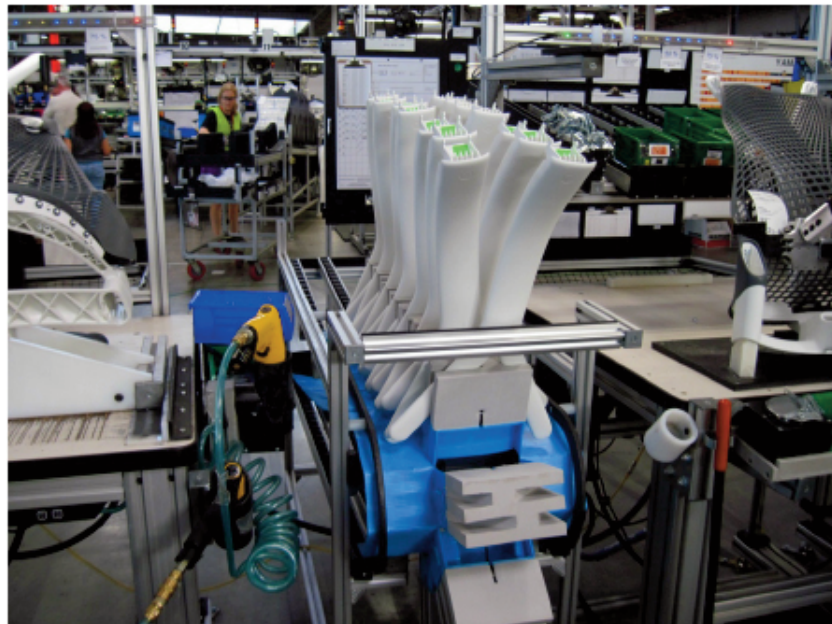




Herman Miller Saves Labor and Costs by Switching to Reusable Packaging

By switching from expendable to reusable packaging for the handling of a component on a chair assembly line, Herman Miller is saving \$46,000 annually in material and labor. The cost-saving switch earned the company the Reusable Packaging Association 2012 *Excellence in Reusable Packaging Award*.



“Herman Miller has been using returnable packaging throughout the company for more than 20 years as a step toward environmental sustainability,” said Cindy Doman, Packaging Engineer at Herman Miller. “As we understand better the positive financial impact it can also have on our manufacturing process, we are looking for other opportunities to use reusable packaging. Well-designed returnable packaging can have a positive impact on people and profitability as well as the environment.”



This is a full rack of parts shipped from the part supplier. It includes two movable shelves and a front fabric cover with Velcro closure.

In 2012, the company switched from expendable packaging to a returnable filler with crosslink foam for the shipping and handling of an office chair component. The part is a “Y” shaped plastic part called a “spine” that is assembled on the SAYL® office chair.

The part was being shipped into Herman Miller Greenhouse in corrugated boxes that would be re-used

several times before being recycled. By switching to the reusable solution, the company has gained the following measurable outcomes:

- Saved 63 minutes per day in handling of the parts; this equates yearly to 266 hours
- Used 4,300 fewer boxes, saving 24,645 pounds of corrugated per year
- Achieved a combined material and labor saving of \$46,000
- Eliminated the need for two warehouse skid locations
- Eliminated movement of heavy boxes from skid to roller conveyor by a material handler, and eliminated need to cut them open with a knife
- Eliminated handling of boxes by part supplier

“We have a strong commitment to our environment and are always looking for ways to reduce waste; whether it is packaging material or extra labor needed to repack parts for efficient presentation to our assembly lines,” explained Doman. “When implemented correctly, returnable



This is the way the SAYL spine was packaged prior to implementing the returnable packaging.

packaging can cut down on the number of touches a part receives both in material handling as well as the handling of the part on the assembly line.”

Cross functional team maps the process before designing the solution

A cross functional team of production supervisors, facilitators, conveyance operators, material handlers, the part supplier, and packaging engineering investigated returnable packaging designs that would optimizing the following factors:

- The part supplier’s manufacturing processes (without adding more time or effort)
- Transportation (trailer cube)
- Material handling (labor and time reduction)
- Sustainability (cut down waste)
- Create a part presentation on the line that would effectively cut down on labor time, without sacrificing quality.



The returnable packaging “self-returns” so the operator assembling the chair doesn't have to stop what he is doing to return the packaging.

“When considering reusable packaging, you need to look at the entire process from start to finish,” emphasized Doman. “It starts with looking at the current condition and identifying all the different areas of waste, including excess handling. Then you identify the target condition, like reducing time on the line or keeping manufacturing as lean as possible. Then you start working on the design of the reusable packaging.”

As they documented their current condition, the team realized that the operator on the assembly line needed to execute many hilo moves and several touches in order to get the part in the correct orientation for assembly on the chair. In addition, extra labor was required on the part of the supplier to assemble the corrugated boxes, and later by Herman Miller’s material handlers to cut open the boxes at the assembly cell.

“We focused on this particular part because of the high amount of handling it required,” explained Doman. “And we want to eliminate handling of packaging by workers on the line.”

Reusable packaging improves labor process and keeps the line moving

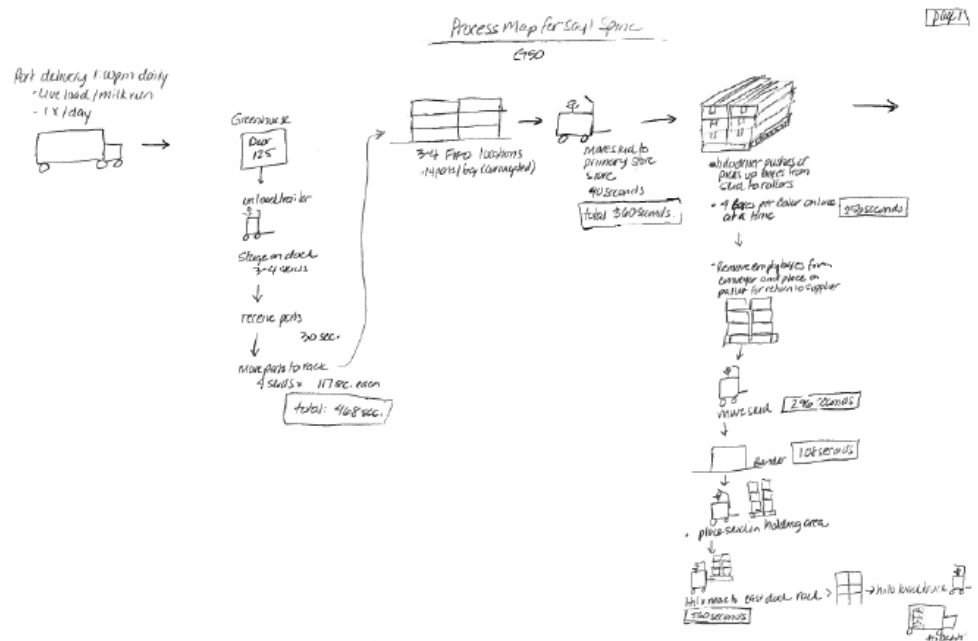
Today, the spines arrive from the part supplier to Herman Miller nestled in full racks that hold 180 of the parts. The racks are movable by pallet jack or hilo. The parts are ready to use as soon as the rack hits the production floor. The rack has two movable shelves so an operator can easily access and remove the parts from both the upper and lower shelves.

The parts are presented to the operator for easy assembly on the chair back. And the

returnable packaging “self-returns” so the operator assembling the chair doesn’t have to stop what he or she is doing to return the packaging.

“There is very little handling to get the part out of the rack and onto the line. The way it is brought to the line and presented to operator is innovative, and it supports our ongoing efforts to reduce labor on our line and improve ergonomics,” said Doman. “Everyone on the line is thrilled with it.”

In addition, the operator on the assembly line no longer needs to cut open boxes or stop work to return empty



packaging since it returns on its own, reducing fluctuation on the line.

“We have reduced part repackaging, part re-orienting, and excess handling by material handlers,” said Doman.

Herman Miller is committed to sustainable business practices. The company states that, “on the journey toward sustainable business practices, through continuous improvement, we will:

- Go beyond compliance with environmental regulations and other requirements.
- Pursue prevention of pollution and elimination of waste of any kind.
- Implement technologies to efficiently use energy resources.
- Design our products, processes, and buildings for the environment.
- Promote environmental knowledge and awareness.”

“This project alone eliminated 24,645 pounds of corrugated per year. It might not sound like a lot, but this is only one

case study of one part. There are hundreds of other case studies like this that have produced similar results at Herman Miller,” emphasized Doman. “We will continue to be stewards of the environment for years to come.”

When reusable packaging was first used at Herman Miller, it was primarily seen as a way of reducing part cost (by not having expendable packaging as part of the cost) and as a way of reducing the amount of solid waste generated by expendable packaging. Many of the original packs developed 20 years ago, that include parts bulk-packed in totes and large bulk bins, are still in use at the company today. Over the last 12 years, Herman Miller has been looking at reusable packaging not just as a means of bringing in parts in the highest density possible and reducing part cost, but also to reduce labor as it has in the SAYL assembly line.

“Now we see reusable packaging as a means to reduce labor even more than the waste it eliminates,” said Doman. “We always consider the role of returnable packaging in new product launches because we understand the benefits of using it.”

About the *Excellence in Reusable Packaging Award*

The annual *Excellence in Reusable Packaging Award* recognizes companies that have developed, supported, or implemented measurable and innovative reusable solutions in a business-to-business supply chain. The contest was open to non-members as well as members of the RPA. Submissions were reviewed by an independent committee of judges who are not members of the RPA, and were judged on the quantifiable environmental and economic benefits achieved by the use of reusable packaging solutions and services. The award is supported by the U.S. Environmental Protection Agency (EPA), Packaging Machinery Manufacturers Institute (PMMI), and StopWaste.Org.

About the RPA

The Reusable Packaging Association is a collaborative effort between manufacturers, poolers, distributors, retailers, and educators to promote the environmental, safety, and economic benefits of reusable packaging. The RPA serves as the collective voice of the industry and uses its knowledge of the members' products and services to advance the adoption of reusable packaging and systems throughout the supply chain. The RPA is focused on promoting the expansion of reusables as the preferred packaging solution across supply chains in all industries. For more information, visit www.reusables.org or call (703) 224-8284.

About Herman Miller



Herman Miller works for a better world around you — with inventive designs, technologies, and related services that improve the human experience wherever people work, heal, learn, and live. Its curiosity, ingenuity, and design excellence create award-winning products and services, resulting in more than \$1.7 billion in revenue in fiscal 2012. Innovative business practices and a commitment to social responsibility have also established Herman Miller as a recognized global company. A past recipient of the Smithsonian Institution's Cooper-Hewitt "National Design Award," in 2012, Herman Miller again received the Human Rights Campaign Foundation's top rating in its annual Corporate Equality Index and was also named, for the ninth consecutive year, to the Dow Jones Sustainability World Index. The company was also named among the 50 Best U.S. Manufacturers by *Industry Week*. Herman Miller trades on the NASDAQ Global Select Market under the symbol MLHR.