



Case Study

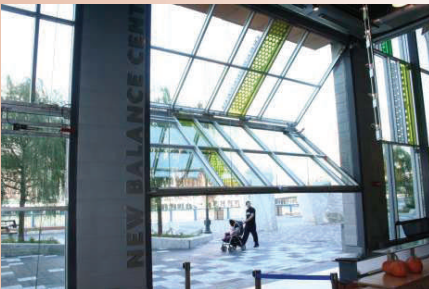
Boston Children's Museum Boston, MA

Doors Help Connect the Museum to the Waterfront

While making it a Greener, Safer Place Wilson Premier™ Doors Add to the Look and Function of the Boston Children's Museum

A century's old wool warehouse along Boston's historic Fort Channel is a world of wonder for children and their parents. The recently opened 23,000 ft. addition to the Boston Children's Museum (BCM) is a must-see for the city's residents and visitors, offering many hands-on exhibits including bubble-making machinery, a two-story climbing maze, and Boats Afloat, where children can float wooden objects down a 28-foot-long model of the Fort Point Channel.

A glass front on this striking building, designed by internationally renowned architects Cambridge Seven Associates, Inc. (C7A), provides an open feel for the atrium lobby. Discreetly completing the composition of perforated zinc and glass panels facing the channel are two glass-clad Wilson Premier vertical bi-folding doors. According to architect Steven Imrich with C7A, "The Premier doors are typically used for industrial projects, however



for the BCM project they were designed to coordinate with the richly patterned glass and zinc façade while offering a dynamic operational capability to the Museum's programs."

The doors are part of the Museum's goal to connect views and programs to the waterfront while completely blending into the overall look of the new façade. The doors also support the Museum's green mission to be environmentally friendly by enhancing day-lighting and view capabilities for the new spaces. As an integral part of the high window wall, the full height glazing on the Wilson doors reduce energy requirements by reducing the need for artificial lighting in the lobby. Along with using daylight for illumination, the doors are glazed with one inch thick high-performance double pane glass, trapping the heat of the sun to reduce winter heating and summer cooling costs. For additional energy savings, the Museum can open the large Wilson doors to take advantage of mild weather cooling and added ventilation.

The project is registered with the US Green Building Council's LEED certification program and is being evaluated to achieve at least the



"LEED GOLD" rating.

Other ecological features for the project include rain water collection and utilization of gray water for irrigation with 88% less run off into the channel, covering 6,000 sq ft of the roof with sedum and flowering plants, and use of recycled building materials throughout the museum.



According to BCM's Chief Operating Officer Neil Gordon, "We have become one of the first institutions to implement such an extensive system as part of its program to educate 500,000 children and other attendees about the important principles of environmental impact."

Some of the technical aspects of the doors provided a challenge to the Wilson engineering and fabrication team. Glass this heavy can put a load on the frame of these 21' 4" wide by 20' 7" high doors. The Premier doors have a frame made of 6061-T6 aircraft aluminum to handle the demands of door operation. For this project Wilson went one step further and beefed up the aluminum tubing making the door able to operate efficiently and effectively with the heavy tempered glass and accommodate the project's tight tolerances.

Additionally, the doors were made to maintain the building's structural integrity and withstand a 120 mph wind load per local government

Wilson Doors, Inc.

Phone: 262-723-6869
Fax: 262-723-6433
Info@wilsondoors.com
Wilson Doors, Inc.
1000 Proctor Drive
Elkhorn, WI 53121



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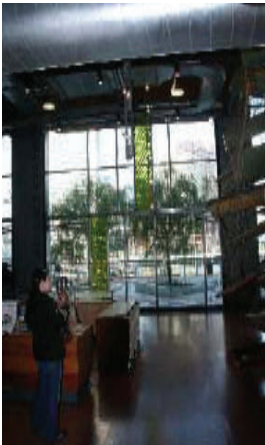
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specifications. To keep the door shut under these conditions, rugged, automatic locking mechanisms that engage and disengage with a push of a button are used at the jamb and floor.

The teaching experiences are not confined to the inside of the museum. A lot of attention went into the design of the plaza that fronts the channel, and Boston school children will have at least one first hand experience as part of the Boston Waterfront Learning Project.

According to Gordon, "The ability to open these doors enables us to offer programs that merge the inside of the museum with the outside for a seamless flow of people."

In contributing to a safer environment, the Premier doors on the BCM enable the museum to secure the building against the danger of fire as well. Door operation is controlled by Wilson's exclusive Ascent variable speed AC Drive. This unit enables fast yet smooth door operation, slowing down door speed as it becomes fully opened or closed.



For normal operations, the door is controlled by a remotely located push button. In the event of a fire, however, the museum's fire control system takes over enabling the two doors to open automatically and become large fresh air vents. This automatic sequence allows smoke to be quickly pushed through the top of the multi-story atrium space by the mechanical system fans. When a fire is detected the doors are signaled to raise 6 feet to help exhaust the smoke.

BCM and C7A indicated that the combination of aesthetics, the ability to glaze the door with the glass and zinc panels that compliment the building's façade and the practicality and functionality of Wilson Doors' Premier aluminum vertical bi-fold door were the overriding reasons for the selection of the system for the BCM. Combine these features with the doors' ability to compliment the museum addition's green mission and LEED construction, and the decision was that much easier. In the end, the Wilson Premier door was the most effective and friendly solution for the exterior opening challenges for the BCM addition.

While the BCM is presented to the community as a learning experience, building the addition to the museum was a learning experience as well. With the addition of the intelligently designed Wilson Premier doors, this facility is able to complete its systematic approach to going green.



Archi-Tec™ Premier™ Door at a Glance

Architectural aluminum tubing used in the construction of the door. While tubing can be painted, most customers choose raw, mill finish for a clean, crisp look.

For the door's skin the sky's the limit. One of the appealing aspects of the Premier door is that Wilson does not provide the skin. Just the frame. The architect, end-user or contractor can think outside-the-box. Wilson has manufactured doors to accept glass, translucent plastic, brushed aluminum, stucco, wood facades, and composite concrete.

Attention to detail. With aesthetics playing a predominant roll, Wilson attends to every facet of the door to ensure a sharp, refined look. Special door kick-outs are fabricated and special locking mechanisms employed.

Top-mounted motor and drive mechanism. In many Archi-Tec applications there is the interest in "masking" the drive mechanism. Whether the reason is to hide the motor or strict adherence to aesthetic criteria, Wilson's ability to mount the drive mechanism on the building header conveniently and efficiently addresses this requirement.

What kind of controls do you like? Remote push-button? Keyed entry? Number pad? Swipe card? Wilson can do it all.

Variable-speed AC-Drive. Each door is driven by Wilson's Ascent™ variable-speed AC-Drive smoothly opening and closing the door for quiet and efficient operation.

Installation is as easy as 1-2-3. If the door panels have to be spliced, simple bolted together, modular construction allows for quick and easy installation no field welding. Wilson's trucks deliver the doors with TLC and our driver stays to supervise the installation. This insures the product arrives without damage and is installed properly.