

Project: Art Institute of Chicago (Modern Wing)
Location: Chicago, IL
Architects: Renzo Piano Building Workshop / Interactive Design
Products: Pilkington Pyrostop® transparent wall panels with Fireframes® Aluminum Series fire-rated frames



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Art Institute of Chicago Modern Wing Relies on Fire-Rated Glass and Frames

Built on the rubble of the 1871 Great Chicago Fire, the Art Institute of Chicago embodies history. Today, the museum represents five thousand years of human artistic expression from around the world and continues to integrate Chicago's rich cultural history with avant-garde art.



To allow more comprehensive display views for the museum's growing number of visitors and increase educational space for students, the Art Institute of Chicago commissioned world-renowned architect Renzo Piano, founder of Renzo Piano Building Workshop, to design a "Modern Wing"—the museum's newest addition since 1988. In early 2001, the Renzo Piano Building Workshop teamed with the local architects of record, Interactive Design, Incorporated, Chicago, Illinois, to create the striking new addition.

Following the Modernist adage that form follows function, the new wing was designed with understated architecture, allowing elegant lines and spacious galleries to maintain art as the focal point. Just as important to the museum was the value of integrating the Modern Wing with the original buildings, as well as the vital city center, stunning Chicago skyline and neighboring Millennium Park.

The Art Institute of Chicago quotes Renzo Piano as saying: "My desire was to root the Art Institute's building deeply in this ground, but at the same time to give the Modern Wing air and lightness—to let it levitate. A continuation of an urban fabric, a flight into new experiences."

Located on the northeast corner of the museum campus, the complex, three-story addition appears simple. Double-layered curtainwall forms the exterior of the northern and southern façades, allowing natural light into the galleries and dramatic panoramas of the Chicago skyline and Millennium Park. Suspended above the building's glass, steel and Indiana limestone exterior is the "flying carpet," or rooftop canopy. This unique design element, which filters light into the third floor galleries through computer-modeled blades, is a trademark of the Modern Wing.

Inside, plaster and glass provide intimate gallery settings and clear views in and out to continually inspire artistic expression. A new education

center includes activity rooms for children and families, orientation rooms, support offices and a teacher resource center. It is the space in which museum occupants can begin to prepare for what Renzo Piano calls the "sacred" part of the building – the experience of the galleries.

One challenge the architects faced was how to maintain clear lines of sight from historic Michigan Avenue through the space to the fresh landscape of the Millennium Park Courtyard. The interior walls for the education and boardrooms needed to be transparent from floor to ceiling, yet also meet fire and life safety codes. To meet their design goals, the architects desired a versatile, high-quality glass and glazing system that would exemplify the world-class nature of the new wing.

The local architects of record, Interactive Design, Incorporated, Chicago, Illinois, found the solution by combining Pilkington Pyrostop® transparent wall panels with Fireframes® Aluminum Series fire-rated frames, both supplied by Technical Glass Products (TGP), Snoqualmie, Washington.

Pilkington Pyrostop® is fire-tested as a wall assembly and makes an excellent alternative to a solid wall, allowing unrestricted amounts of transparent glass. With fire-ratings of up to two hours, it also blocks the transfer of radiant heat, providing critical protection for the museum's visitors and irreplaceable valuables from the intense heat of a structural fire. Pilkington Pyrostop also meets the impact requirements of CPSC 16CFR1201 Category I and/or Category II – a critical performance criterion given the use of floor-to-ceiling glass in busy halls and activity rooms.

For the Modern Wing to maintain its sleek form, the fire-rated glazing system also needed to perform multiple aesthetic functions: be clear, wireless, fit in a narrow frame, and match as closely to the exterior curtain wall as possible.

To achieve this, the architects worked with TGP to develop custom, narrow-profile fire-rated aluminum frames. The result was the Fireframes Aluminum Series. Rather than the bulky, wrap-around frames often associated with traditional fire-rated framing systems, the Fireframes Aluminum Series has slender frames that can be finished painted and matched to the exterior curtain wall. It is listed by Underwriters Laboratories, Inc.®, for 60-minute fire-ratings as a wall assembly, and can incorporate 20-, 45-, or 60-minute fire-rated doors.

"TGP was great – they jumped right in," says Bob Larsen, Architect for Interactive Design, Incorporated. "They provided us with an enormous amount of help during the design phase. That's something we don't usually see from suppliers. And, not only do their products mirror the aesthetics of the external curtain wall system, they are fire- and impact-safety rated."

For more information on Pilkington Pyrostop and the Fireframes Aluminum Series, along with TGP's other specialty fire-rated and architectural glass and framing, visit www.fireglass.com.