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How to Manage Shipping Containers Responsibly

Today's management issues of cost consciousness and environmental awareness are sending industries on the continuing quest for more efficient and economical shipping and storage systems. For most of our industry's history, the 55-gallon steel drum has been the standard container used for shipment and storage.

Modern technology has produced containers and related products that surpass the steel drum in efficiency of cost and use. This new efficiency has led to the development of sophisticated container-management systems that incorporate environmentally sound practices. This article explores how industry's quest for more efficient and economical solutions is being manifest in the management of container usage.

Keeping Steel Drums Out of the Waste Stream

The traditional, unlined, 55-gallon steel drum that has served industry faithfully for decades has proven inefficient for today's needs. Leaking drums that release industrial material — often hazardous — cause product waste, unsound environmental practices and potential liability.

The unwieldy, circular drums need to be stacked onto pallets, and, when arranged for transport and warehousing, result in inefficient use of valuable shipping and storage space. Most often, these steel drums, once emptied of the product, cannot be effectively cleaned or reused.

Disposal arrangements can become complicated, due to a shortage of disposal sites and ensuing regulatory restrictions. These are all factors that add unnecessarily to the cost of doing business.

Industry Responds

In response, industry has recently developed a management system that departs from the short-term, one-way

concept of container use. Instead, a container is monitored from the moment it is acquired, through all the stages of its use and any reconditioning or recycling that it must go through to be reused, and then to final disposal.

"This monitoring system is a "cradle-to-grave" concept for industrial-product containment," says Van Finger, president of Precision IBC, a firm in Fairhope, Ala., specializing in this practice. The old, 55-gallon steel drum has been involved in this system for many years without current accountability practices. It was manufactured, sent to the filler and then to the emptier, who usually accumulated a pile of drums in his yard until the drum reconditioner bought them, cleaned them and sold them back to the filler. This process often occurred without thought to the environmental effects and costs resulting from the disposition of drum residues during this process, or to the cost of inefficient use of storage or transportation space.

With new technology and advanced recycling procedures, metal, corrugated paper and blow-molded polyethylene containers have been used to increase the efficiency of materials handling and storage. Now, a container can make from three or four trips to up to 10 years of trips, depending on its construction and use.

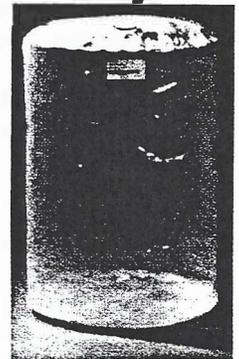
This new efficiency, in turn, has opened the opportunity for a user to manage his or her own container system, or hire someone to manage it from start to finish. It also opens the option for the user to own containers or rent them, or to participate in a recycling, cost-sharing program with the various users.

Drum Liners Are One Option

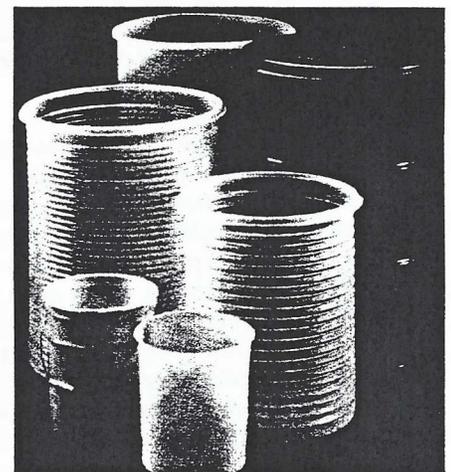
A brief survey of the types of containers available in the industry today will

help one understand how the container system is managed each step of the way. Specialized features incorporated into a container or designed as an attachment allow more versatile use than the bare, 55-gallon steel drum.

The implementation of flexible inner devices — either inserts or liners — made by CDF Corp., Plymouth, Mass., offers one solution to dealing with 55-gallon drums. While not a panacea, these devices provide a practical, cost-effective way to keep drums clean and out of landfills, protecting product purity and maximizing product recovery. They also allow the capture, control and tracking of residues.



Externally detachable liners from CDF Corp. are bar-coded to facilitate tracking of product residue through its total life cycle.



These accordion- and smooth-sided inserts from CDF Corp. have a specially designed lip that snaps over the top chime to provide a snug fit and eliminate seepage between the insert and the drum wall.

IBCs Offer Advantages

Another option is intermediate bulk containers, or IBCs, which are designed to facilitate storage and transport of a product. Any given IBC can hold the same volume as up to six drums in the same space that four drums would occupy. This space reduction results in significant savings in floor and air space in both warehousing and shipping.

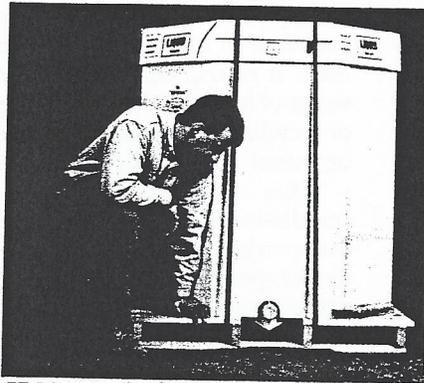
Because of the innovative use of thermoplastics, stainless steel, aluminum and corrugated paper, tare weight (the weight of the container as a factor in shipping and storage costs) is considerably reduced. This reduced tare weight allows more product to be shipped per truckload.

Heat-sealed polymer liners are often a standard feature of IBCs. These lightweight liners allow for less cleaning expense by protecting against spillage and eliminating wastewater due to flushing. They also serve to isolate the product from the container, minimizing contamination of both. The liners — such as those offered by 21st Century Containers, Ltd., of Atlanta — are easily installed and removed. Different grades of liners are available to suit most customer needs.

IBCs With Added Features

Other specialized and innovative features also add to the versatility of an IBC. Many containers are specially designed to facilitate product agitation, or come with portable-mixer or air-blender attachments. IBCs often have their own built-in or detachable pallet. Their modular design allows for efficient stacking capabilities. Some models are even designed to be stacked and interconnected to allow a continuous supply of liquid product using gravity flow.

Top-filling configurations are available to suit many product needs.



EZ-DRAIN valve from Paper Systems, Inc., has a mechanical safety lock and a tamper-evident seal to maintain product integrity.

Well-designed discharge systems and sloped bottoms enable more efficient evacuation of the product.

Innovative drain valves — such as the one developed by Paper Systems, Inc., an IBC manufacturer located in Des Moines, Iowa — have a mechanical safety lock and a tamper-evident seal to maintain product integrity.

A useful feature in many IBC models is collapsibility, resulting in up to 10-times-better space utilization for added cost savings in storage or return-container shipments.

A well-designed container allows for more efficient usage compared to a 55-gallon steel drum. "Source reductive" packaging is a management directive stressed by Kevin Stuart, marketing director of Paper Systems, Inc. By developing innovative products that use fewer raw materials, the reconditioning, recycling, disposal or incineration of containers can only become easier and less costly.

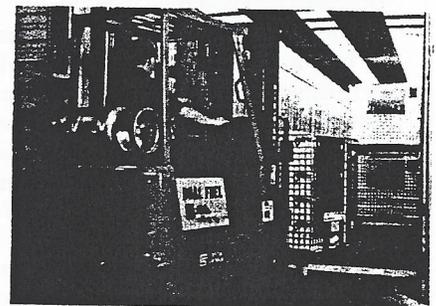
The versatility of IBCs has opened many options towards managing a company's container program. IBC manufacturers have created such options to address company issues concerning environmental regulations, product liability, tracking and inven-

tory control, residue recycling, seasonal shipping or storage requirements, and container disposal.

Closed-Loop Packaging

As an example, Closed Loop Packaging is a container-management program offered by Hoover Materials Handling Group, Inc., Alpharetta, Ga., the largest supplier of IBCs in the United States. The program's process starts when a company buys or rents an IBC for its product, and ends when the container has no remaining useful life and must be safely discarded according to the appropriate regulations and processes.

Hoover offers its customers the option to rent or lease containers, eliminating a capital investment, and thus enabling the customers to afford what they really want and need. This option is ideal for customers who have seasonal shipping or storage requirements. A rent/lease option also protects against obsolescence, eliminating the selling off of old containers. This ability to rent or lease, in turn, lessens customer liability.



The Cagetainer from Hoover Materials Handling Group reduces freight and storage costs when collapsed, and can be recycled for multiple uses.

Hoover also works closely with Allwaste Container Services, Houston, to recycle, clean and repair Hoover's

IBCs at one of Allwaste's 10 reconditioning centers across North America. The recycling process involves strict inspection, retesting and recertification to comply with federal, state and local environmental standards. Allwaste recycles the plastic inner bottle and the outer shell. If necessary, a new bottle and valve are inserted into the outer shell. Allwaste also handles proper disposal or recycling of residual products.

An innovative container-management program that uses a computer software program ensures against lost IBCs and inaccurate order fills by keeping track of deliveries, pickups and inventory. According to Hoover President John Redmond, whenever a container is shipped or loaded, its identification number is entered into the system. By tapping into the host computer, a preformatted report will pinpoint a container's exact location.

This system also allows companies to monitor the number of trips for each container as well as keep track of the reconditioning details, a process as simple as scanning the bar code that identifies each container. Companies can then continuously evaluate their entire container program to ensure that it is operating cost-effectively at every phase.

We Make It, We Take It Back

To help both fillers and end users manage IBCs, Sonoco Products Co., Industrial Container Div., Marietta, Ga., initiated the "We make it, we take it back" program. The process starts at the manufacturing point, where a label is applied to each unit being shipped. This label specifies a toll-free number to call when the IBC is empty and ready for disposal.

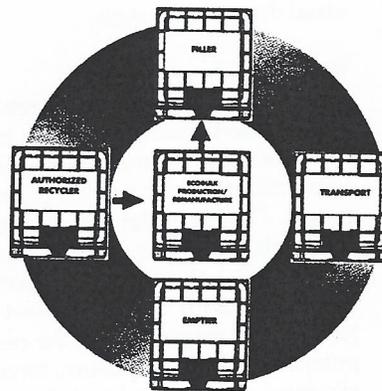
Sonoco handles the pickup and delivery of the IBC to the recycling center. Once the units arrive at the recycling center, they are inspected and separated according to the recovery process that they will undergo. Some units are disassembled into their component parts, and the materials are recovered for use in other applications.

Other units are simply washed or reconditioned to make them fit for reuse.

Recovered units are either sold into the secondary market or returned to the original customer in a closed-loop system. Since each of the recovered units has a different value, the customer can choose from a range of container options and prices. The focus of this program is to make IBC management both cost-effective and convenient.

The North American Ticket

Schütz Container Systems, Inc., North Branch, N.J., has announced a program called the North American Ticket, which offers its customers a system for container reconditioning. Schütz tracks its IBC from its customer — who fills the IBC — to its customer's purchaser — who empties it.



Schütz Container Systems, Inc., offers a program for the return, refurbishment and reuse of IBCs in North America.

Schütz then takes back the container to an authorized, designated recycler who classifies the container and its previous contents. The valve, filling port, inner tank and labels are removed. The container is then thoroughly cleaned. The outer container is fitted with a new inner tank, new filling port and new valve, and is inspected and tested like the original container. The reconditioned IBC is then ready for another qualified trip.

Schütz calls its container-reconditioning program the North American Ticket because it was

patterned after a similar IBC program that it established years ago in Europe called Euroticket. The Schütz container comes with a special North American Ticket form that the emptier fills out and forwards by fax to Schütz, who then arranges for the container to be returned to one of 29 Schütz-designated recycling locations.

The challenge is to offer this type of service profitably and cost-effectively to the customer. The customer can obtain the use of a container for less than it would cost to purchase it from the manufacturer, while Schütz can eventually sell the used containers to offset costs. If a company can inexpensively acquire a returnable container that can be useful for three or four trips, then this type of management is truly economical and reduces waste.

Environmental Accountability

Environmental accountability and teamwork are the focus of the container-management programs offered by Return Logistics, Elmhurst, Ill. Its programs arrange for the pickup and delivery of a customer's containers. The company's cost-sharing strategy represents the first time multiple-container manufacturers and fillers have teamed up on behalf of end users. This builds goodwill with the filler's customers.

Major benefits of this program include a simplified consolidation of emptied containers at central locations to reduce return-truckload freight costs, and the use of audited recycling facilities to reduce liability and free up the filler's container-management staff for other duties.

Educational packets with step-by-step illustrations that walk emptiers through



Schütz Container Systems, Inc.'s, IBCs in 330-, 275- and 220-gallon sizes are suitable for transport of hazardous and non-hazardous liquid goods.



TO MEET GOVERNMENT REGULATIONS FOR LEGAL DISPOSAL CALL

RETURN Logistics

1-800-774-6956

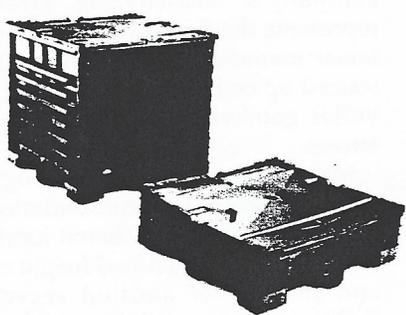
Call-to-action labels, such as this one from Return Logistics with its prominent display of the company's 800 number, maximize returns.

the process and a central, 800 phone number are added features. They heighten awareness and effectiveness, and further assure proper-recycling procedures while limiting a company's liability. Return Logistics stresses customizing container-management and cost-sharing programs to match the user's profile.

Trip-Leasing Program

Arena Fleet Services is another rental and logistics-management network for IBC users offered by Arena Products, Inc., Rochester, N.Y. This company specializes in the complete design, development and production of materials-handling containers and pallets, using advanced computer-aided-design techniques and thermoplastic technology.

Arena's trip-leasing program creates a cost-effective way for customers to use high-quality, returnable containers



The Arena 330 Shipper™ from Arena Products is a 330-gallon, all-plastic, reusable container that features a fully collapsible, bag-in-box system for shipping nonhazardous liquids and bulk solids.

without a major-capital outlay. Full-service tracking and control, maintenance, cleaning, liner disposal, and replacement and transportation are provided.

Arena's program for monthly to two-year rentals serves customers who need only short-term use or who have swings in quantities. Again, the object is to reduce waste, cost and labor without capital expenditure or in-house container management. "Our products increase productivity and decrease costs while also making a positive contribution to the environment," says Tony Arena, president and founder of Arena Products. "Unfortunately, many other sound-environmental practices increase a company's cost of doing business." This firm was recently presented the Robert Schad Environmental Award, which recognizes a product and process for the amount of natural resources and energy saved during its life cycle.

To Sum Up

Whether called closed loop, returnable ticket or fleet management, the trend in container management is to maintain accountability in the process of container usage. Thanks to the use of innovative materials and more efficient design of containers, the age-old problems associated with 55-gallon steel-drum storage and disposal, and the resulting potential-liability exposure, have been alleviated and removed from the hands of the end user. In so doing, the traditional process of using a one-directional filler, emptier, reconitioner and recycler is being transformed by a third-party management group that can customize a user's needs.

Companies now have the option to own, rent or lease their containers. Qualified professionals, who adhere strictly to environmental standards, handle the recycling or reconditioning of containers. Computerized tracking and monitoring of containers allows for the type of management efficiency that reduces time, cost and waste.

Kate Hall Graue of Return Logistics, Inc., notes that the total packaging process is vital to the success of any type of product. The inside product may receive

most of the company's attention, but if the packaging is causing a problem, it has an impact on the customer's ultimate perception of the product, the environment and the company's success.

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Need More Information?

IBC Rental and Logistics Management — Arena Products, Inc., 2101 Mt. Read Blvd., Rochester, NY 14615; 716-254-2180. Or **Circle No. 65.**

Heat-Sealed Polymer Liners for IBCs — 21st Century Containers, Ltd., 150 Selig Dr., Atlanta, GA 30336; 800-772-3745. Or **Circle No. 66.**

Drum Inserts and Liners — CDF Corp., 77 Industrial Park Road, Plymouth, MA 02360; 800-443-1920. Or **Circle No. 67.**

Closed-Loop Packaging System for IBCs — Hoover Materials Handling Group, Inc., 2001 Westside Parkway, Suite 155, Alpharetta, GA 30201; 800-391-3561. Or **Circle No. 68.**

IBC Drain Valves — Paper Systems, Inc., PO Box 6188, 321 S.W. 4th St., Des Moines, IA 50309; 800-342-2855. Or **Circle No. 69.**

IBC Sales/Rental/Leasing Management Systems — Precision IBC, PO Box 1171, Fairhope, AL 36533; 334-990-6789. Or **Circle No. 70.**

Custom IBC and Container-Management Programs — Return Logistics, 340 W. Butterfield Road, Elmhurst, IL 60126; 708-941-3619. Or **Circle No. 71.**

North American Ticket Program — Schütz Container Systems, Inc., PO Box 5950, 200 Aspen Hill Road, North Branch, NJ 08876-5950; 908-526-6161. Or **Circle No. 72.**

We Make It, We Take It Back Program — Sonoco Products Co., Industrial Container Div., 1850 Parkway Place, Suite 820, Marietta, Ga. 30067; 800-270-5393. Or **Circle No. 73.**

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