A large, jagged iceberg floats in the ocean. The sky is overcast with grey clouds. The water is dark blue, and there are smaller ice floes in the distance. The overall scene is cold and desolate.

**PERFORMA®**

**PERFORMA®**

**Cold Chain &  
Temperature  
Controlled  
Packaging**

## ***Cold Chain - Temperature Controlled Packaging - Reliable Temperature Control Throughout the Journey***

Whether you're shipping food products, pharmaceuticals, or any other temperature-sensitive goods, our thermal insulated packaging provides the necessary protection to preserve the quality and safety of your contents. Designed to withstand environmental challenges, our solutions ensure your products remain secure and stable, regardless of distance or conditions.



**INATECH**®  
Packaging Supplies & Equipment

**FOAM AG**®  
Intelligent Foam

**ISOTECKLINE**®  
PROFESSIONAL UNDERLAY

### **About INATECH GROUP**

**INATECH GROUP** has extensive experience in providing complete packaging and logistics protection solutions. Through **INATECH Packaging**, we offer a broad range of professional packaging products, from protective materials and automation systems to highly specialized solutions like **Cold Chain & Temperature Controlled Packaging**.

We serve industries that require high safety and quality standards – including food, pharma, biotech, courier, logistics, and e-commerce. With strong infrastructure, international partnerships, and a consistent focus on innovation and sustainability, we support our clients at every step of the supply chain.

Choose **INATECH Cold Chain & Temperature Controlled Packaging** for safe deliveries – across any distance, in any season.

- *Guaranteed quality. Logistics efficiency. Professional thermal protection.*



## Discover **PERFORMA®** Range: *Advanced Cold Chain - Temperature Controlled Packaging*

**PERFORMA® Range** by INATECH - where innovation meets excellence in thermal insulation solutions. As a registered trademark, Performa stands as a testament to our commitment to quality and performance in every product.

### Why **PERFORMA®**?

Designed for optimal efficiency and sustainability, Performa offers a comprehensive selection of thermal insulation solutions tailored for diverse applications. Whether you're enhancing energy efficiency in buildings or safeguarding sensitive materials during transport, **PERFORMA®** delivers unmatched reliability and performance.

### **Key Features:**

*Advanced Thermal Properties:* Achieve superior thermal efficiency with our innovative materials designed to minimize heat loss and maximize energy savings.

*Versatility:* From floor insulation and soundproofing to thermal reflective solutions, **PERFORMA®** adapts to various construction and industrial needs.

*Durability:* Engineered to withstand environmental challenges, ensuring long-term performance and cost-effectiveness.

*Environmental Commitment:* Our products support green building initiatives, contributing to a sustainable future through energy conservation and reduced carbon footprint.

*Applications:* Construction Sector: Enhance building thermal performance with our range of insulation materials.

*Industrial Applications:* Ensure product integrity in logistics with specialized thermal protective packaging solutions.

### Why Choose **PERFORMA®**?

Choosing **PERFORMA®** means investing in proven solutions backed by years of expertise and technological innovation. Whether you're a builder, architect, or industrial planner, our commitment to excellence ensures that your projects benefit from the best in thermal insulation technology.



At our **Test Center**, we can evaluate your products under any conditions you specify, using our **PERFORMA®** products to adjust heat and time parameters as needed.

# PERFORMA®



Food



Logistics



Medical



Biotech



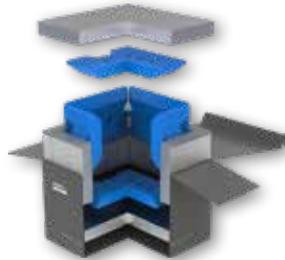
Fresh Pack Kit



Fresh Box



Thermoboxes Nature Line



Slim Line



Medi Line



Classic Line



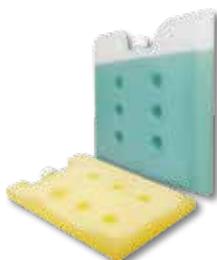
EPS Thermo boxes



Paper Cool Pack



Foam Bricks



PCM Packs (Phase Change Material)



HDPE-Ice Pack



Pallet Shipper



# Cold Chain & Temperature Controlled Packaging



Air Cargo



Sea Freight



ECO FRIENDLY



**PERFORMA® Light/Standard Pallet Cover**



**PERFORMA® Container Insulation XDL/XDL+**



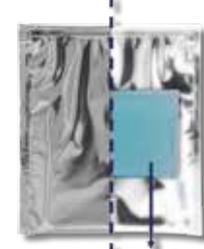
**Cool Meal Pouch**



**Secure Pharma**



**Medi Zip Pack**



**Medi Zip Pack with Eutectic Gel**



**Isothermal Pouch**



**T.M. - Multi-use USB data logger series - TempU04**



**T.M. - Real-time data loggers - TT19**



**T.M. - Real-time data loggers - TT19EX**



**T.M. - Real-time data loggers - TT18-4G-S**

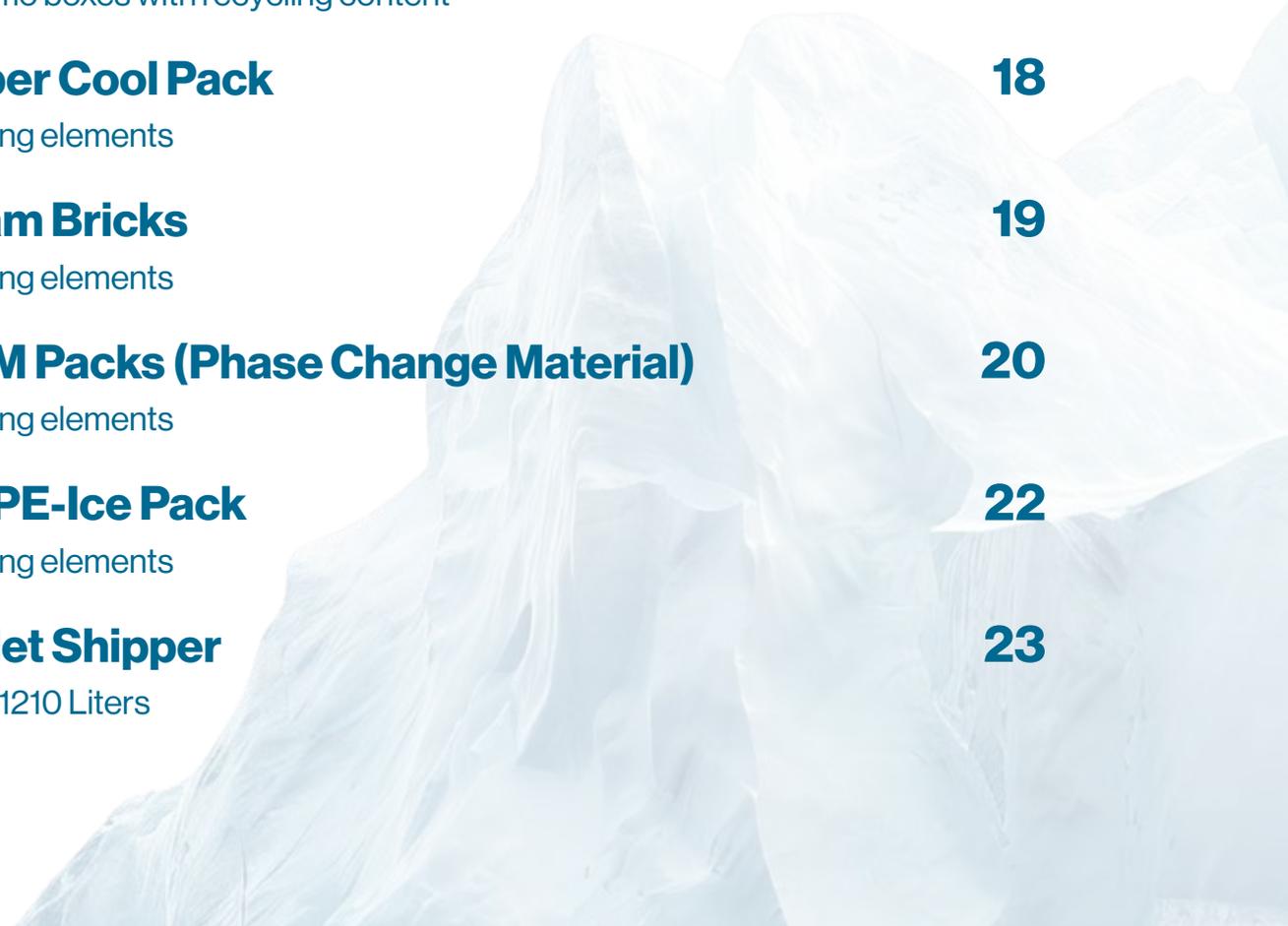


**T.M. - Single-use USB data logger series - TempU05**



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## Cardboard box with corrugated thermal paper



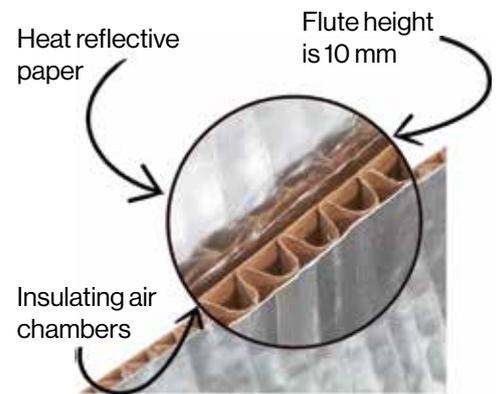
**ECO FRIENDLY**

CushionPaper Thermal is the ideal solution, made from 100% recyclable paper, for protecting and transporting any product sensitive to temperature fluctuations. CushionPaper's extra high flutes create air chambers that, combined with the special heat-reflecting paper, help maintain the internal temperature for a longer time.

The shock-absorbing capabilities of CushionPaper and the fact that it can be disposed of in regular paper recycling programs, render CushionPaper Thermal a complete and reliable solution.



				Packaging	Pallet EUR
<b>Application</b>		Food			
<b>Suitable for</b>		Fresh shipping			
<b>Type of thermal insulation</b>		Air chamber + reflective AL			
<b>Material</b>		Kraft paper			
<b>Recyclable yes/no</b>		Yes, 100%			
<b>Outer dimension</b>	<b>box 1</b>	internal size (mm)	280 x 280 x 260		
	<b>box 2</b>		380 x 380 x 160		
	<b>box 3</b>		210 x 210 x 290		
<b>Inner dimension</b>	<b>for box 1</b>	internal size (mm)	260 x 1045	bulk	160 pieces
	<b>for box 2</b>		160 x 1445		100 pieces
	<b>for box 3</b>		290 x 800		100 pieces
<b>Temperature tests</b>		Compliant with ISTA 7E specifications			
<b>Certification</b>		FSC			
<b>Customization</b>		1 colour			
<b>Box type</b>		Fefco 201			



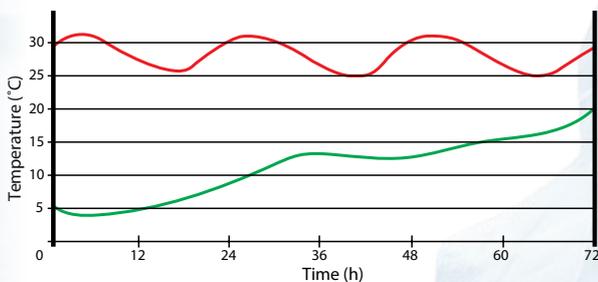
### Benefits:

*Provides insulating properties and:*

- can be easily reused several times;
- can be recycled in any municipal recycling stream (PAP20);
- reduces food waste;
- increases the distances that products can be shipped;
- reduces the formation of condensation inside the box.

*Extraordinary shock-absorbing properties to:*

- better handle fragile products;
- maximizing the internal volume of the box;
- reduce the need for internal components.



Compliant with ISTA 7E specifications

External temperature —

Temperature inside the box —





The refrigerated parcel ensures the freshness of your food products.

### Applications:

- Delicatessens and food producers such as macarons, foie gras, caviar, smoked salmon, chocolate, charcuterie, cheeses, pastries and gourmet baskets;
- Analysis laboratories for health checks on water and food.

### Very high isothermal performance:

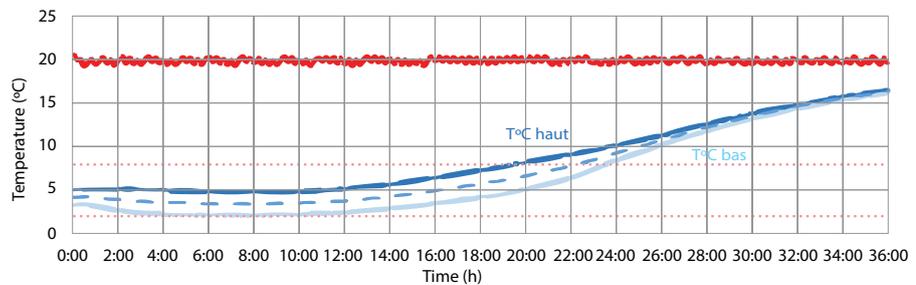
- Fresh Box 5mm thick, for 24/48 hour shipments;
- Fresh Box Plus 2cm thick, for 48/72 hour shipments of products that are particularly sensitive to temperature variations.

### Ideal design:

- Flexible isothermal bag delivered flat. Small storage footprint;
- Easy to assemble. The flexible structure adapts easily to your cardboard boxes.

### Thermal validation:

- Temperature maintenance is guaranteed by the addition of a previously frozen cold accumulator;
- Solution tested in a climatic chamber with temperature probes inside the package;
- Validation report available. Contact us for more information.



SKU	Designation	References	Thickness insulation	Volume (L)	Ext. Dim. (mm) Int. Dim. (mm)	Packaging pieces/box	Pallet EUR
16414	Fresh Box 8L	EI-FB-8-PET-PEW	5 mm	8	200 x 200 x 200 190 x 190 x 190	50	1000
16415	Fresh Box 15L	EI-FB-15-PET-PEW	5 mm	15	275 x 275 x 260 240 x 240 x 240	50	800
16416	Fresh Box 25L	EI-FB-25-PET-PEW	5 mm	25	300 x 300 x 300 290 x 290 x 290	30	360
	Fresh Box 66L	EI-FB-66-PET-PEW	5 mm	66	685 x 365 x 300 675 x 355 x 290		
	Fresh Box Plus 6L	EI-FBP-6-PET-PEW	20 mm	6	215 x 215 x 255 175 x 175 x 215		
16417	Fresh Box Plus 12L	EI-FBP-12-PET-PEW	20 mm	12	275 x 275 x 260 235 x 235 x 220	90	180
16418	Fresh Box Plus 23L	EI-FBP-23-PET-PEW	20 mm	23	320 x 320 x 300 280 x 280 x 260	60	120

<b>Application (Insulated Bag)</b>	Food		
<b>Material</b>	<b>Exterior</b>	<b>Inside (middle)</b>	<b>Interior</b>
	MPET 12 µm+PE 40 µm	Soft polyurethane foam 4.8 mm	White PE 30 µm Food Contact Materials-Regulation (EC 1935/2004)
<b>Dimensions</b>	380 x 380+110 mm		
<b>Colour</b>	Silver		
<b>Other</b>	Self-adhesive flap		



1.

Assemble the cardboard box and hold the Fresh Box bag by the sides.



2.

Compress sideways to form your Fresh Box.



3.

Fold the corners down.



4.

Insert your Fresh Box into its cardboard box.



5.

Add your heat-sensitive products and eutectic gels.



The **paper thermoboxes** offer an eco-friendly solution for the safe transport of temperature-sensitive products. Thanks to their special paper insulation mats, they provide reliable insulation while contributing to a more sustainable packaging concept.

The boxes are available in various designs to meet different requirements, offering a practical alternative to conventional thermal packaging.

### PRO

- Paper insulation mats fully lined with cardboard.
- No fibers in the product space.
- **Included:** Paper insulation panels (fully lined), outer & inner cardboard

### Nature Line

#### **Frozen (< -15°C)**

Runtimes of up to 2.5 days

#### **Cold (+2 to +8°C)**

Runtimes of up to 4 days

#### **Ambient (+15 to +25°C)**

Runtimes of up to 2.5 days

Sustainable paper thermoboxes, made from nearly 100% recycled paper, is the ideal, eco-friendly solution for shipping temperature-sensitive products. It combines sustainable materials with reliable protection, ensuring safe transportation.

- made from almost 100% recycled material
- simple disposal of the box as a whole via household waste paper
- conserving resources & strengthening the sustainable circular economy
- excellent insulation performance comparable to EPS
- safe shipping of temperature-sensitive products
- high shock absorption thanks to dimensionally stable paper panels
- also suitable for use with dry ice
- Development of individual solutions tailored to your needs

Standard sizes (product space): 5 up to 137 liters

PRO					
Name	Space (liters)	Internal dim. (mm) (LxWxH)	External dim. (mm) (LxWxH)	Wall thickness (mm)	Weight (kg)
Paper 5	5	210 x 150 x 145	285 x 225 x 225	30	0,6
Paper 14	14	290 x 230 x 215	365 x 305 x 295	30	1,2
Paper 24	24	350 x 290 x 235	430 x 370 x 320	30	1,7
Paper 29	29	375 x 335 x 230	505 x 465 x 360	60	4,7
Paper 36	36	375 x 275 x 350	505 x 405 x 485	60	5,2
Paper 55	55	530 x 350 x 295	605 x 430 x 380	30	2,6
Paper 71	71	555 x 375 x 340	685 x 505 x 485	60	7,9
Paper 113	113	590 x 455 x 420	725 x 600 x 570	60	10
Paper 137	137	590 x 455 x 510	725 x 600 x 660	60	11,5



## Pre-qualified Thermo Boxes



The **Slim Line** packaging solution can be used for the common temperature ranges Ambient, Cold and Frozen. For this, only the cooling element set needs to be changed. The product line can also be used with dry ice.

Slim Line multi-use passive thermal packaging features excellent thermal protection. Maintains the product temperature even with fluctuating external temperatures, e.g. during hot-cold transports.



### Advantages:

- maximum performance;
- VIP with shock absorbing cover;
- same assembly all year round;
- covers various temperature ranges;
- suitable for dry ice;
- phase change material (PCM);
- 5 up to 64 liters.

### Slim Line

#### **Frozen (< -15°C)**

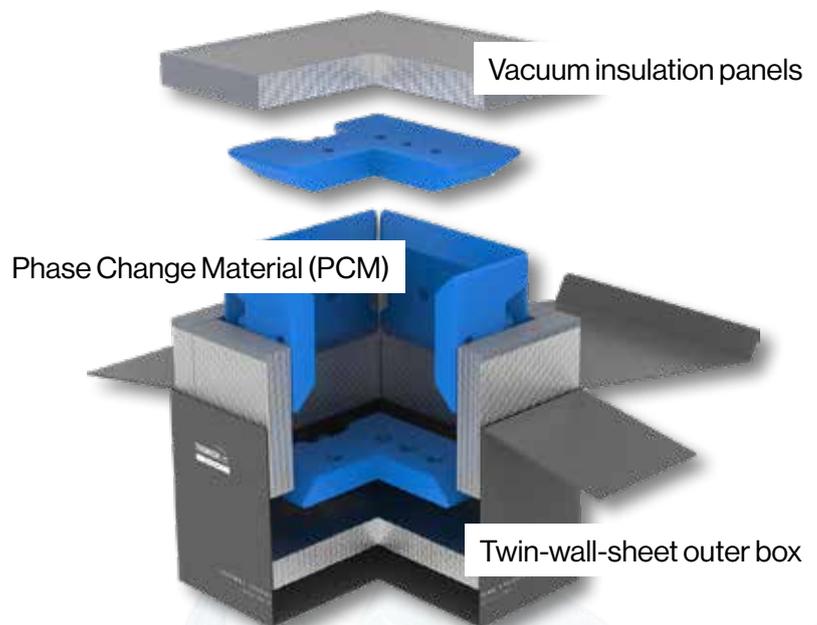
Runtimes of up to 5 days

#### **Cold (+2 to +8°C)**

Runtimes of up to 5 days

#### **Ambient (+15 to +25°C)**

Runtimes of up to 6 days



Frozen <-15°C					
Name	Space (liters)	Internal dim. (mm) (LxWxH)	Outer dim. (mm)(LxWxH)	Running time with PCM	Running time with dry ice
Slim Line 5	5	210 x 210 x 125	400 x 390 x 292	≥ 111 h *	≥ 168 h *
Slim Line 7	7	228 x 228 x 140	400 x 390 x 292	≥ 66 h *	≥ 113 h *
Slim Line 10	10	215 x 215 x 215	400 x 390 x 382	≥ 119 h *	≥ 139 h *
Slim Line 12	12	228 x 228 x 228	400 x 390 x 382	≥ 83 h *	≥ 122 h *
Slim Line 15	15	280 x 228 x 228	475 x 390 x 382	≥ 108 h *	≥ 168 h *
Slim Line 20	20	300 x 300 x 228	475 x 465 x 382	≥ 110 h *	≥ 130 h *
Slim Line 27	27	300 x 300 x 300	475 x 465 x 455	≥ 116 h *	≥ 161 h *
Slim Line 36	36	400 x 300 x 300	580 x 465 x 455	≥ 139 h *	≥ 138 h *
Slim Line 48	48	400 x 400 x 300	580 x 570 x 455	≥ 161 h *	≥ 161 h *
Slim Line 64	64	400 x 400 x 400	580 x 570 x 560	≥ 127 h *	≥ 110 h *

Cold +2 to +8°C					
Name	Space (liters)	Internal dim. (mm) (LxWxH)	Outer dim. (mm)(LxWxH)	Running time Summer ISTA 7D	Running time Winter ISTA 7D
Slim Line 5	5	210 x 210 x 125	400 x 390 x 292	≥ 107 h *	≥ 167 h *
Slim Line 7	7	228 x 228 x 140	400 x 390 x 292	≥ 80 h *	≥ 168 h *
Slim Line 10	10	215 x 215 x 215	400 x 390 x 382	≥ 128 h *	≥ 167 h *
Slim Line 12	12	228 x 228 x 228	400 x 390 x 382	≥ 95 h *	≥ 168 h *
Slim Line 15	15	280 x 228 x 228	475 x 390 x 382	≥ 120 h *	≥ 167 h *
Slim Line 20	20	300 x 300 x 228	475 x 465 x 382	≥ 118 h *	≥ 166 h *
Slim Line 27	27	300 x 300 x 300	475 x 465 x 455	≥ 136 h *	≥ 167 h *
Slim Line 36	36	400 x 300 x 300	580 x 465 x 455	≥ 152 h *	≥ 167 h *
Slim Line 48	48	400 x 400 x 300	580 x 570 x 455	≥ 152 h *	≥ 167 h *
Slim Line 64	64	400 x 400 x 400	580 x 570 x 560	≥ 142 h *	≥ 167 h *

\* Minimum running time

Ambient +15 to +25°C					
Name	Space (liters)	Internal dim. (mm) (LxWxH)	Outer dim. (mm)(LxWxH)	Running time Summer ISTA 7D	Running time Winter ISTA 7D
Slim Line 5	5	210 x 210 x 125	400 x 390 x 292	≥ 156 h *	≥ 166 h *
Slim Line 7	7	228 x 228 x 140	400 x 390 x 292	≥ 126 h *	≥ 117 h *
Slim Line 10	10	215 x 215 x 215	400 x 390 x 382	≥ 163 h *	≥ 186 h *
Slim Line 12	12	228 x 228 x 228	400 x 390 x 382	≥ 144 h *	≥ 151 h *
Slim Line 15	15	280 x 228 x 228	475 x 390 x 382	≥ 155 h *	≥ 170 h *
Slim Line 20	20	300 x 300 x 228	475 x 465 x 382	≥ 160 h *	≥ 166 h *
Slim Line 27	27	300 x 300 x 300	475 x 465 x 455	≥ 168 h *	≥ 186 h *
Slim Line 36	36	400 x 300 x 300	580 x 465 x 455	≥ 169 h *	≥ 183 h *
Slim Line 48	48	400 x 400 x 300	580 x 570 x 455	≥ 169 h *	≥ 186 h *
Slim Line 64	64	400 x 400 x 400	580 x 570 x 560	≥ 169 h *	≥ 186 h *

\* Minimum running time





## High performance thermo box



The **Medi Line** thermo box was designed to make the transport of temperature-sensitive products reliable and easy under a wide range of conditions. The entire process - from packing and transportation to the removal of products - remains efficient and straightforward.

Sensitive samples, medications, or laboratory materials must be transported safely and with stable temperatures.

The Medi Line offers a reliable solution: a robust outer shell, efficient insulation, and high-performance cooling ensure that the required conditions remain constant.



### Advantages:

- Heavy-duty shipper for reliable transport;
- Easy handling and instant product access;
- Simple and failure-free assembly;
- Maximum security inside and outside;
- Pre-qualified for all temperature ranges;
- Individual solutions tailored to your need;
- 6 and 18 liters.

### Medi Line

#### **Frozen (< -15°C)**

Runtimes of up to 2 days

#### **Cold (+2 to +8°C)**

Runtimes of up to 3 days

#### **Ambient (+15 to +25°C)**

Runtimes of up to 3.5 days

#### **Instant product access**

The well-designed construction with a lid-integrated VIP panel allows direct and quick access to the product. No loose components.

#### **Cooling pack standard size**

Our standard cooling element sizes fit all box sizes. Maximum flexibility with reduced storage costs.

#### **Same packing process**

Using the same cooling elements and the same preconditioning for both summer and winter conditions simplifies the packing process and prevents errors.

#### **Practical handles**

The practical carrying handles ensure safe, comfortable transport and make lifting and carrying easy, even when fully loaded.



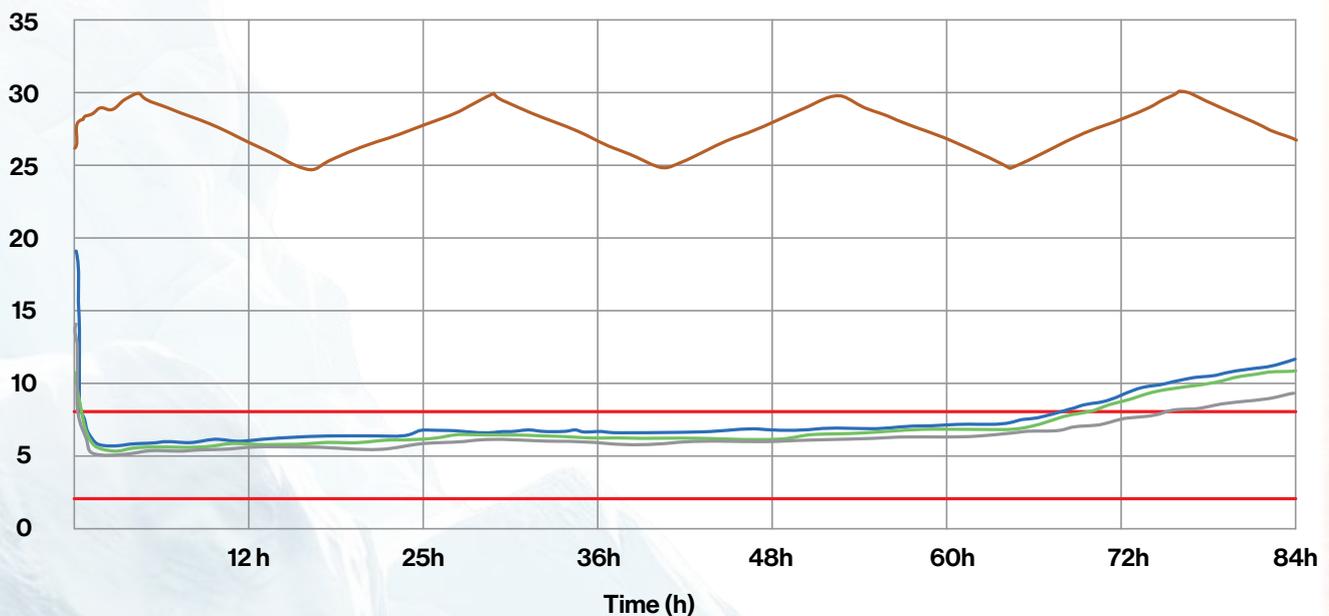
Medi Line MEDIUM		
Name	U/M	Value
Product space (in the product box)	liters	appx. 6
Inner dimensions (in product box)	mm	appx. 260 x 120 x 190
Inner dimensions (without product box, without cooling elements)	mm	bottom: appx. 280x190x235
		top: appx. 290x200x235
Outer dimension	mm	appx. 400 x 300 x 332
Empty weight	kg	appx. 5.7



Medi Line LARGE		
Name	U/M	Value
Product space (in the product box)	liters	appx. 18
Inner dimensions (in product box)	mm	appx. 390 x 270 x 170
Inner dimensions (without product box, without cooling elements)	mm	bottom: appx. 470x280x245
		top: appx. 490x300x245
Outer dimension	mm	appx. 600 x 400 x 342
Empty weight	kg	appx. 10.7



### Temperature °C



**Product:** Medi Line LARGE  
**Temperature range:** COLD (2° to 8°C)  
**Test profile:** ISTA 7E  
**Runtime:** 2 to 3 days  
 tested with **empty product space** (worst case)

- External temperature: Ambient
- Measure point: upper corner
- Measure point: center of the box
- Measure point: bottom corner



## Pre-qualified Thermo Boxes



### Qualified complete systems:

Thermo box made of EPS or Neopor®, outer carton, cooling elements.

Cost-optimized, with EPS boxes and matching cooling elements.

### Classic Line

Runtimes: 3 to 5 days

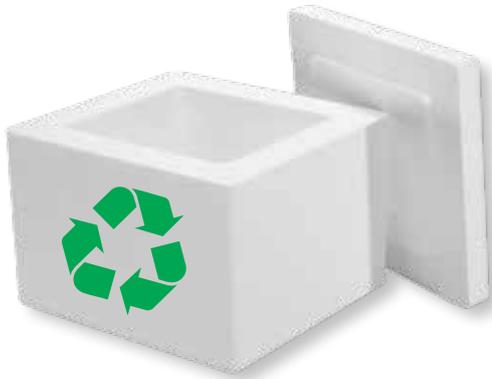
Product space: 1.3 to 70 liters



- Classic 1.3
- Classic 2.2
- Classic 4.8
- Classic 5.0
- Classic 6.0
- Classic 6.5
- Classic 7.7
- Classic 15
- Classic 15.5
- Classic 24
- Classic 53
- Classic 70

\* - [Pro-Version]

Cap. (liters)	Int. dimensions (mm) appx.	Ext. dimensions & carton (mm) appx.	Temperature (°C) winter			Temperature (°C) summer		
			+15 to +25°C	+2 to +8°C	< -15°C	+15 to +25°C	+2 to +8°C	< -15°C
1.3	120 x 120 x 90	280 x 280 x 270	1 day	1,5 days	2,5 days (dry ice) 1 day (PCM)	2 days	1,5 days	2,5 days (dry ice) 1 day (PCM)
2.2	150 x 96 x 150	350 x 310 x 320	on request	2 days	2 days (dry ice)	1 day	1 day	2 days (dry ice)
4.8	290 x 175 x 95	420 x 305 x 325	on request	4 days (PCM)	3 days (dry ice)	on request	2 days	3 days (dry ice)
5.0	285 x 93 x 190	380 x 280 x 340	on request	* 2 days [2 days (PCM)]	1,5 days (dry ice)	1 day	* 1,5 days [2 days (PCM)]	1,5 days (dry ice)
6.0	287 x 182 x 114	415 x 365 x 380	3 days (PCM)	5 days	4 days (dry ice) 1 day (PCM)	5 days	2,5 days	4 days (dry ice) 1 day (PCM)
6.5	283 x 193 x 118	575 x 495 x 405	5 days (PCM)	* 5 days [5 days (PCM)]	5 days (dry ice) 3,5 days (PCM)	5 days	* 3 days [4 days (PCM)]	5 days (dry ice) 3,5 days (PCM)
7.7	288 x 235 x 115	415 x 365 x 380	on request	5 days	3,5 days (dry ice)	5 days	2,5 days	3,5 days (dry ice)
15	281 x 191 x 302	575 x 495 x 595	5 days (PCM)	* 5 days [5 days (PCM)]	5 days (dry ice) 4 days (PCM)	5 days	* 3 days [4,5 days (PCM)]	5 days (dry ice) 4 days (PCM)
15.5	380 x 233 x 175	690 x 410 x 420	5 days	5 days	2 days (PCM)	5 days	3,5 days	2 days (PCM)
24	580 x 390 x 105	725 x 600 x 412	3 days	4 days	5 days (dry ice) 2,5 days (PCM)	4 days	2,5 days	5 days (dry ice) 2,5 days (PCM)
53	521 x 388 x 260	725 x 600 x 570	5 days	5 days	5 days (dry ice) 2,5 days (PCM)	5 days	4,5 days	5 days (dry ice) 2,5 days (PCM)
70	520 x 385 x 355	725 x 600 x 660	2,5 days	5 days	5 days (dry ice) 2,5 days (PCM)	5 days	4 days	5 days (dry ice) 2,5 days (PCM)



Styrofoam thermo boxes and insulating packaging made from recycled Styrofoam

We offers a wide range of thermal packaging like thermobox or styrofoam boxes made of 35% recycled content. The customer can choose a thermo box from different volumes and sizes: starting from 0.57 litres product space volume up to 1275 litres. All EPS boxes with recycled content are suitable for use with dry ice and cooling elements.

**A thermo box consists of:**

- EPS box made of 35% recycled EPS;
- EPS lid made of 35% recycled EPS;
- depending on the EPS box, a stacking frame may be included.

**Thermo box for shipping of sensitive food**

A EPS thermo box is particularly well suited for shipping foodstuffs due to its low weight and excellent insulating properties. Meat and fish, but also other frozen foods can be transported safely over a longer period of time.

However, an insulated styrofoam recycled thermo box is also a good choice from an economic point of view. If you decide on a thermo box from our standard program, there are no tool costs for you. In addition, the chosen styrofoam box is available at short notice and can therefore be used quickly.

**In addition, the thermo box made of 35% recycled Styrofoam is of course approved for direct contact with foodstuffs.**

**Polystyrene box and sustainability**

Conventional polystyrene is made from fossil raw materials. EPS boxes made from recycled Styrofoam use up to 35% recycled materials. The advantage of the process: as the subsequent production steps are identical, the thermal and mechanical properties of the polystyrene remain unchanged. However, with CO<sub>2</sub> savings compared to classic polystyrene.

The EPS thermo box is also 100% recyclable. Unfortunately, this is often not the case with coated cardboard or paper.

**Advantages:**

- up to 35% recycled content\*. This conserves fossil raw materials;
- comparable mechanical and thermal properties of thermo boxes to conventional EPS.;
- recycled content in our EPS thermo boxes reduces your carbon footprint compared to boxes made from conventional EPS;
- styrofoam is 100% recyclable. Styrofoam boxes made from recycled content also get a second life at the end of their life cycle;
- recycling materials into new EPS thermo boxes instead of disposing of them strengthens a sustainable circular economy;
- our thermo boxes are suitable for use with cooling elements or dry ice. You are welcome to have a look at our cooling elements.

\* EPS white (Styropor®) with 35% recycled material;

\* EPS gray (Neopor®) with 30% recycled material.

EPS thermo boxes with recycling content	
Internal volume	from 0.6 to 4.9 liters
	from 5.0 to 9.3 litres
	from 10.1 to 14.6 litres
	from 15.3 to 39.3 litres
	from 41.1 to 142.3 litres
Pallet Boxes	from 97.0 to 1210.0 litres
Wall thickness	from 12.5 to 60 mm





## Cooling elements



High quality **Kraft Paper Cooling Pad** that emphasizes the natural look. The gel pack is available in different sizes. Ideal for the thermal transport of temperature-sensitive products between 0°C and 8°C.

The water-based cooling gel is non-toxic and easy to dispose of with household waste.

### FEATURES:

- Material: kraft paper laminated with LDPE;
- Can be recycled with household waste.

There are three common temperature ranges in the pharmaceutical, biotechnology and medical industries where temperature-sensitive products, such as serums or active ingredients, must be transported and stored:

- +15 to +25°C (ambient);
- +2 to +8°C (cold);
- -15°C (frozen).

The use of dry ice in the transport of temperature-sensitive products is becoming increasingly critical. Dry ice as a coolant is classified as a dangerous good for air traffic (UN 1845) according to IATA-DGR (International Air Transport Association - Dangerous Goods). In the aviation sector, as well as in the regulations for the transport of dangerous goods by road (ADR), dry ice is subject to labelling.

Dry ice is made up of frozen carbon dioxide (CO<sub>2</sub>), has a phase transition at -78.5°C and goes directly into the gaseous state without melting. Dry ice can only be used once. Improper handling of this refrigerant product can cause cold burns. The PCM gel pack is a safe alternative to dry ice. The melting point of the special PCM (phase change material) is -21°C. The frozen elements are preconditioned at -30°C to -40°C.

The PCM gel pack is reusable and can be handled safely. In addition, no special labeling of the cooling elements is required.





## Cooling elements



The leak-proof cooling element, which remains dimensionally stable in both the frozen and unfrozen state due to its foam core.

### Advantages:

- Cost-effective cooling element;
- Robust composite foil;
- Leak-proof foam core;
- Approved for direct food contact;
- Special sizes and printing;

### Foam Bricks

**0°C** - Stable in shape in frozen/unfrozen state due to foam;

**-21°C** - A safe alternative to dry ice without dangerous goods labeling.

### Foam Brick 0°C

Our Foam Bricks are dimensionally stable in frozen and unfrozen state due to the foam core. Due to the robust PA/PE composite film they are also suitable for multiple applications. Individual geometries can be realized:

- dimensionally stable in frozen/unfrozen state;
- leak-proof foam core;
- consistent heat absorption;
- suitable for direct food contact;
- special sizes and individual printing possible.

Weight in g	Dimensions (L x W x H) in mm
250	152 x 95 x 20
500	195 x 130 x 21
520	136 x 136 x 30
630	177 x 102 x 39
680	120 x 100 x 60
1100	280 x 190 x 25
1690	286 x 236 x 27

### Foam Brick -21°C

Our Foam Bricks -21 are a safe alternative to dry ice. There are no dangerous goods regulations when using them. This frozen element is non-toxic and also approved for food transport. Unlike dry ice, the Foam Brick -21 can be stored in freezers at -30°C and reused at will:

- safe alternative to dry ice;
- no dangerous goods labelling necessary;
- dimensionally stable in frozen/unfrozen state;
- leak-proof foam core;
- consistent heat absorption;
- suitable for direct food contact;
- special sizes and individual printing possible.

Weight in g	Dimensions (L x W x H) in mm
460	195 x 130 x 21
520	136 x 136 x 30
630	177 x 102 x 39
660	120 x 100 x 60
1300	280 x 190 x 25
1600	280 x 190 x 30
1750	286 x 236 x 27

# PCM Packs (Phase Change Material)



## Cooling elements



The **PCM pack** – fillable with various phase change materials with melting points in the plus and minus range.

### • Year-round pack-out with PCM 5

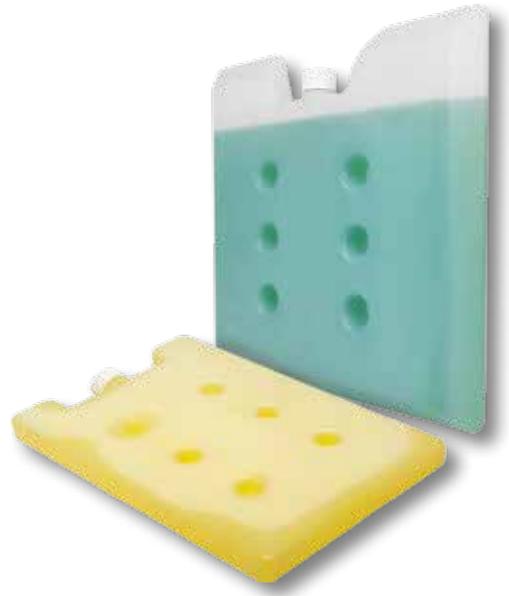
The PCM 5 pack emits or absorbs heat or cold at about 5°C. In this way, the goods to be shipped can be kept at a constant temperature of between +2 and +8°C, both in summer and winter.

### • Ambient: PCM 18 & 22

Demanding temperature ranges can often hardly be displayed with purely water-based packs. Especially for the +15 to +25°C range, our PCMs with a melting range around 18 or 22°C are suitable.

### • No hazardous material

The PCM -21 with a melting point at -21°C is a safe alternative to dry ice. It is much safer to handle and, in contrast to the disposable dry ice version, can be reused.



## PCM packs without chamfer

PCM -21  
Melting point  
at about -21°C



PCM 5  
Melting point  
at about -5°C



PCM 18  
Melting point  
at about 18°C



PCM 22  
Melting point  
at about 22°C



## PCM packs with chamfer

PCM -21  
Melting point  
at about -21°C



PCM 5  
Melting point  
at about 5°C

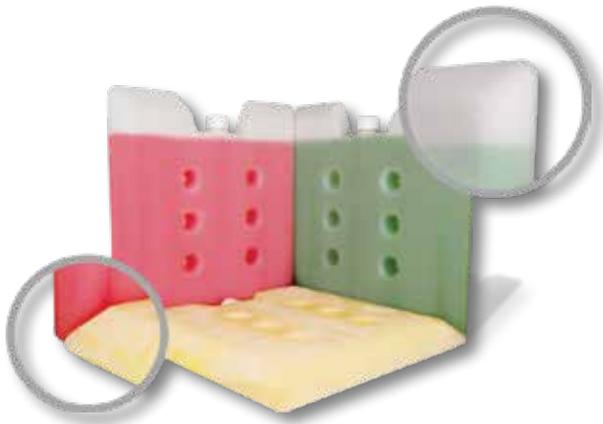


PCM 18  
Melting point  
at about 18°C



PCM 22  
Melting point  
at about 22°C





### Chamfers for an optimized packing process

The PCM packs with chamfered edges can be placed on top of each other in a non-slip and precise fit. This allows a simplified packing process and prevents a loss of cooling capacity by reducing gaps between the cooling elements.

### PCM Packs without chamfers

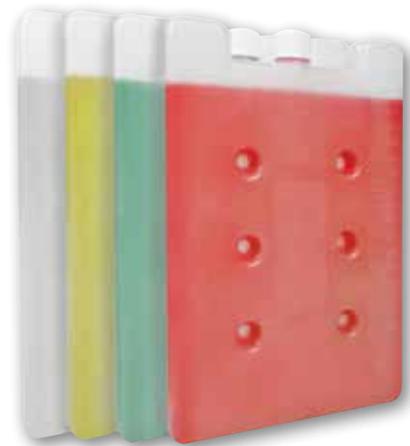
The cold pack with phase-change material can cover different temperature ranges depending on the selected filling. This enables the PCM cooling element to compensate for fluctuating outside temperatures and to keep the transported goods always within the intended temperature range.

**Size:** 280 x 190 x 26 mm

**Weight:** 960 g (PCM -21: 1410 g)

#### Features:

- durable hard shell;
- filling with phase change material;
- different melting points available;
- frozen: no dangerous goods;
- standard pack;
- individual temperature ranges possible.



### PCM Packs with chamfers

The PCM pack with chamfer has the same high performance filling of phase change material, but has chamfered edges. These allow the cooling elements to be angled into each other during the packing process.

**Size:** 266 x 266 x 26 mm

**Weight:** 1160 g (PCM -21: 1640 g)

#### Features:

- durable hard shell;
- filling with phase change material;
- different melting points available;
- frozen: no dangerous goods;
- standard pack;
- chamfers for a simplified packing process;
- individual temperature ranges possible.





## Cooling elements



Cooling elements with a stable, robust hard shell and a water-based filling.

- **Suitable for food**

All hard-shell packs are non-toxic and approved for direct food contact in accordance with EU directives.

- **Robust shell**

The robust hard shell is ideally suited for demanding multiple applications at a reasonable price.

- **Water-based**

The fillings of the hard-shell packs are purely water-based and therefore have their melting point at about 0°C.



### HDPE Basic 0°C

The HDPE Basic hard-shell pack is a cost-effective alternative, especially for multiple applications. The cooling element is approved for direct food contact. The filling is purely water-based, so the melting point is 0°C.

**Advantages:**

- durable hard shell;
- ideal for multiple applications;
- Filling purely water-based;
- suitable for direct food contact.



### HDPE Pro 0°C

The HDPE Pro has a special gel filling and is more robust than the HDPE Basic. It is therefore leak-proof even in case of a defect. This pack is the THERMOCON standard size, which was designed to fit precisely for selected THERMOCON systems. Different temperature ranges can be achieved simply by changing the pack, without having to replace the entire system, including the thermobox.

**Advantages:**

- more robust hard shell than HDPE Basic;
- designed for multiple use;
- leak-proof due to water-based gel filling;
- suitable for direct food contact.





SKU: 16001



**Advantages:**

Thermally shipping large quantities for up to 5 days

- reduces your CO<sub>2</sub> footprint compared to conventional EPS;
- easy modular construction;
- simple & failure-free assembly;
- max. mechanical stability (tongue/groove joint);
- integrated spacers, reduced complexity;
- suitable for dry ice.

**Pallet Shipper**

**Frozen (< -15°C)**

Runtimes of up to 7.5 days

**Cold (+2 to +8°C)**

Runtimes of up to 5 days

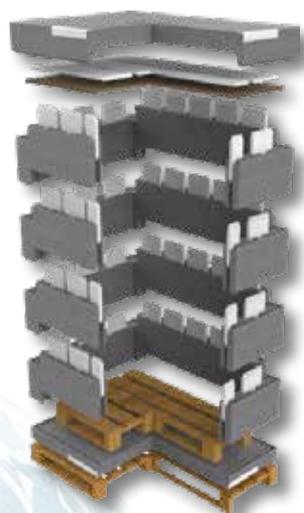
**Ambient (+15 to +25°C)**

Runtimes of up to 5 days

Pallet Shipper 910					
CHARACTERISTICS		U/M	VALUE	PACKAGING	PALLET EUR
Dimensions product space	LENGTH	mm	1242	Bulk	1 Piece
	WIDTH		842		
	HEIGHT		870		
Outer dimensions	LENGTH	mm	1450		
	WIDTH		1050		
	HEIGHT		1283		
Payload volume		liters	aprox. 910		
Temperature winter	5 days	°C	+ 15 up to + 25		
	5 days		+ 2 up to + 8		
	upon request		< - 15		
Temperature summer	5 days	°C	+ 15 up to + 25		
	4 days		+ 2 up to + 8		
	upon request		< - 15		



Pallet Shipper 1210					
CHARACTERISTICS		U/M	VALUE	PACKAGING	PALLET EUR
Dimensions product space	LENGTH	mm	1242	Bulk	1 Piece
	WIDTH		842		
	HEIGHT		1160		
Outer dimensions	LENGTH	mm	1450		
	WIDTH		1050		
	HEIGHT		1573		
Payload volume		liters	aprox. 1210		
Temperature winter	4,5 days	°C	+ 15 up to + 25		
	5 days		+ 2 up to + 8		
	upon request		< - 15		
Temperature summer	5 days	°C	+ 15 up to + 25		
	5 days		+ 2 up to + 8		
	upon request		< - 15		



# PERFORMA® Light/Standard Pallet Cover



## Aluminum Pallet Wrap



**PERFORMA® Light and Standard Pallet Cover** is used to cover pallets with goods, being a cover with thermal insulating properties. It is used to insulate pallets, protecting them from high temperatures or excessively low temperatures. The products differ depending on the need and the level of thermal insulation.

Thermal insulation covers for pallets are made of air bubble foil laminated with PET aluminum, have thermal insulation properties under the influence of high temperatures and are used in the packaging process of the following products:

- pallets with various products (wooden profiles and parts, construction materials, sanitary ware, machinery,;
- various large products: wood, furniture, mattresses, garments, industrial or chemical products, etc.

Thermally insulating pallet covers meet packaging needs in both manual, semi-automatic and automatic modes.



### Suitable for:

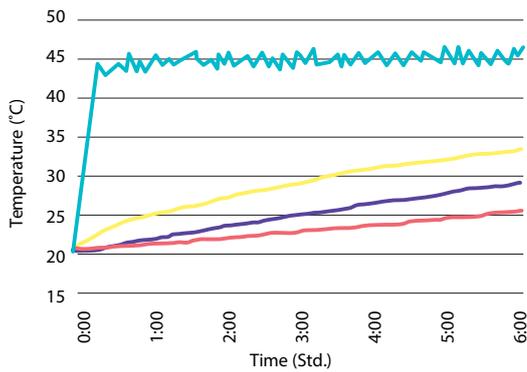
- Ensures optimal protection for sensitive wood surfaces against repeated scratches or shocks, while its sealed design safeguards against moisture, dust and dirt;
- Ideal for packaging ceramic and glass objects, offering flexibility and durability.

Aluminized bubble film protects products from shocks and impacts, provides insulation against humidity, and offers thermal insulation properties.

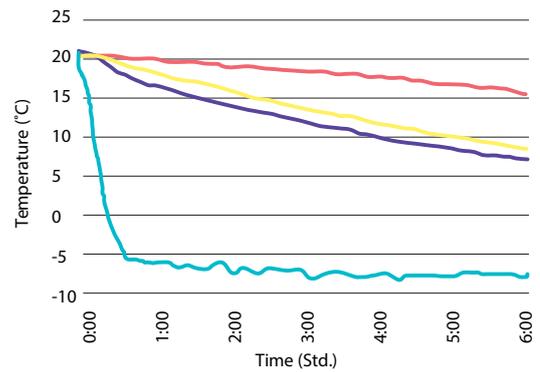
SKU	Material						Packaging pieces/box	Pallet EUR
		AL PET 11 µm + BUBBLE wrap with 140 µm thickness (Light)						
		AL PET 11 µm + BUBBLE wrap with 140 µm thickness + AL PET (Standard)						
		Length (mm)	width (mm)	height (mm)	Thickness FB (µm)	Thickness AL PET (µm)		
11287	Dimensions	1250	850	1000	140	11	25	50
10532		1260	1060	1300			25	50
10774		1270	1070	1500			25	50
	<b>Tolerance</b>	0/+25mm	0/+20mm	0/+20mm	+/-10%	+/-10%		
	<b>Smell</b>	Odorless						
	<b>Colour</b>	Silver						
	<b>Operating temperature °C</b>	-40 ... +80						
	<b>Storage</b>	Store in covered, clean, dry warehouses away from direct sunlight, at a min distance of 2 m from any heat source. Storage conditions: 15°C - 25°C.						

## PERFORMA® LIGHT PALLET COVER AL PET + BUBBLE

Climate chamber test Summer  
Excerpt from the last 6 hours

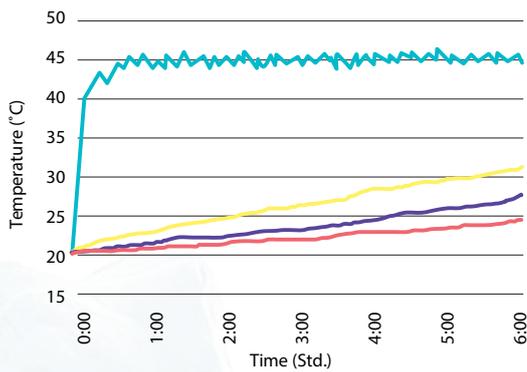


Climate chamber test Winter  
Excerpt from the last 6 hours

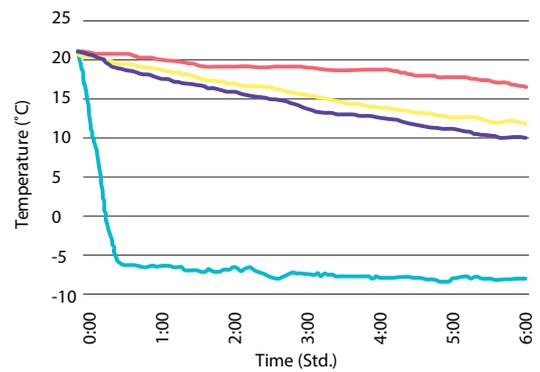


## PERFORMA® STANDARD PALLET COVER AL PET + BUBBLE + AL PET

Climate chamber test Summer  
Excerpt from the last 6 hours



Climate chamber test Winter  
Excerpt from the last 6 hours



Product temperature  
Upper layer

Product temperature  
Lower layer

Product temperature  
Middle layer

Ambient  
Temperature



PACKAGING		
CARTON BOX	UNIT	VALUE
Width	mm	800
Length	mm	1200
Height	mm	1000
Pieces/box	-	25
Box/pallet	-	2
Pieces/pallet	-	50
Pallet Height	mm	2150



## Aluminum Roll for Container Insulation



A state-of-the-art solution designed to regulate temperature and protect your goods during transportation and storage. Manufactured from advanced materials, the product is obtained by laminating multiple layers of insulating components, such as two aluminum foils with 99% purity, two air chambers made from low-density polyethylene, and a central 4mm thick insulating layer made of expanded polyethylene.

This thermal insulation forms a barrier against temperature fluctuations, ensuring that sensitive items remain within the desired temperature range. Whether it's perishable goods, pharmaceuticals, or temperature-sensitive products, our liner provides optimal insulation and protection against heat or cold exposure.

Thanks to its easy-to-install design, it is a practical choice for various packaging needs. It comes equipped with adhesive tape for easy bonding.

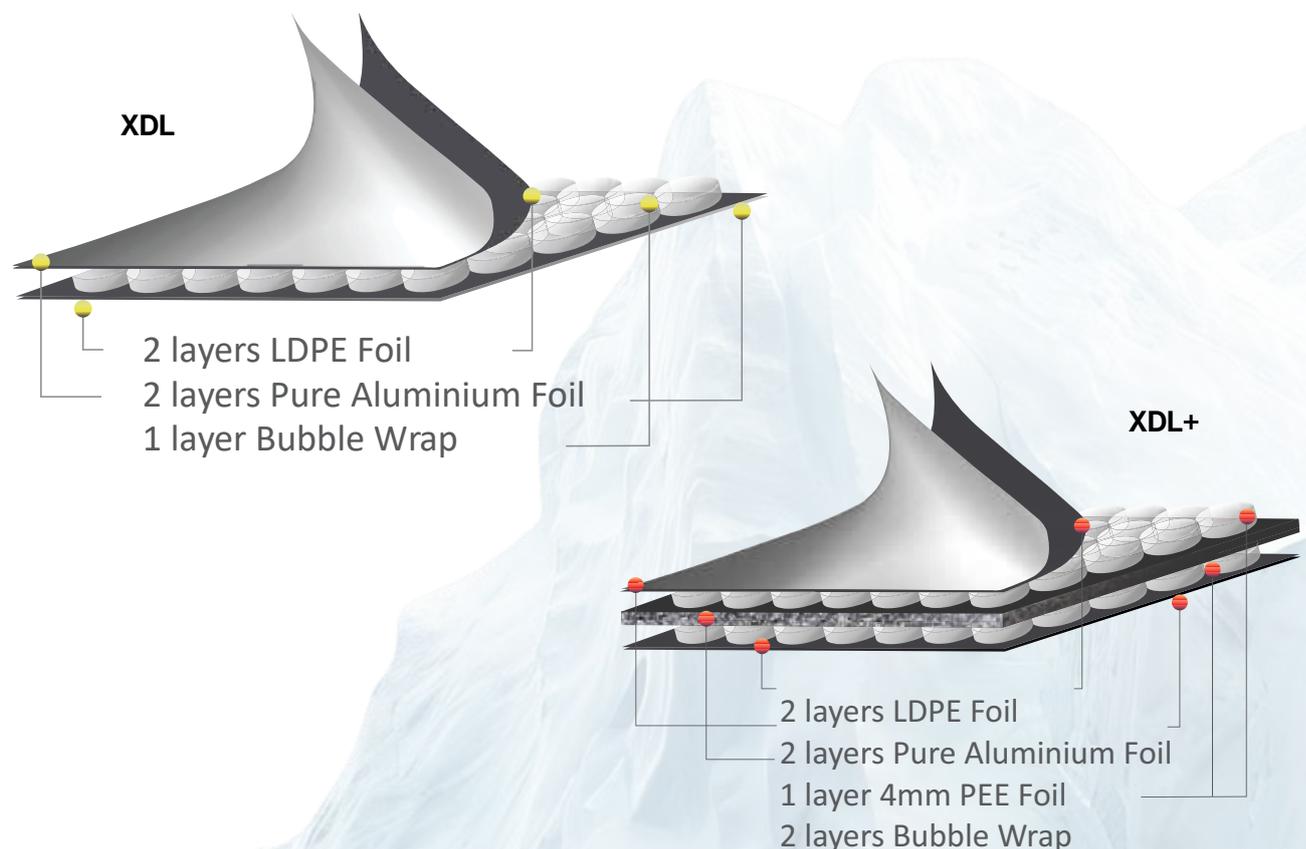


### Features:

- Temperature Regulation;
- Reflective Barrier;
- Insulating Material;
- Customizable Sizing;
- Easy Installation.

### Applications:

- Cold Chain Logistics;
- Pharmaceutical & Medical Storage;
- Food & Beverage Industry;
- E-commerce & Packaging;
- Industrial & Warehouse Use;
- Air & Sea Freight Shipping.



FEATURES		U/M	XDL		XDL+	
			VALUE			
Waterproofness		-	no changed colours on paper filter			
Diffusion of water vapour - the gravimetric method		m	0.74			
Tensile strength - longitudinal direction		N/50mm	225			
Tensile strength - transverse direction		N/50mm	159			
Maximum longitudinal force		N	151			
Elongation of transverse direction		%	43			
Maximum transverse force		N	181			
Low temperature flexibility (-40°C)		-	no cracks on the top and bottom of the samples			
Dimensional changes - longitudinal direction		%	- 0.7			
Dimensional changes - transverse direction		%	- 0.2			
Layers		-	5	7		
Roll width		m	1.2 / 2.5	1.2		
Roll length		m	14			
Thickness		mm	10			
Roll area		m <sup>2</sup>	16.8 / 35	16.8		
Adhesive tape	Nr.	-	3	2		
	Width	mm	25			
Density		gr/m <sup>2</sup>	460			
Fire resistance		-	B2 (Flammable)			
Vapor barrier value		g/m <sup>2</sup> /24h	0.05			
Energy class		-	A++			
Reflectivity		%	96 - 97			
Operating temperature		°C	-40 ... +80			
Temperature difference		°C	8 - 15	15 - 25		



# Cool Meal Pouch

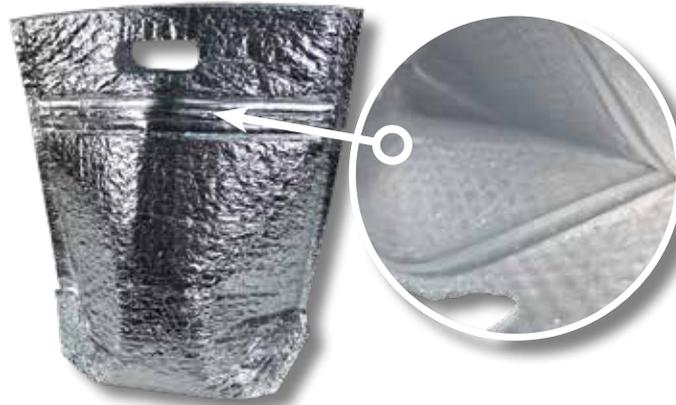
Thermo Insulated Carry Bag for Food and Medical Use



**Cool Meal Pouch** is a bag with reflective surface to protect heat sensitive products against temperature, humidity changes and other external climate factors. Gusseted and flat bags can be produced with handle, ziplock and closure tape.

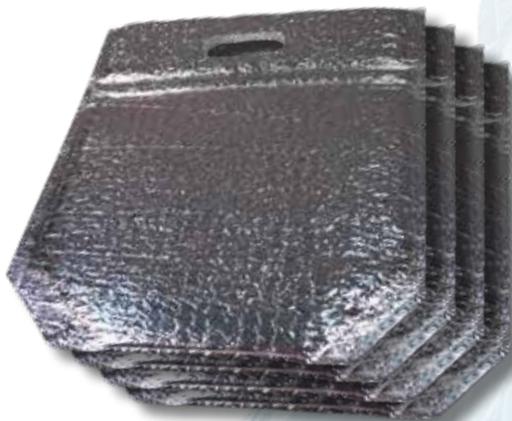
Thermo Bags with reflective outer surfaces can be produced in any dimensions, using various layer combinations such as single bubble, double bubble, or PE foam layers.

**Application:** Food and Medical use



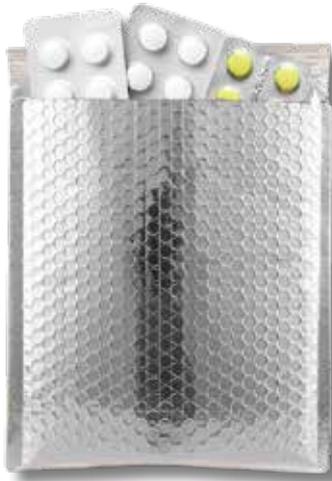
## Benefits:

- Provides full protection against all temperature and humidity changes during transport;
- Maximizes customer satisfaction by preventing your products from melting and becoming deformed;
- Adds value to your brand with its printed and unprinted options.





## Aluminum Bubble Mailer for Pharmaceuticals



The Bubble Envelope with adhesive flap offers a thermal protection solution for heat-sensitive and perishable products.

This thermal insulation bag is made of two layers of material: metallized PET and bubble wrap. The bag protects the products against external factors and the adhesive flap ensures quick and easy use.

The envelopes protect pharmaceuticals and food products.

Thermal bags provide short-term heat protection, liquid protection and puncture protection. They have a flexible and lightweight structure, they require minimal storage space and can be customized to any size.

### Application:

- Food: Frozen products, dairy products, chocolate;
- Logistics: E-commerce;
- Medicine: Vaccines, serums, blood, other medical and pharmaceutical materials;
- In packaging, storage and distribution for all sensitive products.

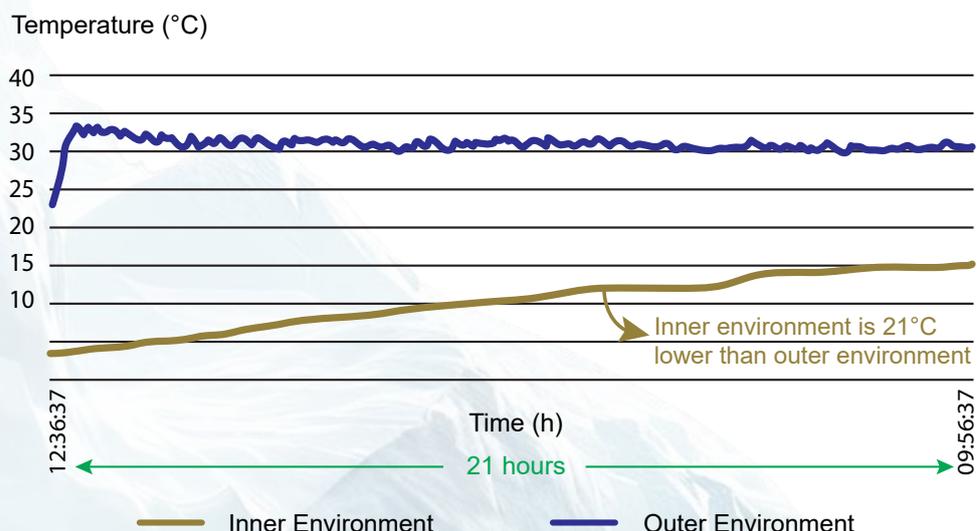
### Advantages:

- Provides short-term heat protection;
- Liquid protection and puncture protection;
- Flexible and lightweight structure.



			Packaging	Pallet EUR
<b>SKU</b>	<b>Application</b>	Food, Logistics, Medicine, Packaging, Storage and distribution		
	<b>Material</b>	VMPET + PE Bubble Film		
<b>11664</b>	<b>Dimensions (mm)</b>	250 x 350 + 50	220	1760
<b>11925</b>		350 x 350 + 50	150	1200
<b>11392</b>		450 x 350 + 50	130	1040
	<b>Thickness</b>	3-4 mm		
	<b>Colour</b>	Silver		
	<b>Other</b>	With self-adhesive flap		

	Minimum °C	Maximum °C	Average °C
Thermo Mailer Inner Environment	4.2	15.4	10.3
Outer Environment	23.4	33.5	31.2





## Zip Pouch with Double Adhesive for Medical Use



SKU: 16412

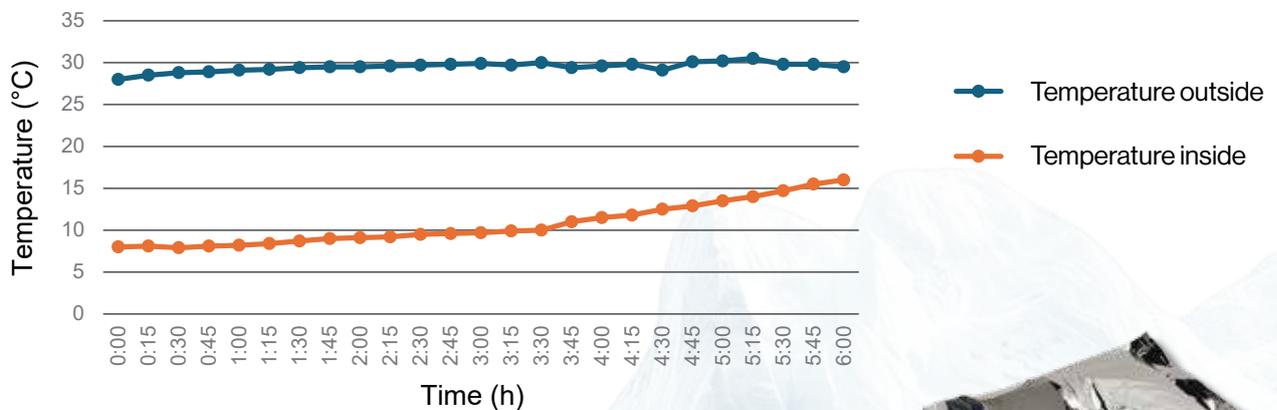
The **Zip Pouch with Double Adhesive** is a specialized medical packaging solution designed to ensure a sterile environment, ease of use, and reliable protection for sensitive healthcare items. Crafted from high-quality medical-grade materials, this pouch features a secure zip-lock closure and dual adhesive strips, offering versatile sealing options to meet a variety of clinical and sterile field requirements.

### Advantages:

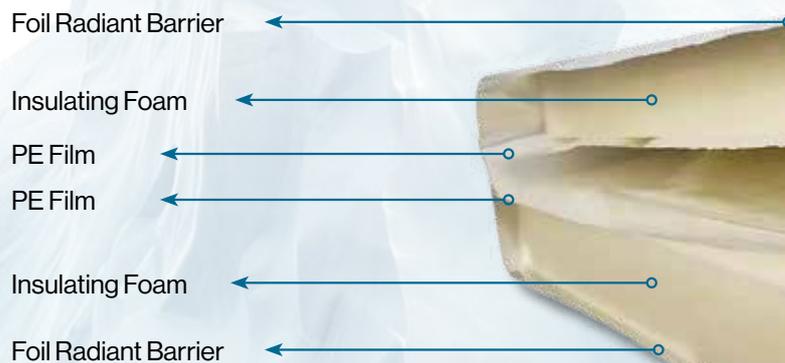
- Equipped with two adhesive strips - ideal for resealable access or additional tamper-evident security;
- Zip-Lock Closure: Easy-to-use zip closure for quick access and repeated use while maintaining integrity;
- Flexible and lightweight structure.



<b>Application</b>	Medical Use
<b>Material</b>	OPP MATT 20 $\mu$ + PET metallized 12 $\mu$ + PE 40 $\mu$
<b>Dimensions</b>	250 x 350 mm
<b>Thickness</b>	10 mm P.U.Foam
<b>Colour</b>	Silver
<b>Other</b>	Dual closure with zipper and self-adhesive flap
<b>Packaging pieces/box</b>	50
<b>Pallte EUR</b>	1000



- The tests were conducted over a period of 6 hours.
- During testing, the products were not exposed to sunlight.
- The interior products were placed inside at refrigerator temperature (8°C).
- The test was performed in a controlled environment.





# Medi Zip Pack with Eutectic Gel

## Zip Pouch with Double Adhesive and Integrated Eutectic Gel

SKU: 16413

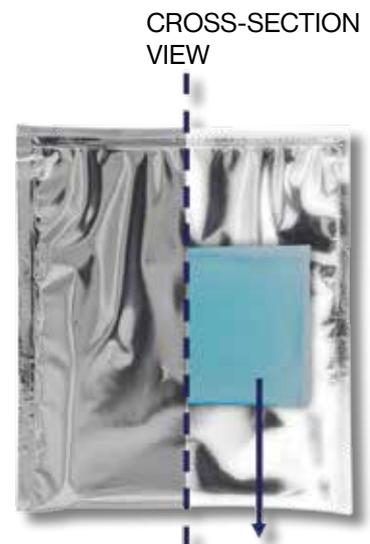
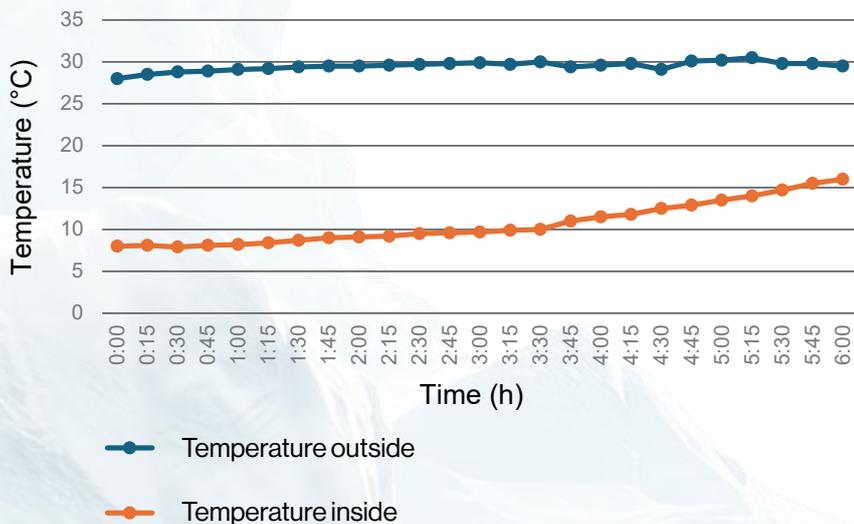


This insulating pouch is metallized on the outside, and on the inside, it has expanded PE foam.

To ensure a constant temperature, a 100-gram eutectic gel is integrated on one side.

Easy to use, it is equipped with a translucent zip closure without a handle.

<b>Application</b>	Food, Medical Use				
<b>Suitable for</b>	Caviar, foie gras, verrine, smoked salmon, hot dishes; Pills, pharmaceutical;				
<b>Material Composition</b>	<b>Exterior:</b>	<b>Intermediate layer</b>	<b>Interior:</b>	<b>Closure</b>	
	Metallized PET 12 $\mu$ + Translucent PE 40 $\mu$	PE Foam 0.8 mm + soft eutectic gel pouch 100 g (non-toxic)	White PE Film 30 $\mu$ Food contact certified - AFNOR standard	Translucent zip closure without handle	
<b>Printing</b>	No printing				
<b>Dimensions</b>	200 (W) x 220 (L) mm				
<b>PACKAGING</b>	<b>Pieces/box</b>	<b>Carton dimensions (cm)</b>	<b>Carton weight (kg)</b>	<b>Pallet EUR</b>	<b>Pallet dimensions (cm)</b>
	100	L 28 x W 29.5 x H 28	11	2500	80 x 120
<b>Colour</b>	Silver				



- The tests were conducted over a period of 6 hours.
- During testing, the products were not exposed to sunlight.
- The interior products were placed inside at refrigerator temperature (8°C).
- The test was performed in a controlled environment.

100g eutectic gel integrated on one side



## Isothermal packaging



### Lightweight, practical and economical for:

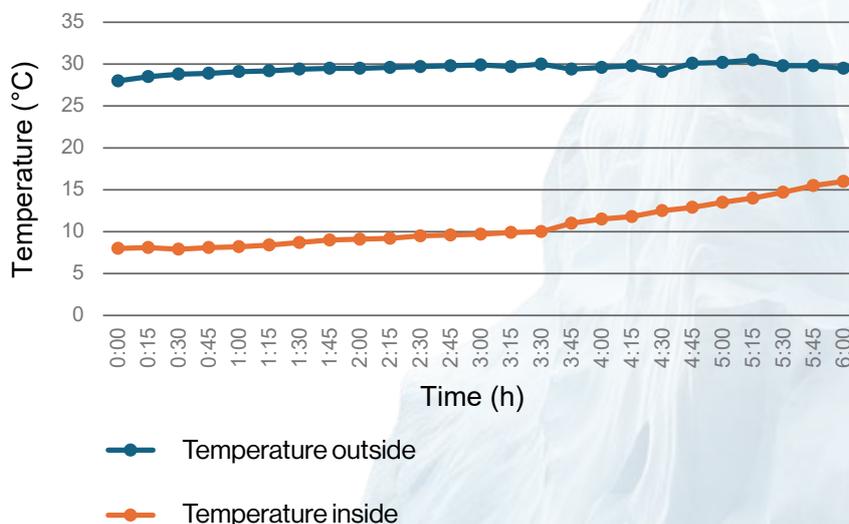
- Foodservice professionals: caterers, restaurants, delivery services;
- Fresh and frozen products in supermarkets and grocery shops;
- Meal distribution in collective catering or at festivals, fairs and outdoor events;
- Visibility for your brand with the option of made-to-measure personalization.

### Insulated basket bag 10L – 36 x 20 x 15 cm

- EI-SA-36x20+15-ZPI;
- Internal ZIP closure with cut-out handle;
- Flat gusseted bottom;
- Metallic outer coating;
- 1 mm expanded PE foam insulation;
- White inner lining, certified for food contact.



SKU	Application	Food			Packaging pieces/box	Pallet EUR
	Material	Exterior	Inside (middle)	Interior		
		MPET 12 µm+ PE 40 µm	Expanded polyethylene 0.8 mm	White PE 30 µm Food Contact Materials- Regulation (EC 1935/2004)		
	Dimensions	200 x 250+70 mm				
	Colour	Silver				
	Other	Dual closure with zipper and self-adhesive flap				
16410	Type	With handle and zip			100	10400
16411	Type	With no handle and zip			100	8000



- The tests were conducted over a period of 6 hours.
- During testing, the products were not exposed to sunlight.
- The interior products were placed inside at refrigerator temperature (8°C).
- The test was performed in a controlled environment.





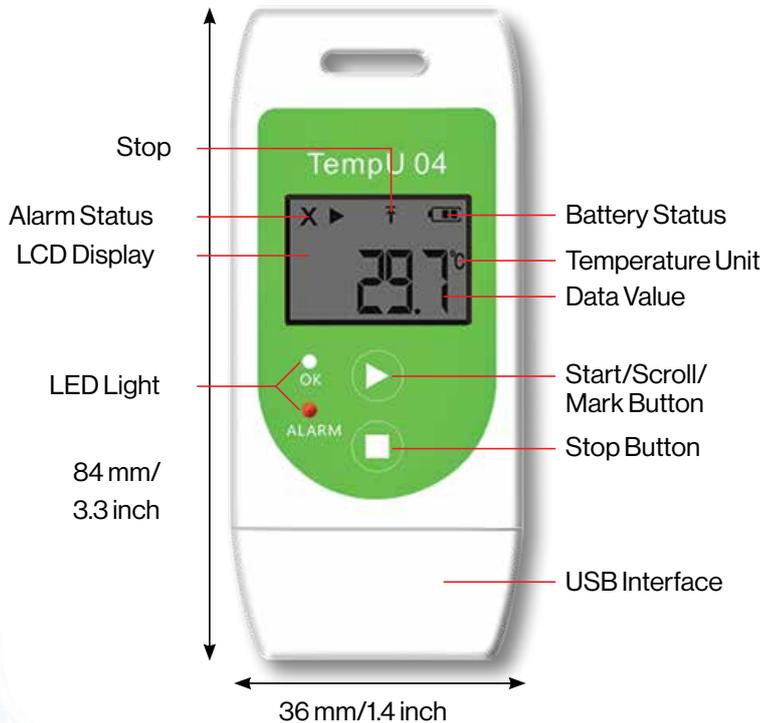
# Temperature Monitoring

## Multi-use USB data logger series - TempU04



### Multi-use USB Temp Data Logger

- Designed to be Multi-use;
- Temperature measurement and recording;
- Statistics available on LCD screen;
- No software needed to export data;
- Automatically generate PDF report and CSV file;
- Easy operation by pressing button on/off;
- LED light indicating for different status;
- Reprogrammable software for logging parameters, alarms and start delay.



<b>Temperature Scale</b>	°C or °F
<b>Accuracy</b>	±0.5°C (-20°C~ +40°C), ±1.0°C (other range)
<b>Measuring Range</b>	Temp: -30°C - 60°C
<b>Resolution</b>	0.1°C/°F
<b>Memory Capacity</b>	32000
<b>Recording Options</b>	Push-To-Start or Start Delay
<b>Interval</b>	Programmable (10s - 18h) (Default: 30 mins)
<b>Start Delay</b>	Programmable (0 - 254 mins) (Default: 30 mins)
<b>Alarm Delay</b>	Programmable (0 - 960 mins) (Default: 10 mins)
<b>Shelf Life / Battery</b>	Typically 1 year; CR2032 3.0V Lithium Battery (Depending on sampling rate and environment)
<b>Report Generation</b>	Simultaneously generate PDF report and CSV file
<b>Alarm Range</b>	Programmable high or low alarm limit for each channel (Default: <2°C or >8°C)
<b>Communication Interface</b>	USB 2.0
<b>Time Zone</b>	UTC +0:00 (Default)
<b>Dimension</b>	84 mm*36mm*14mm
<b>N.W.</b>	23g

# Temperature Monitoring



## Real - time data loggers - TT19



### TT19 Real-Time Temp & RH and Location Data Logger

- Supports large-capacity local storage and data transfer after network connection. No data loss;
- Real-time temperature, humidity, vibration, light, position information to prevent and deal with the risk of temperature, fluctuations, low light

detection, opening and closing doors, switching box events;

- Real-time monitoring data changes, real-time alarm;
- Rechargeable, can be used multiple times;



<b>Model No.</b>	TT19
<b>Standby Time</b>	Max 60 days
<b>Transmit Interval</b>	60 mins
<b>Usage Type</b>	Multi use
<b>Inner Lithium Battery</b>	Built-in 3.7V/3000mAh Lithium Battery
<b>Transmission Mode</b>	4G/2G
<b>Memory Capacity</b>	17000 readings
<b>Other Sensor</b>	Light sensor, Vibration sensor
<b>Location Type</b>	LBS, WiFi, GPS
<b>Working Temperature Condition</b>	Built-in temperature: -20°C ~ +60°C
<b>Accuracy of Temp and Humidity Sensor</b>	Built-in temperature: ±0.3°C (0°C ~ +60°C); ±0.5°C for other range Built-in humidity: ±3% (10% ~ 90%RH); ±5 for other range
<b>Dimension</b>	100mm * 66mm * 29mm
<b>Working Humidity Condition</b>	Up to 90% (non-condensing)
<b>Resolution</b>	0.1°C



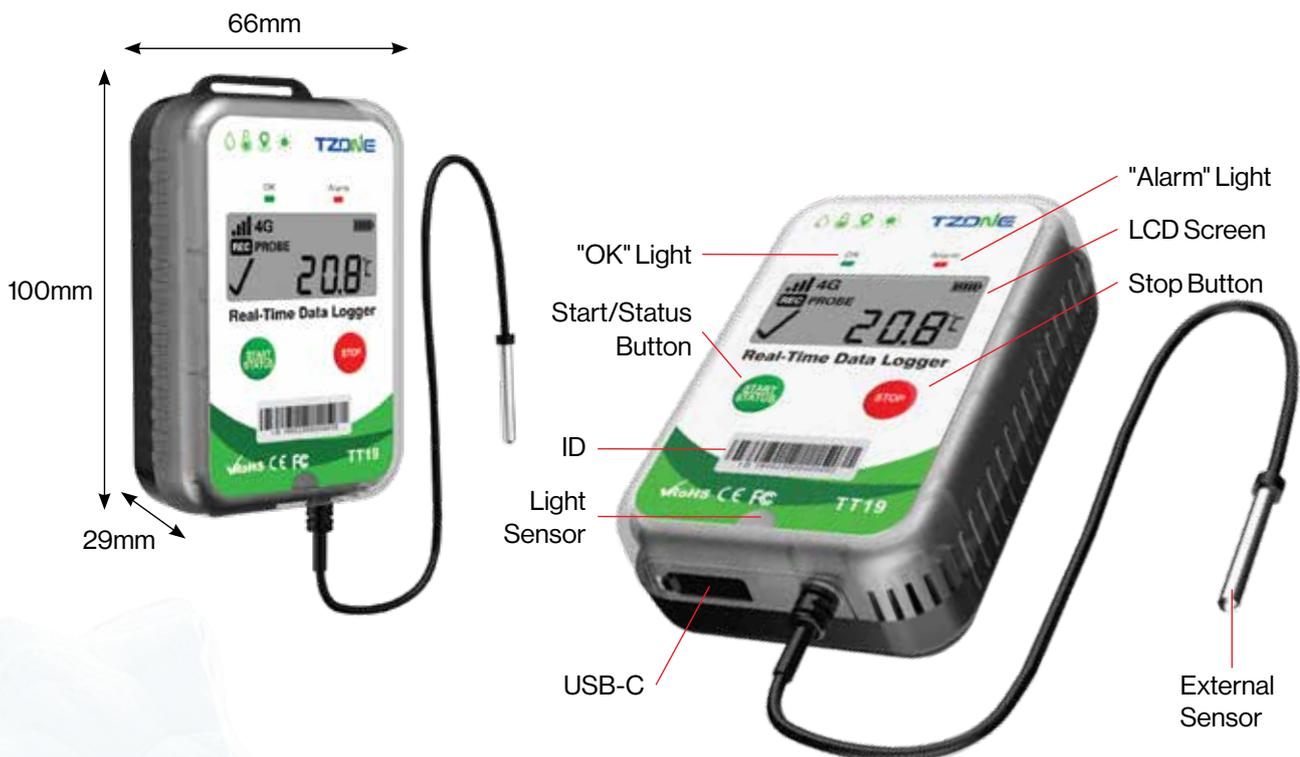
# Temperature Monitoring

## Real - time data loggers - TT19EX



### TT19EX Real-Time Temp & RH and Location Data Logger

- Supports large-capacity local storage and data transfer after network connection. No data loss;
- Real-time temperature, humidity, vibration, light, position information to prevent and deal with the risk of temperature, fluctuations, low light detection, opening and closing doors, switching box events;
- Real-time monitoring data changes, real-time alarm;
- Rechargeable, can be used multiple times;



<b>Model No.</b>	TT19EX
<b>Standby Time</b>	Max 60 days
<b>Transmit Interval</b>	60 mins
<b>Usage Type</b>	Multi use
<b>Inner Lithium Battery</b>	Built-in 3.7V/3000mAh Lithium Battery
<b>Transmission Mode</b>	4G/2G
<b>Memory Capacity</b>	17000 readings
<b>Other Sensor</b>	Light sensor, Vibration sensor
<b>Location Type</b>	LBS, WiFi, GPS
<b>Working Temperature Condition</b>	Probe temperature: -80°C ~ +120°C Built-in temperature: -20°C ~ +60°C
<b>Accuracy of Temp and Humidity Sensor</b>	Probe temperature: $\pm(0.15 + 0.2\% \cdot  t )$ Built-in temperature: $\pm 0.3^\circ\text{C}$ (0°C ~ +60°C); $\pm 0.5^\circ\text{C}$ for other range Built-in humidity: $\pm 3\%$ (10% ~ 90%RH); $\pm 5$ for other range
<b>Dimension</b>	100mm * 66mm * 29mm
<b>Working Humidity Condition</b>	Up to 90% (non-condensing)
<b>Resolution</b>	0.1°C



## Real-time data loggers - TT18-4G-S



### TT18-4G-S Real-Time & RH and Location Data Logger

- Support 4G (LTE) and 2G technology;
- High precise temperature and humidity sensor;
- Multi-point LBS position;
- Temperature, humidity, light and location tracking;
- Automatically generate PDF report for emergency;
- Long standby can be used for 60 days.



<b>Model No.</b>	TT18-4G-S
<b>Standby Time</b>	Max 60 days
<b>Transmit Interval</b>	15 mins
<b>Usage Type</b>	Single use
<b>Weight</b>	138g
<b>Inner Lithium Battery</b>	Built-in 3.7V/3000mAh Lithium Battery
<b>Transmission Mode</b>	4G/2G
<b>Memory Capacity</b>	20000 readings
<b>Other Sensor</b>	Light sensor
<b>Accuracy of Temp and Humidity Sensor</b>	Temp: $\pm 0.3^{\circ}\text{C}$ ; Humidity: $\pm 3\%\text{RH}$
<b>Dimension</b>	90mm * 64mm * 27mm (3.54in * 2.52in * 1.06in)
<b>Working Temperature Condition</b>	-20°C to +60°C
<b>Working Humidity Condition</b>	Up to 90% (non-condensing)
<b>Location Type</b>	LBS base station positioning
<b>Resolution</b>	0.1°C

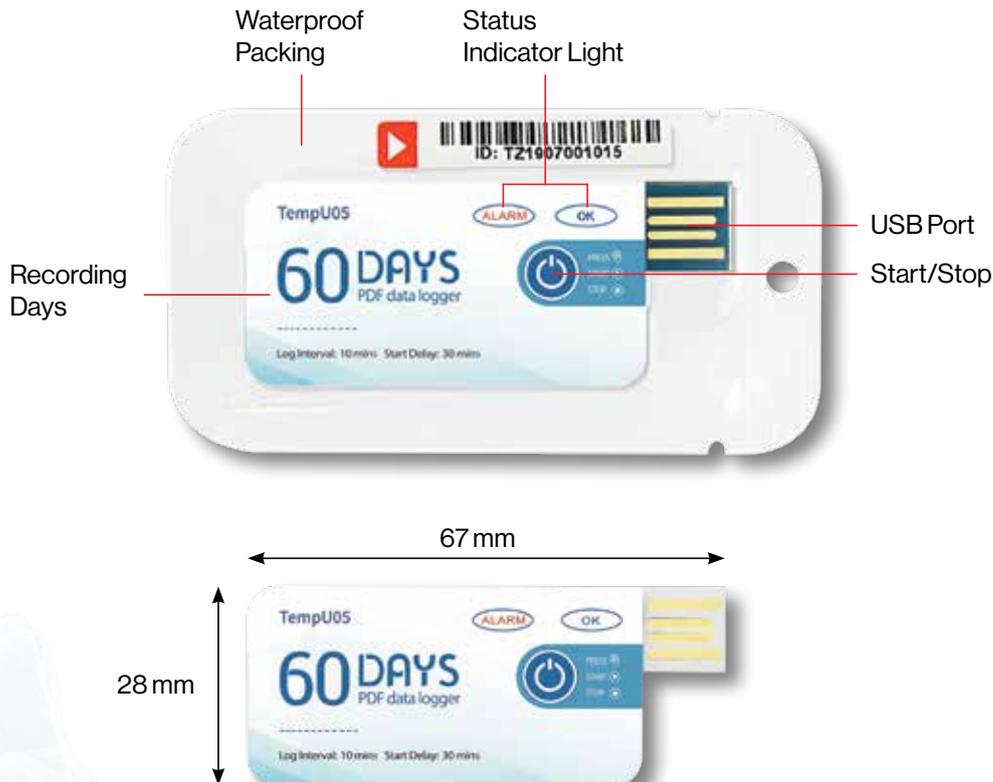


# Temperature Monitoring

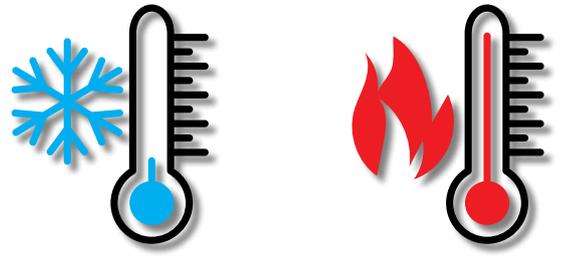
## Single-use USB data logger series - TempU05



End to end of supply chain to monitor temperature



<b>Model No.</b>	TempU05
<b>Dimension</b>	67 x 28 x 5.5 mm
<b>Weight(s)</b>	12g
<b>Temperature Accuracy</b>	±0.5°C (-20°C ~ +40°C); ±1.0°C (other range)
<b>Operating Range</b>	-30°C ~ +60°C
<b>Recording Option</b>	Single use
<b>Storage</b>	Can be save 8640 temperature data
<b>Data Storage Capacity</b>	10000
<b>Shelf Life / Battery</b>	2 years / CR2032 button cell
<b>Recording Interval</b>	5/10/15 minutes (standard, others on request)
<b>Recording Duration</b>	30/60/90 days (standard, others on request)
<b>Alarm Range</b>	>8°C or <2°C
<b>Alarm Type</b>	The red LED will flash every 10s, if the temperature has been out of range
<b>Start Delay</b>	30 mins
<b>Report Generation</b>	Automatic PDF report generation
<b>Waterproof Level</b>	IP67 (with Seal-Bag)



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## CONTACT US:



+40.214.480.358



office@inatech-group.com



www.inatech-group.com



Domnesti IF County | T.Vladimirescu 393, ROMANIA



Oradea BH County | Anghel Saligny 40, ROMANIA

