

Boeing's South Carolina Final Assembly Building Built in 18 Months with CPI's Quadwall Panels

Project:

Boeing 787 Final Assembly Building

Owner:

Boeing

Contractor:

BE&K Building Group / Turner Construction Company

CPI Rep

DEMAT Company Inc.

BOEING'S 787 Final Assembly Building may not be the first thing you think of when Charleston, South Carolina is mentioned, but it is the first thing you see when you enter Charleston International Airport.

"[It was] the largest construction project on the East Coast at the time and the largest construction project ever in South Carolina," said Senior Project Manager Steve McGrey of KBR Building Group, a division of BE&K.

The 1.2 million square foot assembly building, a joint venture project between the BE&K Building Group, Turner Construction Company and design partners BRPH architects, was built in just 18 months.

Located near the Atlantic Ocean, the facility was designed to meet hurricane wind loads, which proved a difficult task for many systems. Coupled with achieving the optimal 41 percent light transmit-



Courtesy: Boeing

tance, CPI Daylighting and its Quadwall® system proved to be the perfect fit, working with the architect's design, not forcing the architect to compromise their vision. Based on the design of the doors, orientation of the building, the height of the windows and other factors, CPI was able to determine and deliver the ideal product with the prime light levels.

The design on the 16 massive hangar doors called for precise panel size and thickness to allow for the doors to open and close properly while still allowing natural light in the building. Now even when the doors are fully closed, there is

an abundance of natural light entering the building without the unwanted glare and heat, which is impossible with typical plastic or aluminum materials found on standard hangar doors. The panel's Nano-Cell® technology, in conjunction with a matte finish, eliminates any potential glare inside the warehouse.

The building's 25,000 square feet of Quadwall - an assembly of two independent translucent insulated panels, resulting in one integrated, high-performance daylighting system - combined with other green building initiatives enabled the project to achieve LEED®

Boeing Final Assembly



Installation of Quadwall panels on the massive hangar doors at Boeing's Assembly Plant in Charleston, SC.

Gold certification.

"[The Quadwall panels] were integrated into the 85-foot-tall hanger doors on either end," said McGrey. "Timing was critical to door completion, which then allowed the start-up of the HVAC systems that were necessary for Boeing production tooling installations."

Because of the speedy install, production was able to begin six months ahead of schedule.

"The plant was necessary to relieve the large backlog of orders received for the 787," said McGrey.

For the city of Charleston itself, the economic impact was massive. Not only were thousands of jobs created, it became the first city to house a new Boeing aircraft assembly line outside of the Seattle, WA base.

The plant employs approximately 7,500 people, adding over 7,000 jobs and

strengthening the city's entire workforce by more than five percent in under four years, according to an economic study over the course of the last four years. Because of the Boeing facility, \$10 billion annually is injected back into the community.

"The community loves having Boeing here," said Mary Graham, chief advancement officer of the Charleston Metro Chamber of Commerce. "It's helping pump money back to the state." It's this type of work that CPI Daylighting loves to be associated with. Though they weren't the major focus of the project, they were an integral part of the significance for the city. CPI staff worked with a local company on the installation of the panels, along with other parts of the project.

"These are the type of projects that we love being associated with," said Rafael Rivero, Vice President of Sales at CPI Daylighting. "We were able to help build something outstanding in the city and we are glad that because of it, the local economy is booming and more jobs were created."

CPI Daylighting pioneered the use of polycarbonate translucent panel systems for architectural use in 1980. Today, CPI continues to offer new and innovative daylighting products, including skylights, wall lights and canopies for any commercial, industrial and institutional application, with complete services from manufacturing to design and installation. CPI products enhance the sustainability of any high-performance building project through daylight transmission levels, optimized insulation values, thermal performance and recycled content.