Why Reusables?

-**What is plastic reusable packaging?**

Plastic reusable packaging improves the flow of product all along the supply chain, to reduce costs. These products are used to move, store and distribute product within a single operation or entire supply chain. From raw material to finished goods, plastic reusable packaging safely and efficiently moves material/product to its destination. These packaging products are ideal for multiple trip applications in a closed-loop environment or well-managed supply chain. These products can also be used effectively in a managed open-loop system, with reverse logistics in place to return empty containers or pallets for re-use or replenishment. Products include:

- Hand-held containers, bins, boxes or totes
- Pallets, top frames, top caps and divider sheets
- Bulk containers, bins, boxes or totes
- Protective interior dunnage (custom)
- Storage containers and metal systems
- Custom designed and engineered packaging

Your reusable packaging provider will analyze your operation/system, conduct a financial justification, design a solution and implement a packaging program that will reduce overall costs and optimize your operation. As plastic reusable packaging products seek to replace one-time use corrugated shipping and storage boxes and limited-use wood pallets, users experience a rapid return on their investment, many times in 12-18 months or less.

Why plastic reusable packaging?

The development and implementation of reusable packaging programs can result in sustained optimization and overall cost reduction, through:

- Improved productive flow of goods
- Reduced packaging waste (from the disposal of corrugated boxes or wood pallets)
- Reduced packaging costs
- Maximized product protection
- Reduced transportation costs due to packaging modularity and standardization
- Reduced labor costs due to standardized work flow
- Optimizes inventory management through standardized sizes
- Improved warehouse space utilization
- Improved worker safety and better ergonomics
- Improved velocity through reduced cycle times

Who uses plastic reusable packaging?

Reusable packaging is used in a wide range of industries, including automotive, beverage, food, electronics, pharmaceutical, textile, printing and apparel.

What are the KEY INDICATORS that implementing reusable packaging is right for your business?

- A well-managed supply chain (interdependent relationships)
- Relatively short logistical cycle (time and distance)
- Tightly controlled closed-loop or a well managed open-loop shipping system
- Multiple component parts
- Complicated assembly operations
- Expensive expendable packaging

- High product damage rates
- High part-usage rates
- High inventory velocity
- Under-utilized trailer space in transportation
- High waste disposal costs
- Concern about clean environment or part cleanliness/hygiene
- Need to optimize line space
- Worker safety or ergonomic issues
- Desire for visual plant
- Product shipped to/from regional distribution centers
- Need for unitization
- Direct-to-store delivery shipments

How can Return on Investment be calculated?

While each company measures success differently, some of the following may be used to measure packaging success, over time:

- Expendable packaging costs
- Expendable set-up costs
- Disposal of expendable packaging
- Attrition rate
- Logistics and freight costs
- Additional handling costs
- Process environment
- System days
- Product quality
- Insurance costs
- Ergonomics and safety issues
- Space savings in inventory and line side
- Cleaning
- Container control
- Re-Packing Costs
- Labor Costs
- Cycle time

What product styles are available?

Reusable packaging products are manufactured in a variety of styles. The product style selection is based on many factors of the customers' business, including: volume of product, product life cycle, frequency of shipments, inventory velocity, storage practices and product protection requirements.

For example, a radio being shipped for assembly into an automobile will require standardized packaging that prevents any damage to that part and that will maximize a 45 x 48 pallet, for efficient transportation costs in the automotive industry. In the apparel industry, the concerns are not about cushioning, but about potential snags on sharp edges. In the pharmaceutical industry, hygiene and security are important issues, so the packaging selected is highly cleanable and designed with security options.

Hand-held containers bring productivity to today's material handling systems, through standardized workflow and ease of handling. They are available in the following styles:

- Straight-wall: For maximum container utilization, resulting in more product per container
- Stack-n-nest: Containers nest when empty and stack when full

- Nest-only: Containers nest for efficient storage and return transport
- Collapsible: One-piece containers collapse after use for efficient return transport
- Attached-Lid: For secure storage and shipment

Bulk containers offer the strength and rugged durability demanded in today's material handling systems. Bulk containers are available many standard and custom footprints, as well as the following styles:

- Collapsible: One-piece containers collapse after use for efficient return transport
- Straight-Wall: For maximum container utilization and secure static storage stacking
- Nestable: Containers nest for efficient storage and return transport

Companies in many industries have converted from wood to plastic pallets for their work-in-process, storage and distribution applications. They recognize the economic, ergonomic and environmental benefits that plastic pallets bring to their operation. Plastic pallets are available in many footprints and the following:

- Nestable, Stackable and Rackable Pallets
- Top Caps/Frames
- Seat Belt Systems
- Divider Sheets

The timely delivery of high-quality parts and products at the designated destination is critical to an efficient operation. Custom Interior Dunnage, commonly referred to as protective interior packaging, is available in reusable or expendable styles, protects product during assembly, work-in-process and transport. This packaging is custom designed and fabricated to provide a reliable packaging solution that offers continuous protection and support. This dunnage can be inserted into hand-held or bulk containers, used on pallets or used with racks.

What materials are used?

Depending on the product style, most plastic reusable packaging products are manufactured in high-density polyethylene or polypropylene plastic. Additionally, products can be produced in UL-listed, ESD-protective, FDA-approved and antimicrobial materials for unique packaging applications.

How is plastic reusable packaging manufactured?

A wide variety of manufacturing processes are used to achieve the high-performance levels demanded of the product in application. Since application and product requirements differ, a comprehensive range of manufacturing processes and the highest quality materials are necessary to achieve the desired performance characteristics needed for the application.

Injection Molding

Plastic is injected, under pressure, into a closed cavity mold and cooled to ensure it maintains the exact shape of the mold. This process produces a solid wall, solid core product that exhibits: Superior impact resistance

- Accurate and consistent tolerances
- Exceptional strength

- High cleanability
- Lightweight construction

Structural Foam Molding

Plastic and nitrogen gas are injected into a closed cavity mold and cooled to create the exact shape of the mold. The combined use of these materials creates a cellular core that forms a solid skin and exhibits:

- High strength-to-weight ratio
- Reduced deflection
- Accurate and consistent tolerances
- Cleanability
- Superior static load capacity

Thermoforming (Single and Twin Sheet)

In single sheet thermoforming, a sheet of plastic is heated and drawn by vacuum over a mold to create definition to the final product. In twin sheet thermoforming, two sheets of plastic are heated and drawn by vacuum over separate molds and fused together through pressure to form a structural double wall. These processes result in:

- Exceptional flex memory
- Standard static load capacity
- Impact resistance
- Lightweight construction

General Fabrication

A variety of materials are used the fabrication and assembly of custom interior packaging, resulting in:

- Improved part protection
- Class A surface protection
- Better part separation
- Consistent presentation

Creating a plastic reusable packaging system.

Plastic reusable packaging providers begin by conducting a system-wide assessment and a cost-justification analysis in order to create and implement a reusable packaging program, for significant cost reduction and supply chain optimization.

This data is provided by ORBIS Corporation. For more information, please contact ORBIS at www.orbiscorporation or 888-307-2185.