

# THE POWER OF PAPER

**A PAPER SOLUTION FOR COLD CHAIN**

## **FINALLY A SUSTAINABLE SOLUTION FOR PERISHABLE COLD CHAIN**

In the construction industry, paper and its cellulose derivatives are frequently used as a valuable insulator to protect buildings from heat losses. The insulation value is considered to be more than competitive with plastic variants.

Ranpak offers now unique solutions to use this insulating value also for the cold chain of perishable products like groceries, meat, meals and other food ingredients.

The heat losses caused by conduction, convection and radiation are significantly reduced by the unique shape of the patented waved paper pads.

# HOW DOES IT WORK?



## STEP 1

Use a double or triple wall corrugated box

## STEP 2

Insert our (multi) layered paper insulation

## STEP 3

Insert your products

## STEP 4

Add cooling elements

## STEP 5

Close the box with tape

# THE BIGGEST ADVANTAGES



## SAVE COST

Experience learns that the 'total cost of ownership', when applying one of the Ranpak cold chain solutions is beneficial for the users. Ranpak offers several options to optimize and integrate the cold chain solution into the existing process.



## FLEXIBLE APPLICATION

With the WrapPak Protector, several production modes can be used to produce required pad length and amount of pads. Packaging on-demand or in batches, pre-sized and pre-cut. Different packaging methods are possible with the flexible pads.



## SUSTAINABLE

Undoubtedly, the Ranpak paper solution is one of the greenest solutions for the insulated box market. Paper is biodegradable, recyclable and renewable in contrast to the plastic and EPS versions of thermal protection.



## SPACE SAVINGS

The WrapPak Protector provides huge space saving opportunities by converting paper on-site and/or on-demand. Operations can expect a reduction from as much as 24 competitor EPS product skids to 1 skid of Ranpak paper.

# MARKET SEGMENTS

## AMBIENT

Temperature 15°C / 25°C

For products which are stored at controlled room temperature and should not exceed both threshold values.



## CHILLED

Temperature 2°C / 8°C

Typical temperature range for various groceries, meat and other food for chilled conditions. Temperature threshold may vary for specific products.



## FROZEN

Temperature -18°C / 0°C

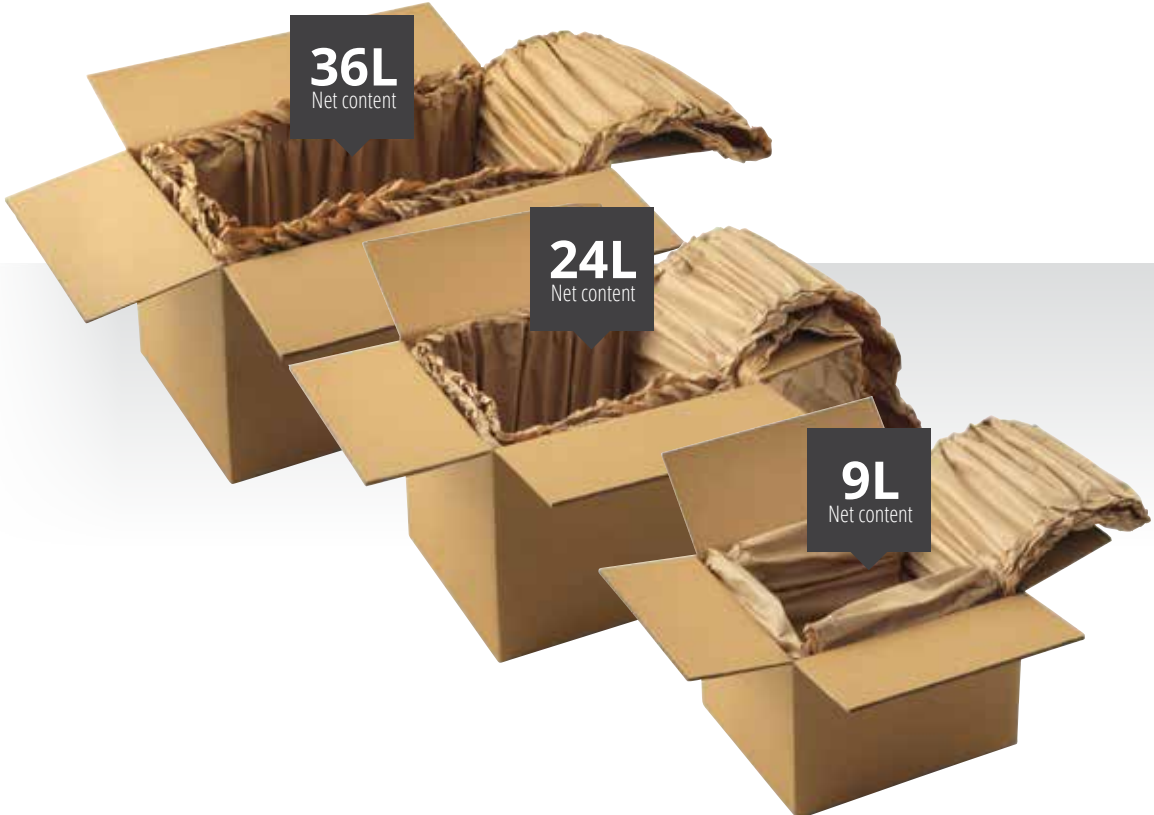
For products which have to be supplied in a frozen or deep frozen condition to the customer. The storage life of foods is shortened when temperature rises.



# STANDARDIZED SOLUTION

When shipping temperature controlled products, a lot of variables have to be taken into account: storage, handling, picking and packing, logistics, last-mile-delivery. During all these phases the boxes and products are exposed to a wide range of temperatures.

To facilitate the right choice, Ranpak created a range of standard boxes for chilled and frozen products with a content of 9, 24 and 36 liter. We expect that about 90% of customer demands can be solved with these standard solutions. Our specialist would like to support you to find the right solution for you.



## LOW PERFORMANCE

Often used for products stored and transported at ambient temperatures and where temperature requirements are not that strict.



## MEDIUM PERFORMANCE

Mostly offered for chilled products for threshold times up to 24-36 hours.



## HIGH PERFORMANCE

The solution for frozen/deepfrozen packages and for threshold times up to 48 hours.



# CUSTOMIZED SOLUTION

When shipping temperature controlled products, a lot of variables have to be taken into account: storage, handling, picking and packing, logistics, last-mile-delivery. During all these phases the boxes and products are exposed to a wide range of temperatures. On request, Ranpak offers customized solutions to cover your needs.



## ANALYSE

Our experts make a personalized analysis of your daily shipments. Looking at temperature requirements and box sizes.



## DESIGN

When requested we make a free personalized packaging designs for your shipments. Focus will be on insulating value, number of boxes and box size.



## TEST

We can test these designs at official testing requirements of the ISTA. The testing result will be fully available for you and presented to you in a official testing report.

# OUR SYSTEMS FOR PREPARING YOUR BOXES

## BOX LINING

Box lining provides a protective cushioning layer between the box and products inside. Our special developed waved paper is a sturdy and eco-friendly alternative to the plastic solutions that are available in the market. Due to the unique characteristics of paper our inserts offer perfect protection, are easy to handle and will even help you to save cost on your packaging operation.



## PROTECT YOUR PRODUCTS

For smaller boxes with vulnerable products, PadPak paper pads will offer cushioning protection and creates a temperature threshold too.



## FILL EMPTY SPACES

Empty spaces in cooled shippers have to be avoided to prevent convection. FillPak is a cost-effective voidfill material that prevents shifting in the box.



## WRAP YOUR PRODUCTS

The Geami WrapPak will protect the product from physical damage and temperature excursions, while offering a premium appearance.



**“WE MOVED TO A  
SUSTAINABLE SOLUTION  
THAT DOES THE JOB”**

## CUSTOMER EXPERIENCE

### DIET CHEF'S CHALLENGES

Up until June 2018, Diet Chef provided only diet products, supplied at ambient temperature. About 120 SKU's for breakfast, lunch, dinner and snacks are daily supplied all over the UK and occasionally also abroad. The company decided to extend their product line with frozen products, easy to prepare in the microwave.

They conducted a thoughtful study about the available suppliers of selected food ingredients, selected carefully delicious, healthy and tasteful menus and invested time and efforts in the logistic track.

The frozen 8 SKU's are packed early afternoon between 13H00 and 14H30 and are picked up late afternoon around 16H30 by a regular non-cooled distribution company. Within 24 hours they are distributed all around the UK (except for the islands).

Since Diet Chef uses dry ice for this application, the packers are well trained in the safety procedures, the dry ice is packed in a wrap and a warning label is added inside the box.

### OUR SOLUTION

Diet Chef performed intensive tests with 3 solutions: WrapPak pads, EPS boxes and wool based liners. Because of the high costs and the environmentally unfriendly appearance, the EPS boxes were eliminated. Since the WrapPak paper outperformed the wool based liners in 3 consecutive tests and provided a more cost friendly solution, the final choice was made unanimously.



*“After conducting intensive competitive tests, I was really confident about the Ranpak WrapPak solution. The special shaped paper performs the right temperature protection for our products”.*

...  
Fiona Boyd, Head of Product Innovation  
at Diet Chef, Edinburgh, UK

### BUSINESS RESULTS

Since changing to the WrapPak solution Diet Chef has received no complaints. Our bi-weekly due diligence, show constant positive results and the data provided by dataloggers with packages confirm the temperature stability of the products. And, in addition, our CEO is really enthusiastic about the solution, it fits perfectly in our mission to provide a safe and environmental solution”.



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