

# Herman Miller's Iconic GreenHouse Headquarters Required New, Safe Operable Shading



Sun Control Textiles™



Photo Credits: Barry Rustin

Custom wheeled hem bars with side tracks, intermediate rollers, and high-performance shade fabric provide a unique solution spanning large skylights at Herman Miller Inc., headquarters.

*Architect:*  
William McDonough + Partners

*Project:*  
Herman Miller Corporate Offices,  
Factory and Distribution Center

*Location:*  
Holland, Michigan USA

*Mermet Fabric:*  
E Screen 5% / Color - White/Linen

*Shade System Manufacturer:*  
Draper Inc.

*Installer:*  
Triangle Window Fashions

Constructed in 1995 in Holland, Michigan, the corporate offices of iconic American furniture manufacturer, Herman Miller, has since been considered one of the first green facilities of its kind. With design qualities such as skylights, photosensors, storm-water management, and air-filtering systems, the building has been dubbed a pioneer in sustainable architecture and has even been given credit for helping to set the standards for the U.S. Green Building Council LEED Certification program. The configuration of the dual office and factory space was envisioned based on implementing green strategies such as daylighting for energy efficiency and enhanced productivity, among others. With its large number of 66 skylights and a daylight interior "street" that serves as the spine for the building, reliant operable shading was a necessity in the original architectural specifications.

Unfortunately, the original shading system installed eventually failed, not working for several years due to safety concerns. The shades had been disconnected and secured over worries that the 12' wide x 18' high units might fall. Also, the heat build-up from the sun-drenched street became too uncomfortable for employees passing through. With the help of Mermet high-performance fabrics, Draper Inc. shading systems and Triangle Window Fashions' installation, a new solar control solution was successfully implemented.

Architectural design firm William McDonough + Partners envisioned a space where office work and manufacturing were not divided vertically by floors, but instead connected horizontally by a brightly illuminated, public street.



"Their current shading system was not operating, and they needed a new option for sun control because the skylights are southern facing," said Savanna Weih, district sales manager for Triangle Window Fashions. "We needed to supply a fully-functional and safe solution that would enable them to operate the large shades and take advantage of the natural daylighting element that was designed into the building by the architect."

Triangle approached Draper's solar control solutions (SCS) department with the problem. Due to the significant slope of the skylights, the SCS engineering team designed a custom wheeled hem bar with side tracks to guide the hem bars along the curtainwall slope. Intermediate rollers were added to support the fabric and minimize sag across the large units.

Because of safety concerns created by the original installation, Draper designed custom brackets that capture the rollers in the event of an unforeseen mechanical failure. "That was more to give Herman Miller peace of mind—and alleviate the concerns they had," said Scott Cash, a solar control solutions sales consultant. "We were fully confident in our engineering team's ability to design a safe solution."

As part of the solution, shade fabric style and performance also needed to be evaluated. With the configuration of the building being relatively narrow and only one or two stories high, selecting a fabric which emphasized daylighting benefits without obstructing natural light was key. Controlling heat from the street's large glass walls running almost the entire length of the factory was also a priority.

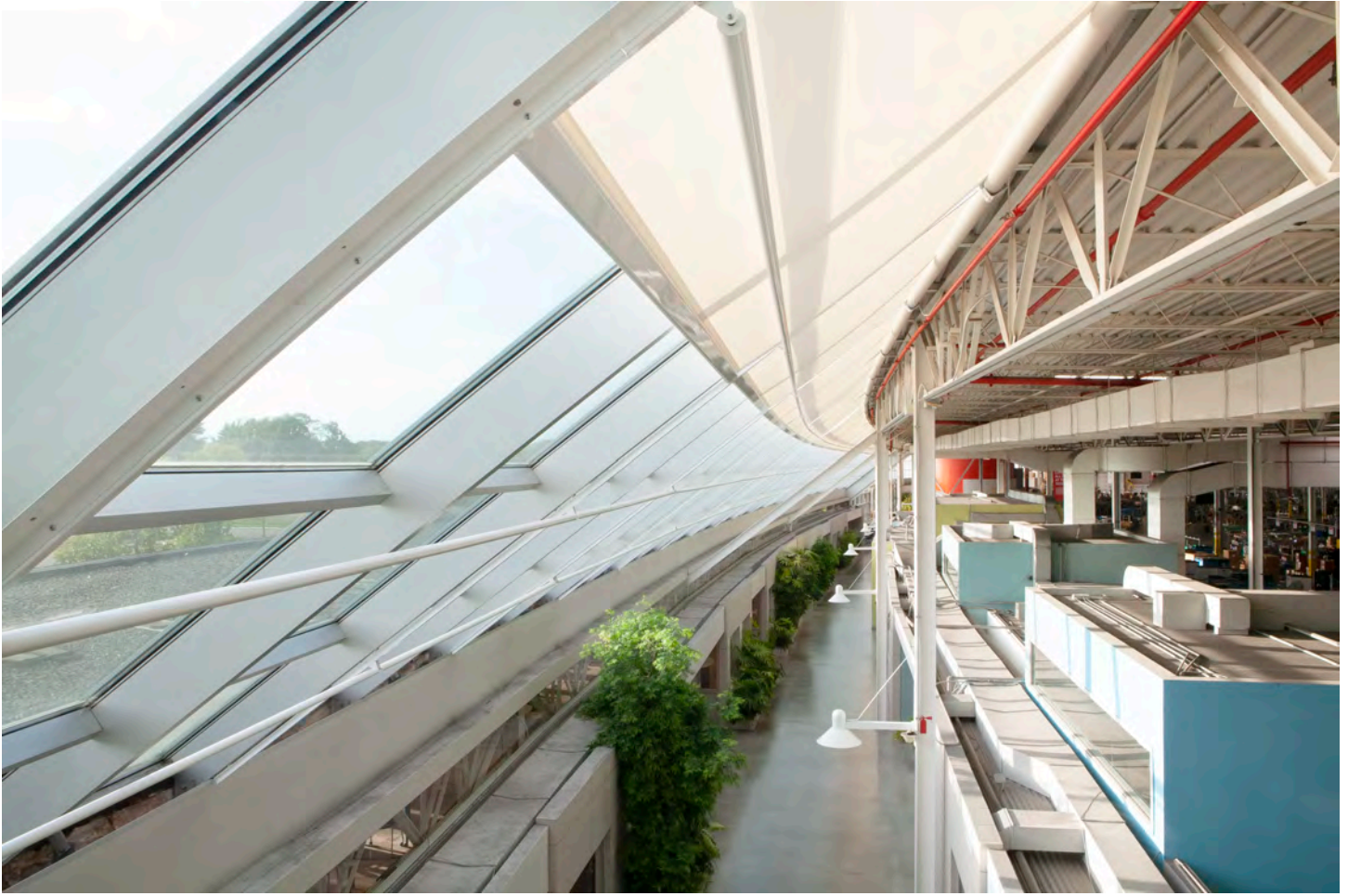
Due to this, E Screen 5% in the color white/linen was the recommend choice for Herman Miller.

"With a balanced basketweave fabric, 5% openness factor, and light material color, employees can gain maximum use of daylighting while also enjoying the best view-through," said Ali Fisher, product manager at Mermet. "The lighter the fabric color, the more natural light reflects into the space, versus being absorbed by the fabric."

With the interior street sited, so the exterior wildflower landscape is almost always visible, E Screen fabric, with the help of the titled roof glass, provide occupants a feeling of being outdoors.

Architectural design firm William McDonough + Partners envisioned a space where office work and manufacturing were not divided vertically by floors, but instead connected horizontally by a brightly illuminated, public street. While E Screen 5% contributes towards efficient use of daylight, it also controls solar heat gain, reflecting up to 62% of all infrared energy. This performance feature was also necessary to have in the interior street. In addition, the section was designed to diffuse social hierarchies associated with different kinds of work while providing equal access to light and simultaneously lowering energy costs. "E Screen helps to preserve these goals, making it a smart choice for the retrofit project," said Fisher.

After all solutions were thought through, it came time to alleviate any concerns Herman Miller may have had regarding product recommendations and installation. The



Draper design team accompanied Triangle Window Fashions to meet with Herman Miller and present the custom design.

"They were very pleased with our design and relieved to learn they would be able to use their shading system finally," Cash said. "They agreed to move forward with the installation."

Draper next assembled a full-scale mock-up to ensure all bases were covered. And if Herman Miller's reaction is any indication, they were. "Everyone was very impressed with the application and design, said Weih.

Herman Miller is more than a furniture company, but a leader known for architectural experimentation both through the products they create and the visions they construct for their corporate culture. By choosing to work with Mermet, Draper and Triangle Window Fashions on a smart shading solution, they can be assured their legacy of corporate values will continue to be preserved.