

Reusables 101

The What, Why, Who, When, Where and How
of Reusable Transport Packaging

**Would you
buy a new
wheelbarrow
for every
trip?**



There's a better way.

Would you buy a new wheelbarrow for every trip?

No, that would be too expensive! But your company may be spending that kind of money if you are tossing out one-time or limited-use pallets and boxes after every time you ship or receive.

There's a better way.

It's called reusable transport packaging.

Reusable transport packaging replaces one-time and limited-use pallets and boxes with reusable containers (totes, boxes and bins), reusable pallets and pallet pooling (pallet rental systems). Reusable transport packaging is used for multiple trips in closed loop and managed open loop shipping systems where reverse logistics or the return of empty transport packaging components can be repeated over and over again.

Companies that have made the switch to reusable transport packaging have experienced lower labor costs, better product protection, less product damage, more productive flow of goods through distribution channels, better ergonomics and improved worker safety plus longer useful life of packaging. They have also reduced their waste management costs and positively impacted the environment by generating less waste and reducing the need to build expensive disposal facilities or more landfills.

Wood pallets and cardboard boxes comprise over 17 percent of the garbage generated by businesses in Minnesota, and there is limited landfill space left for garbage in the entire state. The Solid Waste Management Coordinating Board, representing the Minnesota counties of Anoka, Carver, Hennepin, Dakota, Ramsey and Washington, has partnered with the Reusable Pallet & Container Coalition headquartered in Washington, D.C. to provide Minneapolis/St. Paul area businesses the information they need to make the switch to reusable pallets and containers. This statewide environmental problem could become your opportunity to add money to your company's bottom line!

For more information, visit www.better-way.info or email help@better-way.info.

Reusables 101 is brought to you by:

The Solid Waste Management Coordinating Board
and The Reusable Pallet & Container Coalition

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Reusables 101

The What, Why, Who, When, Where and How of Reusable Transport Packaging

Are you new to the concept of reusable transport packaging? Have you considered the benefits of replacing one-time or limited-use pallets and boxes with a system of durable, long lasting containers and pallets? Are you familiar with reusable transport packaging but need more information to help your company decide when and how to make the switch?

Reusables 101 answers these questions and more about reusable pallets, reusable containers (totes, boxes and bins) and pallet pooling (pallet rental systems). For more information, internet resources are provided to contact manufacturers, consultants and service providers.

What is reusable transport packaging?

Reusable transport packaging replaces one-time and limited-use pallets and boxes with reusable containers (totes, boxes and bins), reusable pallets and pallet pooling (pallet rental systems). Reusable transport packaging is used for multiple trips in closed loop and managed open loop shipping systems where reverse logistics or the return of empty transport packaging components can be repeated over and over again.

Reusable pallets and containers and high-quality pooling pallets

Reusable pallets and containers and high-quality pooling pallets are designed for many years of use. Reusable pallets are typically made of plastic which is resistant to chemicals and moisture with good insulating properties. Reusable containers are manufactured of sturdy, moisture proof materials such as metal and plastic and are designed to protect products in rough shipping environments. Pallet pooling is a pallet rental service where companies outsource the logistics of pallet management to a third party pooling management company with an international network of high-quality pallets. Pallets are delivered to a company, palletized products are shipped through its supply chain and the rental service picks up the empty pallets and returns them to service centers for inspection and repair. Pooling pallets are typically made of high-quality wood.

Closed and managed open loop shipping systems

A closed loop system is desired for reusable transport packaging. Reusable containers and pallets flow through the system and return empty to their original starting point (reverse logistics) to begin the entire process again.

Managed open loop shipping systems require the assistance of a third party pooling management company to accomplish the more complex return of empty transport packaging. For example, reusable pallets may be shipped from one or many locations to various destinations. A pooling management company sets up a pooling network to facilitate the return of empty reusable transport packaging (reverse logistics). The pooling management company may provide various services such as supply, collection, cleaning and repair of reusable transport packaging.

Reverse logistics

Reverse logistics, or the return of empty reusable transport packaging components, is often the most expensive component of a reusable transport packaging system. It is very important to consider the logistics and costs of returning empty transport packaging components together with other cost-saving opportunities.

Why use reusable transport packaging?

Most companies switch to reusable transport packaging because it saves them money. Reusable transport packaging may add profit to a company's bottom line in many different ways.

Improved ergonomics and worker safety

- Reusable containers with ergonomically designed handles and access doors improve worker safety.
- Standardized sizes and weights of packaging components reduce back injuries.
- Standardized containers facilitate the use of merchandising racks, storage racks, flow racks and lift/tilt equipment.
- Elimination of box cutting, staples and broken pallets reduce injuries.
- Removal of in-plant debris, such as stray packaging materials, reduce slip and fall injuries.

Reduced inventory and just-in-time delivery

- Standardized transport packaging components and ordering quantities improve ordering capabilities, inventory tracking and error reduction.
- More frequent shipments of smaller quantities delivered close to the time of usage reduce the number of days inventory and dollars are idle and nonproductive.
- Combining supplier pick-ups or customer deliveries in "milk run" fashion (small, daily truck routes) reduce dollars tied up in inventory.

Quality improvements

- Less product damage occurs due to transport packaging failure.
- More efficient trucking and loading dock operations reduce costs.

Packaging material cost reductions

- Longer useful life of reusable transport packaging results in packaging material costs of pennies per trip.
- Cost of reusable transport packaging can be spread over many years.
- Recurring charges for one-time and limited-use packaging is avoided.

Reduced waste management costs

- Less waste to manage for recycling or disposal.
- Less labor required to prepare waste for recycling or disposal.
- Reduced recycling or disposal costs.

Environmental impacts

- Generating less waste avoids the need to build expensive disposal facilities or more landfills.
- At the end of useful life, reusable transport packaging may be managed by recycling plastic and metal and grinding the wood for landscape mulch or livestock bedding.

Who uses reusable transport packaging?

Reusable transport packaging is used by a wide array of businesses and industries in manufacturing, materials handling and storage and distribution. Examples include:

Manufacturing

- General manufacturers
- Electronics and computer manufacturers
- Automotive parts manufacturers
- Automotive assembly plants
- Textile manufacturers
- Pharmaceutical manufacturers

Food and beverage

- Food and beverage manufacturers and distributors
- Meat and poultry producers, processors and distributors
- Produce growers field processing and distribution
- Grocery store supply of bakery, dairy, meat and produce
- Bakery and dairy deliveries

Retail and consumer product distribution

- Department store chains
- Superstores and club stores
- Retail pharmacies
- Magazine and book distribution
- Fast food retailers
- Restaurant chains and supply
- Food service companies
- Airline caterers

When does it make sense to use reusable transport packaging?

Several factors determine if it is beneficial to change all or some of a company's one-time or limited-use transport packaging to a reusable transport packaging system.

Ability to create a closed or managed open loop shipping system

Once reusable transport packaging is shipped to its final destination and the contents are removed, the empty transport packaging components must be collected, staged and returned without a great deal of time and cost. Reverse logistics or the return trip for empty packaging components must be repeated over and over again in a closed or managed open loop shipping system.

Constant flow of consistent products in large volume

Generally, a reusable transport packaging system is easier to justify, maintain and run smoothly if there is a constant flow of consistent products in large volumes. If very few products are shipped, the possible cost savings of reusable transport packaging may be offset by the time and expense of tracking empty packaging components and reverse logistics.

Significant fluctuations in shipping frequency or types of products shipped may make it difficult to accurately plan for the correct number and size/type of transport packaging components.

Product size and protection requirements

Typically large, bulky products are good candidates for reusable transport packaging. Larger products require larger, more expensive one-time or limited-use containers so there is a greater potential for long term cost savings by switching to reusable transport packaging.

Products that are easily damaged by shock, vibration or abrasion may be good candidates for reusable transport packaging which allow the use of higher quality foams and container structures.

Supplier base or delivery points

Suppliers or customers that are grouped near one another create a good opportunity for reusable transport packaging cost savings. The potential to set up “milk runs” (small, daily truck routes) and consolidation centers (loading docks used to sort, clean and stage reusable transport packaging components) creates significant cost-saving opportunities.

Inbound freight can be picked up and consolidated for delivery on a more frequent just-in-time basis. Outbound freight, or the empty transport packaging components, can be sent back through this same logistical system.

Where might reusable transport packaging be used?

There are several areas along the supply chain that may lend themselves to the use of reusable transport packaging.

Inbound freight

Raw materials or sub-components shipped to a processing or assembly plant, such as shock absorbers shipped to an automotive assembly plant or flour spices and other ingredients shipped to a large-scale bakery.

In-plant or interplant work in process

Goods that are moved between assembly or processing areas within an individual plant or shipped between plants within the same company.

Finished goods

Shipment of finished goods to final end users either directly or through distribution networks.

Service parts

“After market” or repair parts to be sent to service centers, dealers or distribution centers from manufacturing plants.

How to start using reusable transport packaging?

Generally, a company will start using reusable transport packaging when it is less expensive than one-time or limited-use transport packaging. There are six steps in determining if reusable transport packaging will add profit to a company's bottom line.

Step 1: Identify potential products

Develop a list of products that are frequently shipped in large volume and are consistent in type, size, shape and weight.

Step 2: Estimate one-time and limited-use packaging costs

For the products identified in Step 1, estimate the current costs of using one-time and limited-use pallets and boxes. Include the costs to purchase, store, handle and dispose of this packaging and the costs of any ergonomic and work safety limitations.

Step 3: Develop a geographical report

For the products identified in Step 1, develop a geographical report by identifying shipping and delivery points. Evaluate the use of daily and weekly "milk runs" (small, daily truck routes) and consolidation centers (loading docks used to sort, clean and stage reusable packaging components). Focus on opportunities to implement just-in-time delivery strategies.

Step 4: Review reusable transport packaging options and costs

For the products identified in Step 1, review the various types and costs of reusable transport packaging systems available to move them through the supply chain. In general, investigate the cost and life span (number of reuse cycles) of reusable transport packaging components. Develop basic cost assumptions from:

Internet searches including the following trade and industry associations:

- Thomas Register at www.thomasregister.com
- Institute of Packaging Professionals at www.iopp.org
- Environmental Packaging International at www.enviro-pac.com
- American Society of Transportation & Logistics at www.astl.org
- Council of Logistics Management at www.clm1.org
- Materials Handling & Management Society at www.mhia.org
- Warehousing Education and Research Council at www.werc.org
- Reusable Pallet & Container Coalition at www.rpccreusable.org

Contacting manufacturers and consultants

- Returnables.com at www.returnables.com

- CHEP at www.us.chep.com
- LINPAC at www.linpacmh.com
- IFCO at www.ifco-us.com
- A.C. Buckhorn at www.acbuckhorn.com
- REHRIG PACIFIC at www.rehrigpacific.com
- ORBIS at www.orbis-menasha.com
- Kiva International at www.kiva-intl.com
- Shuert Industries at www.thomco.com/shuert.htm

Step 5: Estimate the cost of reverse logistics

Based on the shipping and delivery points identified in the geographical report developed in Step 3, estimate the cost of reverse logistics in a closed or managed open loop shipping system.

If a company chooses not to manage its own reverse logistics by dedicating the appropriate resources, it may obtain the assistance of a third party pooling management company that can handle all or part of the reverse logistics process. To obtain a list of service providers on the internet, search for “third party logistics resource guide” on any internet search engine. Other internet resources for service providers include:

- Inbound Logistics Magazine at www.inboundlogistics.com
- Industry Week’s Global Manufacturer’s Resource Guide at www.industryweek.com

Step 6: Develop a preliminary cost comparison

Based on the information gathered above, develop a preliminary cost comparison between one-time or limited-use and reusable transport packaging. This includes comparing the current costs of one-time or limited-use packaging in Step 2 to the costs of:

- The amount and type of reusable transport packaging researched in Step 4; and
- The estimated cost of reverse logistics in Step 5.

Outside Assistance

If the preliminary cost comparison indicates that a reusable transport packaging system will save money, a company may want to seek outside assistance to design and implement a reusable transport packaging system. The internet resources referenced above identify many consultants, manufacturers and logistics providers that can help with a detailed evaluation and cost analysis of changing from one-time and limited-use pallets and boxes to reusable transport packaging.