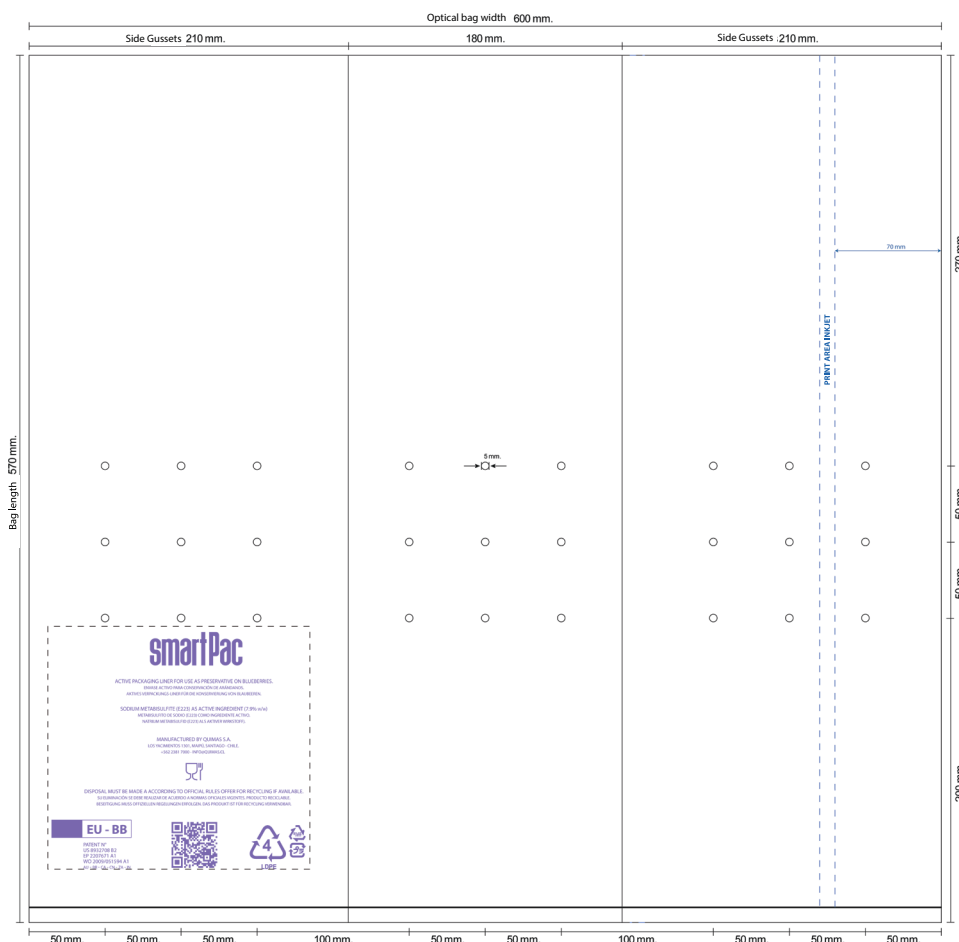


USDA-approved vented design that allows for **Methyl Bromide** fumigation **without opening** or **handling** the box.

Cooling tunnel efficiency

Its vented design allows **forced airflow** to pass through the packaging system (box and bag), coming into direct contact with the fruit.

This guarantees efficient **heat removal**, achieving a fast and **homogeneous** temperature reduction.



PTBAG052
Pantone 265C
Version 2 08/2023

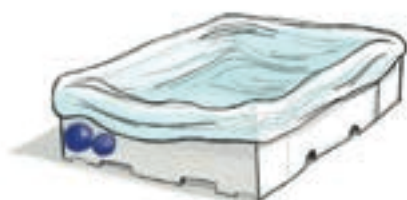
Modified atmosphere liner

Passive Modified **Atmosphere technology**, generating a high-humidity environment with controlled gases (Oxygen and Carbon Dioxide).

This environment, combined with the SO₂ generated by the liner, minimizes weight loss and controls decay, ensuring your fruit remains firm, hydrated, and protected for longer.

AM liner	Box size (cm)	Packaging format	Liner size (cm)	Target Market
PTBAG089	25x40	Pint	72x49,5	Europe-Asia
PTBAG032	24x32	4,4 oz	59,5x43	Europe-Asia

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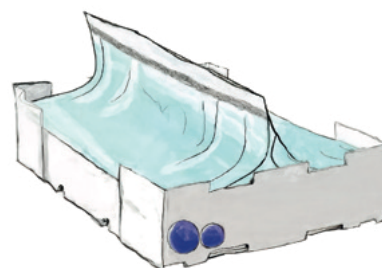
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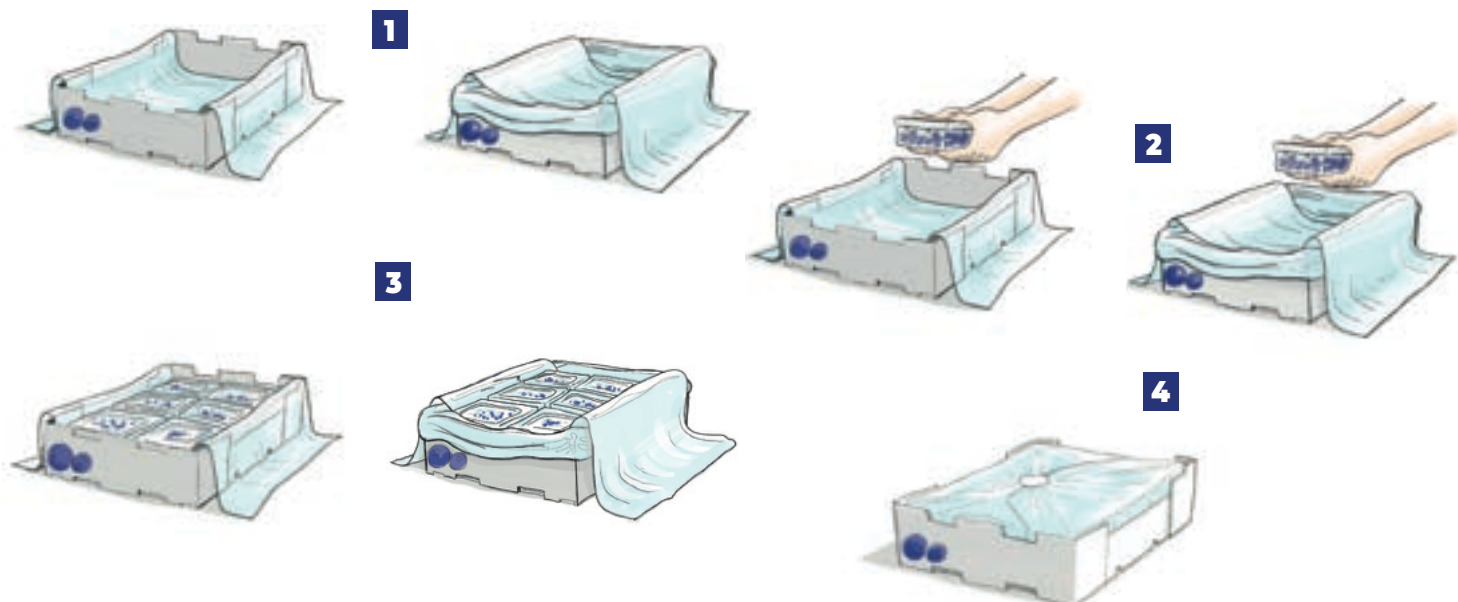


Wrap

It is a sheet that allows wrapping the fruit or its primary packaging (punnets or clamshells), creating a **physical barrier** that protects the fruit while releasing **sulfur dioxide** across its entire surface. A **high-efficiency** solution for packing and cooling process.

To facilitate the metabisulfite reaction and control fruit dehydration, **it is recommended for use in combination with a box liner or pallet liner.**

Wrap	Box size	Packaging format	Wrap size	Target Market	Ventilated area
PTLAM015	25x40	Pint	37x75	USA	0,90%
PTLAM023	25x40	Pint	24x109	USA	0,90%
PTLAM604	24x32	4,4 oz	30x64	Europe-Asia	None



Sheet

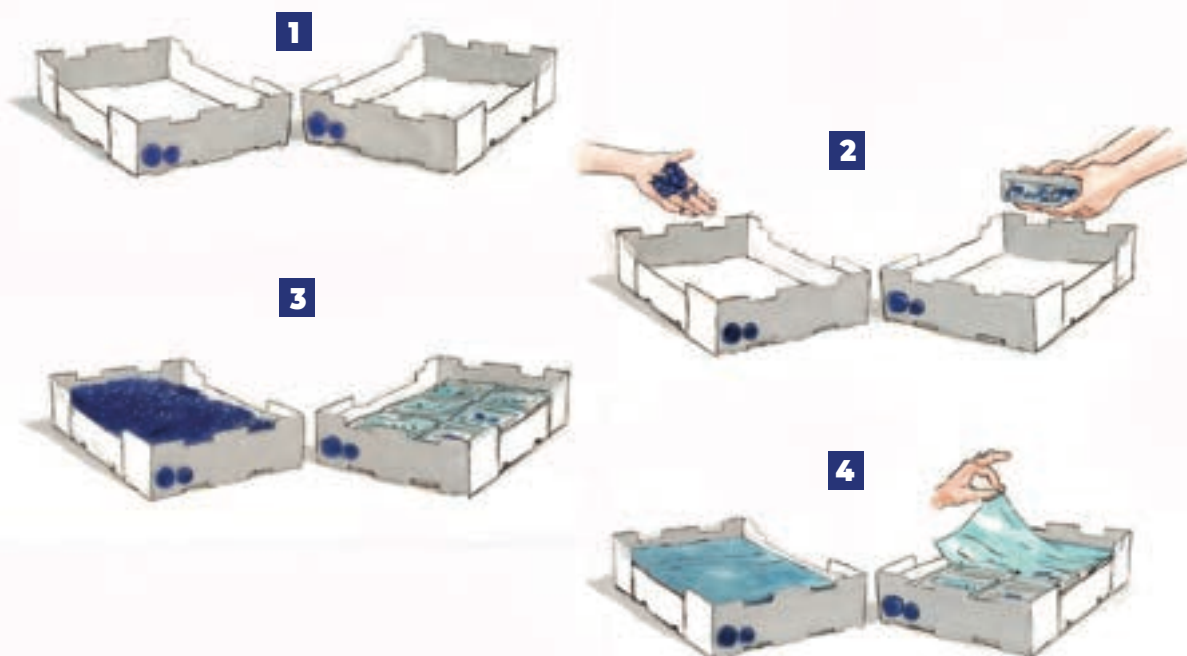
It is the **simplest** solution in our product line. It consists of a plastic sheet that releases **SO₂ across its entire surface**; it is symmetrical, so the sheet can be used on both sides.

It is **extremely fast to install** and **does not interfere with airflow**, so it **does not affect cooling** time,

providing constant and efficient protection during post-harvest.

For dehydration control, it must be used in conjunction with a box liner or pallet bag. It can also be combined with **conventional modified atmosphere bags**.

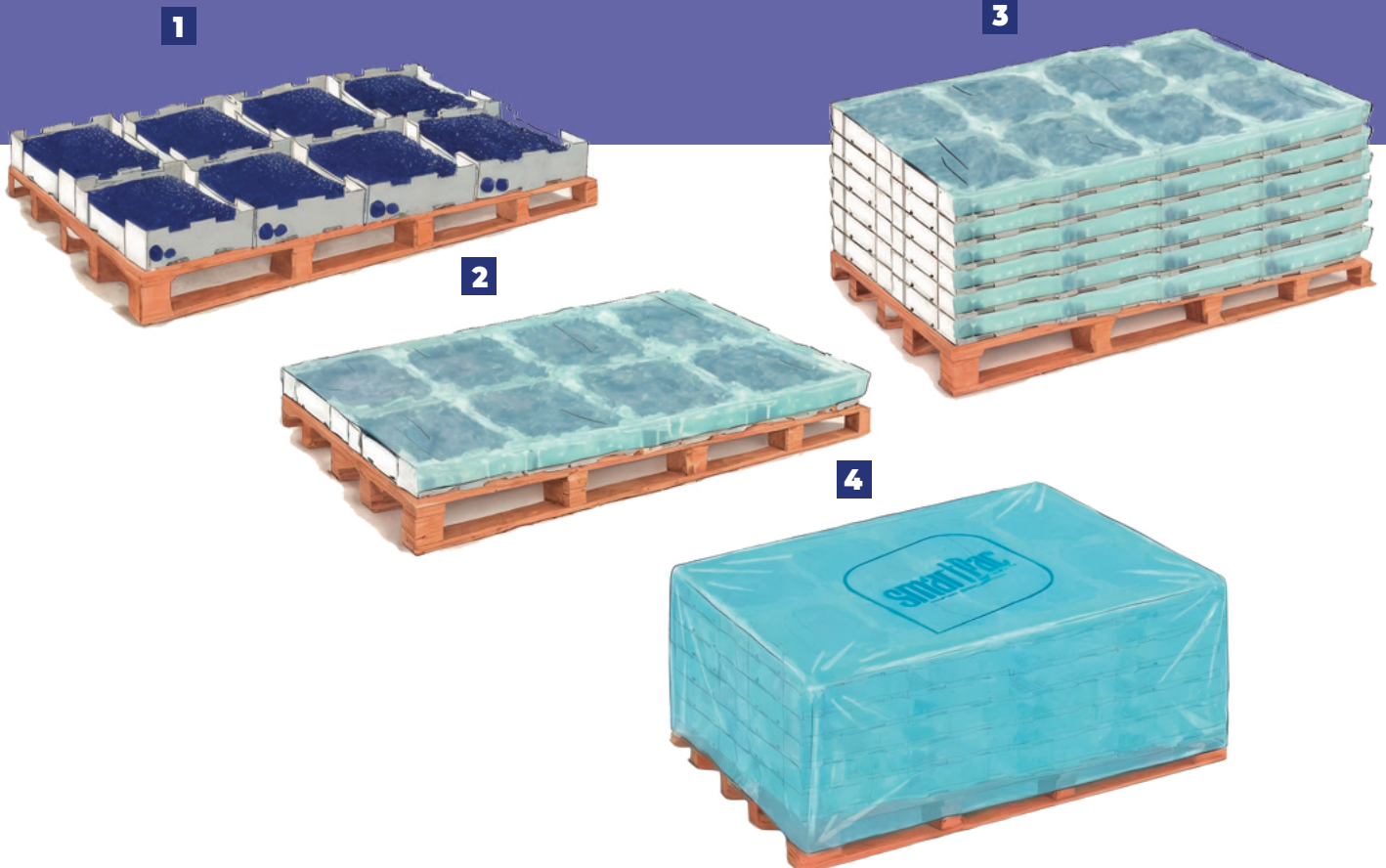
Sheet	Box size (cm)	Packaging format	Sheet size (cm)	Target Market
PTLAM641	24x32	4,4 oz	21x30	Europe-Asia
PTLAM600	40x60	Punnet UK	39x59	Europe-Asia
PTLAM019	25x40	Pint	24x37	USA
PTLAM602	40x60	12x18 oz	39x59	USA
PTLAM020	25x40	6,0 oz	24x37	USA



SmartPac Pallet System

Designed to provide **complete protection** through the simultaneous action of **active and passive** elements. By complementing pathogen control with moisture retention, it protects your

fruit's quality against the main causes of decay, maintaining the **speed and efficiency** of the packing line intact.

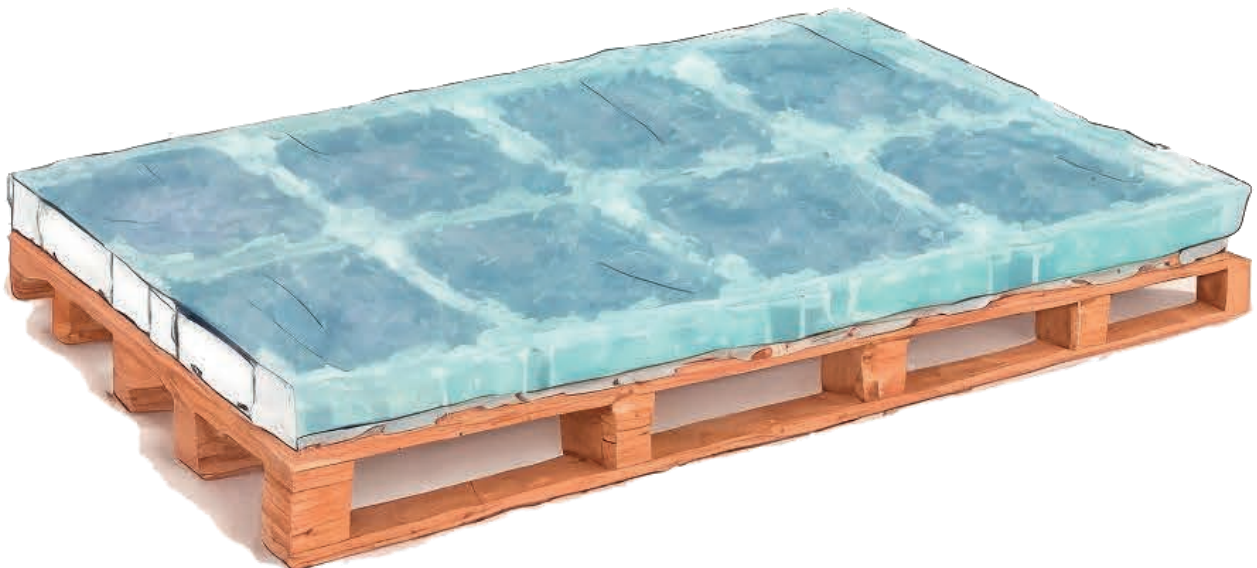


Pallet sheet

Its design ensures **superior SO₂ distribution** within the pallet, **controlling decay** and helping to **reduce dehydration**. Thanks to its structure that facilitates airflow in forced air cooling systems, it protects your fruit's

health **without affecting cooling speed**. It is used as complement to the **SmartPac Pallet Cover**.

Bulk sheet	Sheet size (cm)	Target Market	Ventilated area
PTLAM016	100x120	USA	0,10%
PTLAM003	100x120	Europe-Asia	0,30%
PTLAM027	28x48	Europe-Asia	0,30%
PTLAM028	28x48	USA	0,30%



Pallet cover

External complement designed in different ventilation formats to maximize the preservation of your fruit.

This **physical barrier** mitigates dehydration and preserves

firmness, without affecting cooling times. It is the ideal **complement to the SmartPac Pallet Sheet**, providing a comprehensive and cost-effective solution.

Pallet cover	Pallet size (cm)	Pallet cover size (cm)	Ventilated area
PTBAG827	100x120	240x285	0,10%
PTBAG828	100x120	240x285	0,30%
PTBAG829	100x120	240x285	0,90%





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OUR **PRODUCT LINE**

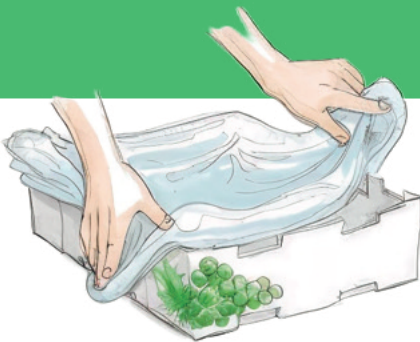
TABLE GRAPES

Macro-perforated liner

The **SmartPac** liner is the most complete and efficient packaging solution. It significantly **accelerates processing speed** and thanks to its optimized **ventilation** (0.1-0.9%), protects the fruit from dehydration and decay.

It improves presentation without generating waste, and its **multilayer technology** allows for a **homogeneous release** of sulfur dioxide, avoiding peaks that damage the fruit.

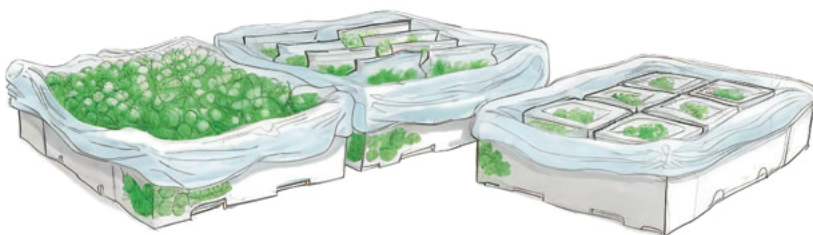
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Box size 30x40	Liner size (cm)	Target Market	Ventilated area	MBS Grams
PTBAG701	72x49,5	Europe-Asia	0,10%	4,0
PTBAG039	72x49,5	Europe-Asia	0,20%	4,0
PTBAG004	72x44,5	Europe-Asia	0,20%	3,5
PTBAG035	72x49,5	Europe-Asia	0,20%	4,0

Box size 30x50	Liner size (cm)	Target Market	Ventilated area	MBS Grams
PTBAG400	82x57	Europe-Asia	0,20%	3,5
PTBAG800	82x57	Europe-Asia	0,20%	5,0
PTBAG008	82x57	Europe-Asia	0,10%	5,0

Box size 40x50	Liner size (cm)	Target Market	Ventilated area	MBS Grams
PTBAG078	92x57	USA	0,10%	5,5
PTBAG071	92x59,5	USA	0,30%	5,0
PTBAG012	92x57	Europe-Asia	0,20%	6,5
PTBAG070	92x59,5	Europe-Asia	0,20%	6,5
PTBAG067	92x59,5	USA	0,30%	6,5

Box size 40x60	Liner size (cm)	Target Market	Ventilated area	MBS Grams
PTBAG083	102x57	Europe-Asia	0,30%	3,0
PTBAG203	102x59,5	Europe-Asia	0,20%	3,0
PTBAG084	102x57	USA	0,30%	3,0
PTBAG023	102x57	Europe-Asia	0,30%	3,5
PTBAG027	102x57	Europe-Asia	0,60%	3,5
PTBAG037	102x57	USA	0,60%	3,5
PTBAG056	102x61,5	Europe-Asia	0,20%	4,0
PTBAG003	102x57	Europe-Asia	0,20%	4,5
PTBAG010	102x59,5	USA	0,30%	5,0
PTBAG063	102x59,5	Europe-Asia	0,30%	5,0
PTBAG077	102x57	Europe-Asia	0,20%	6,0
PTBAG803	102x57	Europe-Asia	0,20%	6,0
PTBAG069	102x59,5	USA	0,30%	6,5
PTBAG011	102x54,5	Europe-Asia	0,20%	6,5
PTBAG068	102x59,5	Europe-Asia	0,20%	7,0
PTBAG036	102x59,5	USA	0,30%	7,0
PTBAG805	102x61,5	Europe-Asia	0,20%	7,5
PTBAG805 IT	102x63,5	Europe-Asia	0,10%	7,5

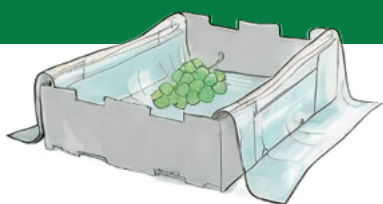
Wrap

It consists of a plastic sheet that **releases SO₂ across its entire surface, ensuring a more homogeneous distribution of sulfur dioxide within the box.** Being a plastic sheet, **it has controlled permeability for SO₂ release** and does not require the use

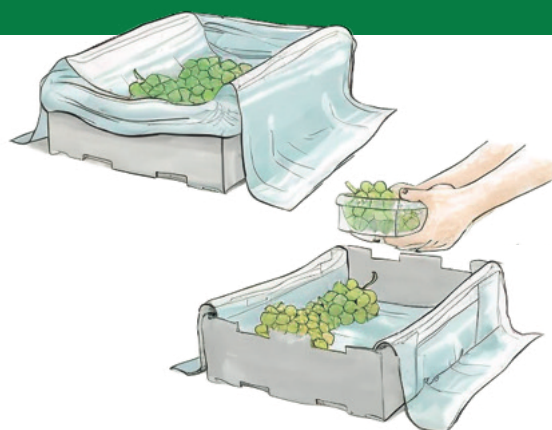
of an absorbent pad. It is extremely fast to install and does not interfere with airflow, so **it does not affect cooling time**, providing constant and efficient protection during post-harvest.

Wrap	Box size (cm)	Wrap size (cm)	Target Market	Ventilated area	MBS Grams
PTLAM008	40x60	102x49,5	Europe-Asia	No	2,0

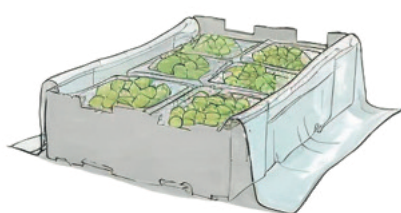
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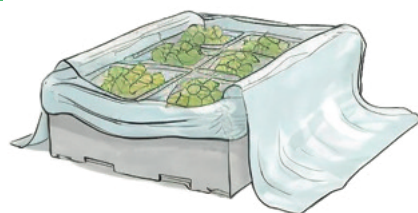
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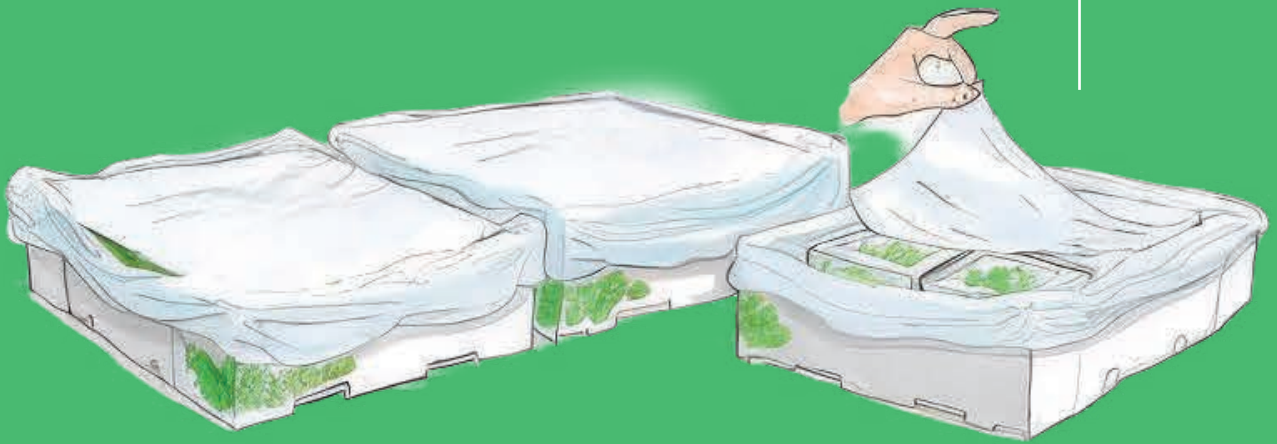


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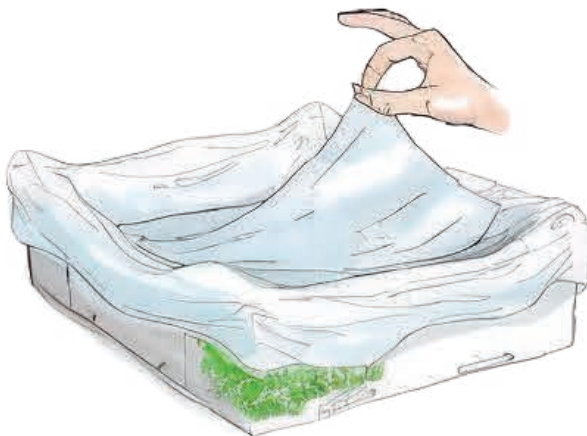


Top and Bottom sheets

Top



Bottom

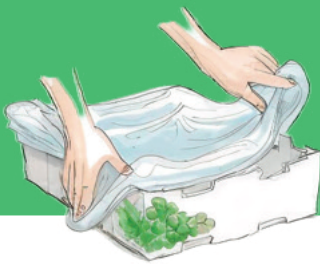


Top and Bottom sheets

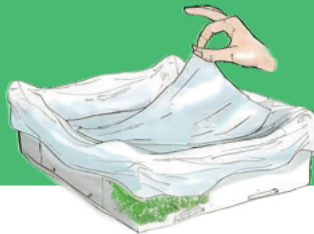
Slow-release phase-generating sheet (Top and Bottom) used in packaging to provide effective control of decay. This

device does not require the use of absorbent papers.

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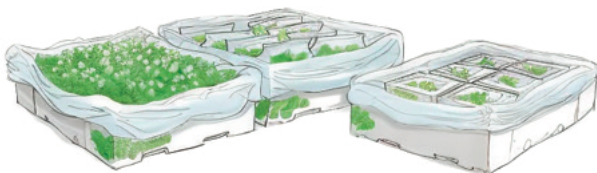
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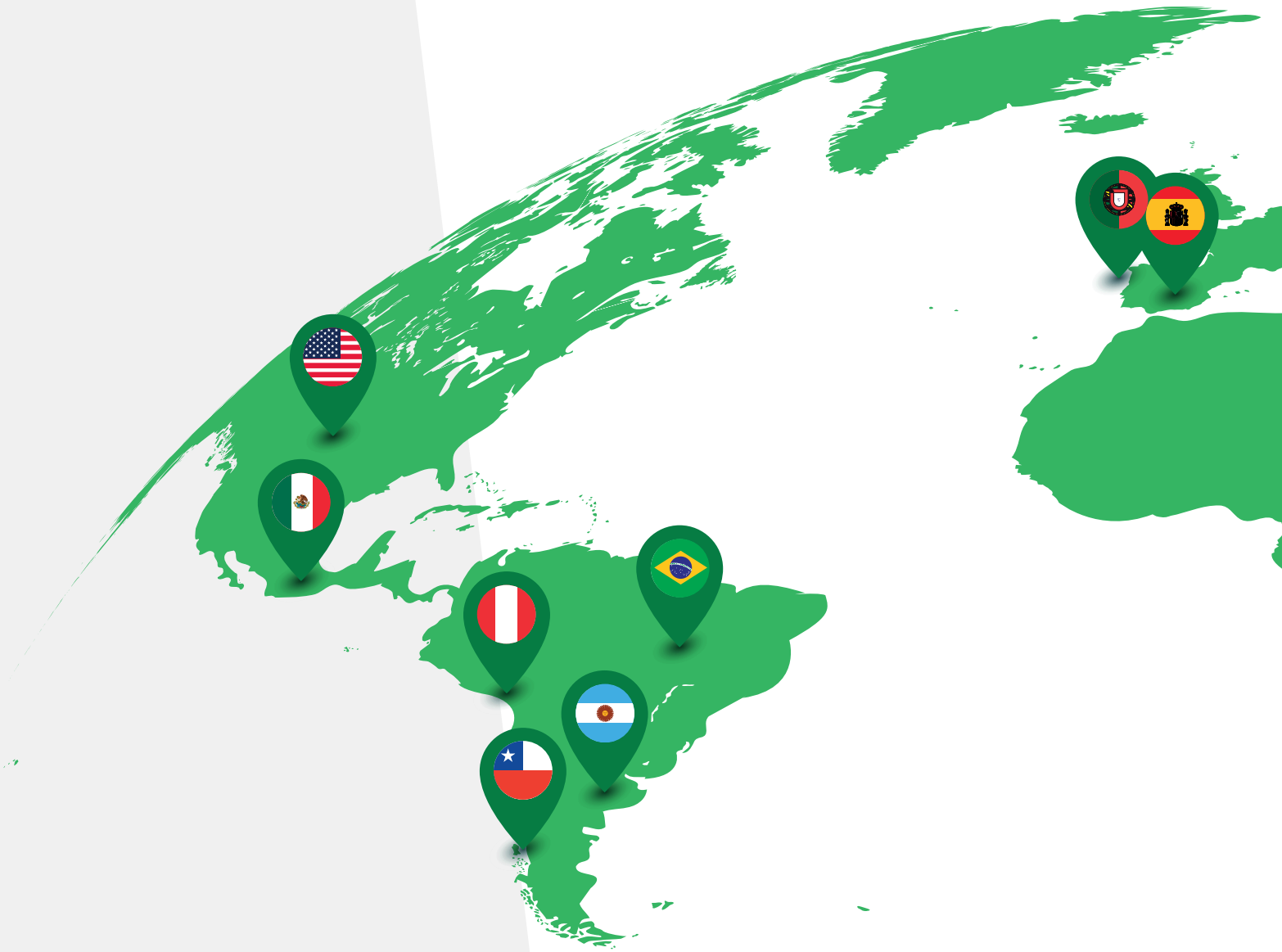
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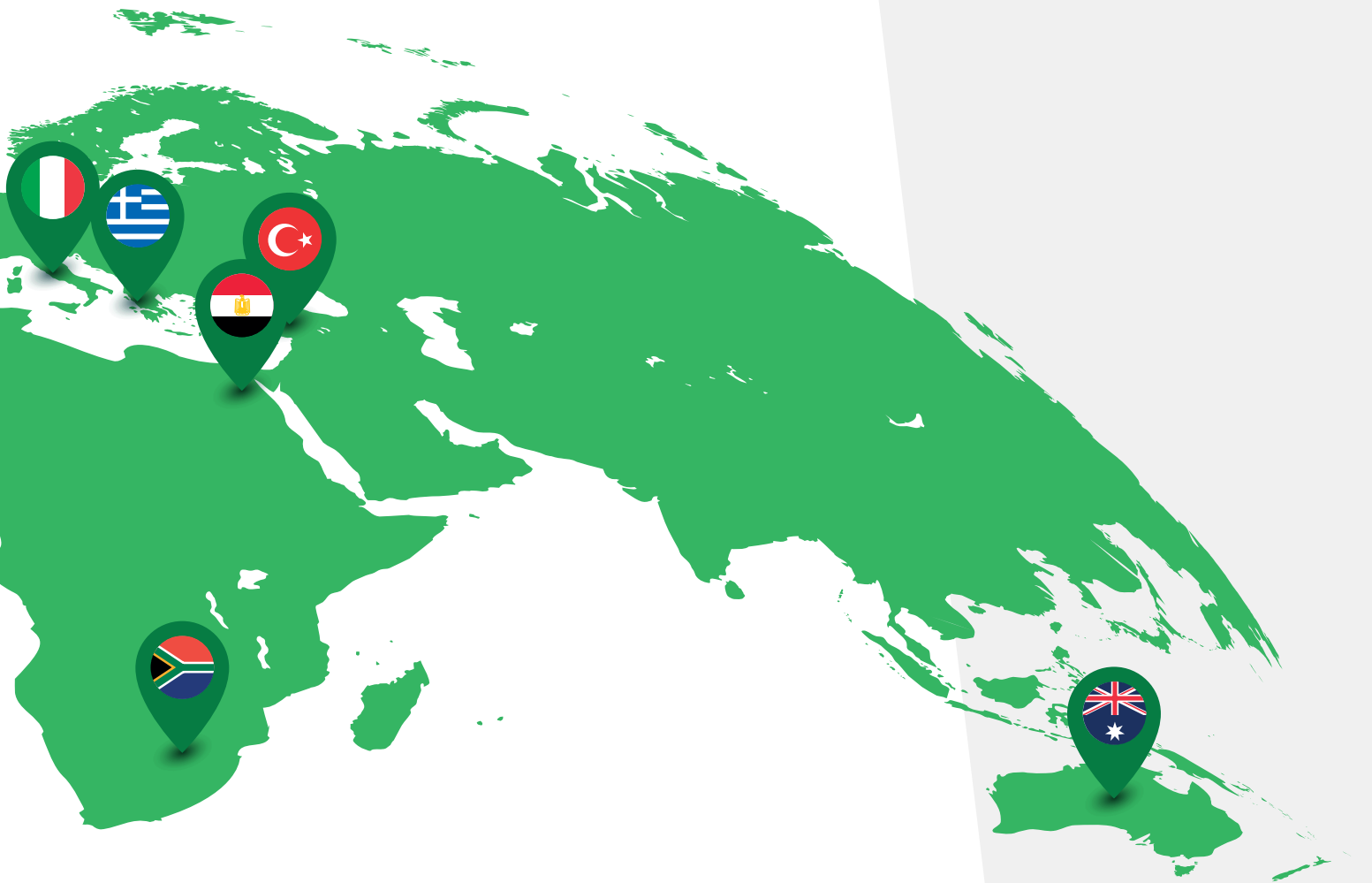
Top sheet	Box size	Sheet size (cm)	MBS Grams
PTLAM021	40x50	36x45	1,0
PTLAM022	40x60	36x55	1,2
Bottom sheet	Box size	Sheet size (cm)	MBS Grams
PTLAM605	40x50	39x49	1,2
PTLAM607	40x60	39x59	1,4

In over

10 countries across
5 continents



***Innovation
without frontiers
for a **global
industry.*****





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condition

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