



CASE STUDY



HermanMiller

Exceeding Customer Requirements for Sustainability and Product Integrity with Reusable Packaging

Herman Miller is known for creating innovative and award-winning furniture that contributes to better working environments. Maintaining that reputation requires that the products are delivered to customers in as good a shape as when they left the manufacturing facility.

“We take a lot of pride in the furniture we manufacture and, as a company, our tolerance for transit damage is very low. We measure our transit defects in parts per million (PPM), and we are typically below 400 PPM,” said David Martin, Packaging Engineering Manager at Herman Miller.

The company also has a mission to achieve zero landfill and reduce its environmental footprint. Reusable packaging is addressing both goals; and it helped Herman Miller meet a customer’s sustainability requirements while furnishing one of the country’s largest construction sites at the time (2014). Herman Miller delivered furniture to the new office complex for a major petroleum company on time, on budget, and with insignificant damage to the finished products or packaging material. Herman Miller believes it is the largest use of outbound reusable packaging in the furniture manufacturing industry.

MEASURABLE RESULTS:

- Saved more than \$500,000 in packaging material and freight costs
- Kept 100 tons of packaging waste out of the landfill
- Improved cube efficiencies reduced deliveries by over 200 truckloads



“We achieved many significant benefits and savings that would not have been possible without reusable packaging.”

“This customer had safety and sustainability goals well above others we’ve partnered with, as well as requirements for successful delivery and on-time completion. To meet these goals, we designed a unique application of reusable packaging,” said Martin.

In addition to exceeding the customer’s requirements, Herman Miller saved more than \$500,000 in packaging material and freight costs, and kept 100 tons of packaging waste out of the landfill.

Herman Miller is experienced with using reusable packaging for incoming materials and parts; however, it had not employed reusable packaging for outgoing product. This project’s sustained duration and repeatable direct shipment of product made it an ideal candidate. For a period of 14 months, a dedicated carrier delivered a full trailer load of furniture every day from the Herman Miller manufacturing site in Michigan to the construction site in Texas. Each Thursday, a week’s worth of reusable packaging was loaded on the trailer and returned to Michigan for reuse.

Project planning started in August of 2013. Throughout the process, Herman Miller worked closely with its dealer, transit partner, manufacturing and shipping departments, and its existing and new packaging suppliers.

The shipments started in December 2013 and continued through April 2015. A total of 250 trailer loads of furniture was delivered with negligible damage to the products or reusable packaging material.

“The reusable packaging and the process offered many advantages over expendable packaging including sustainability, safety for handling and installation at the destination, and significant savings in freight and materials,” said Martin.

Shipping multiple case goods

Products shipped to the office complex included large wood credenzas, veneer overhead storage cabinets, fabric covered space dividers, and ‘docks’ - metal frames that are placed behind workstations to connect the furniture and house the electrical and computer cabling. Together the components form linear pods of workstations. The components ranged from credenzas measuring up to 72” x 22” x 20” and weighing over 200 pounds, to thin sheet metal panels measuring 72” x 18” and weighing 8 pounds, to space dividers measuring 72” x 40” x 1”.

Herman Miller worked with its suppliers to create reusable packaging that consisted of five different sewn covers for the wood furniture, a plastic corrugated container with foam inserts



for the metal panels, and a specially designed reusable pallet for fabric covered floor screens. The equivalent needed in disposable packaging for just one of the wood furniture units would have been 8 pieces of EPS foam, 2 corrugated sleeves and 4 corrugated trays. Thus 150,000 EPS corner fillers and 120,000 pieces of corrugated were avoided.

The protection provided by the reusable containers allowed Herman Miller to optimize cubing in its trailer loads. For instance, the 72-inch credenzas were placed upright, allowing smaller and lighter wood overheads to be placed on top, thus utilizing nearly the entire trailer height. This stacking routine would not have been possible with expendable packaging because of potential for product shifting and subsequent damage to the furniture.

Additionally, the design of the packaging allowed products to be loaded in a variety of orientations to utilize available "side freight" space. Whereas Herman Miller typically utilizes only 65% of trailer space with standard packaging, they could utilize 95% or better with the reusable packs. Thus Herman Miller sent at least 200 fewer trailer loads from Michigan to Texas during the project. Handling straps on the containers allowed workers to grip and unload the highly stacked product more safely than traditional boxes.

"The design of the reusable packaging let us load the product securely, while fully utilizing the trailer cube. The trailers were packed 'high and tight', yet the unload was safe for both the handlers and the product," said Martin.

Ease of handling at the destination

The project also delivered big savings in labor and safety once the product was off the truck. Efficiencies started at the receiving dock where parts were easily identified by the different colored straps.

The installation process required the furniture to be manually pushed on furniture dollies from the receiving dock through half-mile-long underground tunnels to separate buildings, on to elevators, and then to a specified office space in the large office campus. The reusable packages protected the furniture as it made its long journey. After delivering the furniture, workers folded the sewn covers and easily carried them back to the receiving dock. With expendable packaging, the installers would have had the choice of removing packaging at the receiving area (and risk damaging the product enroute to offices); or moving the product in the expendable package and then carrying all the associated trash back through the system, a time-consuming process.



Herman Miller expects to reuse the packaging materials for additional installations. The materials will be repurposed when they are no longer needed.

“At the program’s end of life, we will have only 1/100 of the amount of material to deal with than if we’d used expendable packaging,” said Martin. “We achieved many significant benefits and savings that would not have been possible without reusable packaging.”

Herman Miller won RPA’s 2015 Excellence in Reusable Packaging Award for businesses with revenues more than \$25 million.



About the RPA Excellence in Reusable Packaging Award

The Reusable Packaging Association 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. Non-members and members of the RPA are encouraged to enter.

Companies are judged on the quantifiable environmental and economic benefits of their reusable packaging solutions and services. Submissions are reviewed by an independent committee of judges who are not members of the RPA. The award is supported by the U.S. Environmental Protection Agency, Reusable Packaging Machinery Institute, and StopWaste.Org. Applications for the award are accepted in the spring. Visit www.reusables.org



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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.