

# Reduce, Reuse, Recycle

The transportation of pharmaceuticals that are already sold on the market or undergoing clinical trials is subject to increasingly stringent regulatory, quality, budgetary and environmental demands

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Faced with rising volumes of regulations, such as new Good Distribution Practices, pharmaceutical laboratories and their partners (clinical trial and logistics operators or specialists in the last mile of the cold chain) are looking for more efficient packaging solutions. Product ranges require temperature-controlled transportation, and the demand in this area is continually on the rise.

## Tight Budgetary Restrictions

All these imperatives – and tight budget controls, in particular – are prompting purchasing and logistics departments in the cold chain to permanently optimise their transport costs. One upshot of this trend has been the shift from active to passive systems observed in recent years.

Passive isothermal packaging is cheaper, lighter and more flexible and currently offers such high standards of performance that the use of active isothermal packaging no longer makes any economic sense for certain destinations.

Isothermal packaging producers have their own integrated R&D and engineering departments that, day after day, work on:

- High-performance, range-topping insulating materials (VIP, PU) that are both lighter and cheaper
- The optimisation of weight-to-volume ratios in an effort to cut volumetric weight and, therefore, transport costs
- Packaging systems that can be disassembled to optimise empty return transport costs and allow isothermal packaging to be reused
- Solutions that are easy to prepare and use (single configuration)

This quest for a better equation between performance, cost and volumetric weight has prompted the development of

isothermal packaging offering the optimal response to the regulatory, quality and budgetary imperatives facing pharmaceutical laboratories for products that are already on the market or undergoing clinical trials. Passive isothermal packaging is approved according to profiles, like the ISTA standard, which has become a benchmark. This has harmonised practices and provides a means of qualification.

## Environmental Factors

Environmental considerations have become an integral part of the corporate social responsibility policies of the various players. This widespread rise in awareness has raised questions about what happens to passive isothermal packaging after use. What becomes of it? What are the destruction costs?

Another way of answering these questions consists of inventing new economic models that take account of these budgetary and environmental considerations. Some of the players on the passive packaging scene have understood this and have developed reusable packaging (for sale or for hire)

or have adopted an approach based on partnerships with their customers to help them develop the reuse of their packaging and reverse logistics circuits.

## Different Models for Different Markets

The reuse models of passive isothermal packaging differ according to the volume of products. Two main reuse models for isothermal packaging stand out:

- The reuse of small-volume packaging (60 litre boxes and smaller), found mostly on the clinical trials market or markets demanding the dispatch of small quantities
- The reuse of high-capacity packaging (pallet shippers), often involving the shipment of large volumes of medicines or vaccines already available on the market

The challenges facing these two models are different. On the one hand, the reuse of small-volume packaging is based on a quick-recovery model. The goal is to move the packaging around quickly. This model is perfectly well-suited to rentals. On the

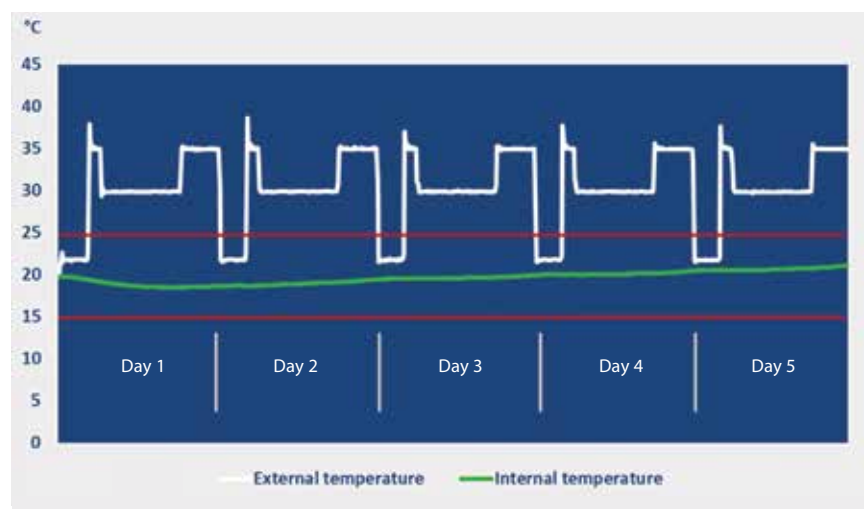


Figure 1: Temperature pallet shipper performance test



Pallet shipper ready to go on a plane

other hand, the reuse of higher-capacity packaging is based on the optimisation of the return transport costs of the packaging. Two key factors are the use of packaging that can be disassembled to cut return costs and calling on a supplier with a well-organised worldwide network that consolidates logistics circuits and optimises reuse timelines. This model can be adapted to rentals, but also (and more importantly) to reverse logistics.

While these modes of reusing passive isothermal packaging have been tried and tested in a few rare cases, most companies are still questioning and assessing the benefits or are conducting trials.

### High-Performance Products at a Lower Cost

The rental model for small-volume isothermal packaging is simple. The packaging supplier sends the rented isothermal packaging to the customer, who fills it and sends it to the end customer. The packaging supplier then retrieves the packaging directly from the end customer, cleans and inspects it and returns it to the rental circuit. Since the packaging is rented, this cycle must be completed within a pre-defined period of time.

There are numerous advantages for the customer: flexibility, environmental protection, a turnkey solution with a ready-to-use option and reduced storage costs. It also allows customers to benefit from high-performance packaging at a lower cost. Against the backdrop of

continual cost-cutting, rental appears to be the ideal solution.

However, this model demands rigorous processes and smooth communications, both internally and with end customers. Finally, retrieving the isothermal packaging from the end customer is not always easy. It is important that the person who opens the packaging knows that it will be retrieved and puts it to one side so that the carrier can collect it. It is necessary to give clear instructions. When the supplier collects the isothermal packaging, it undergoes a complete cleaning cycle, any necessary repairs and a quality control check.

### The Simplest Way

Reverse logistics is easier to set up than rentals and is the simplest way to start reusing high-capacity passive isothermal packaging. Since they are not bound by a rental contract, the packaging supplier and the customer both play an active role in the reuse of the isothermal packaging. The packaging supplier helps the customer with its environmental



Barcode scanning before cleaning process and quality check



Flat pack pallet shipper stored

initiative by retrieving the product from the final destination and returning it to its nearest centre. It then cleans, repairs and checks the quality of the packaging before reselling it. The customer no longer has to worry about destroying its packaging materials and also enjoys a financial benefit.

This solution is very flexible, risk-free and relatively unrestrictive. It is easier to implement than a rental contract, but the financial gains are smaller. The supplier covers the storage costs until the volume is sufficient to return the products to one of its centres and deals with the uncertainty regarding the packaging return date.

Nonetheless, this solution has its limits. First, not all goods are suited to reverse logistics, in particular high-tech and high-value products. Second,

the cost of the reverse logistics is covered entirely by the supplier: the management of returns, storage costs, customs formalities, transportation, repairs and cleaning.

### Individual Experiences with Mixed Results

Certain pharma companies have started reusing their isothermal packaging on their own. While this may be relatively simple for recurrent and straightforward logistics (transportation by truck in Europe), as soon as the logistics circuits become more complex, the model is made inefficient by hidden logistical costs (customs, storage and so on).

Dealing with the problems of cleaning, repairs and quality control internally can also be difficult. Calling on an

isothermal packaging supplier's network is the best way to start reusing passive isothermal packaging.

### A Structural Change of Economic Model

The various players are still learning how to address these increasingly serious environmental problems. While the reuse of packaging still raises questions today, tomorrow we will reuse packaging every day. It is up to the packaging suppliers to take on a facilitating role in this structural change.

For suppliers, this means a change of economic model, with the development of services, such as rentals and reverse logistics, plus the numerous internal changes inherent in these new activities.

With their know-how, agreements with carriers, international presence and digital tools, today's packaging suppliers operate in partnership with their customers to cut their respective costs and to create value.

### About the author



Yann Martin is the global sales director for EMBALL'ISO Group and its eight productions sites worldwide. He works with its team to

support the pharma shippers and logistics providers to implement global temperature-controlled solutions. Over the past few years, Yann has driven the introduction of new business models in the company and market, such as rental, reverse logistics and ready-to-use services. Before taking these responsibilities, he worked on the technical side as Manager of the validation department and product design department. Yann holds a master's degree in engineering from Polytech Savoie, France.

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