

Project: Roux Center for the Environment, Bowdoin College

Location: Brunswick, ME

Architect: Cambridge Seven Architects (C7A)

Glazing Contractor: O&P Glass

Product: Fireframes SG Curtainwall® Series with Pilkington Pyrostop® fire-rated glass



Located in Brunswick, Maine, Bowdoin College aims to inspire students and faculty to work towards a greener tomorrow with its Roux Center for the Environment. In the words of Michele “Shelley” Cyr '76, P'12, chair of the Bowdoin College Board of Trustees, “This is a stunning new center that will advance the critical work of educating and motivating a new generation of humanists, scientists, and social scientists to meet the world’s great environmental challenges.” To bring its interdisciplinary approach to the environment to the fore, the college envisioned a three-story, 29,167 square foot addition that would serve as a hub for technology, environmental awareness and learning.

Framed by stately white pines, the Roux Center harmonizes the natural with the manmade. The building’s thermally modified lumber cladding pairs beautifully with eye-catching glass-paneled expanses. Along with sustainable aesthetics, the Roux Center sought to adhere to the highest green standards in architecture today, LEED Platinum certification. The college tasked architecture firm, Cambridge Seven Associates (C7A), with designing the Roux Center’s classrooms, teaching labs, research labs, faculty offices, conference rooms and common spaces/corridors for optimum daylight, quality views and enhanced collaboration.

During this process, an interesting dynamic arose: the dual need for compartmentation and transparency to promote occupant well-being. To promote safe egress for students and faculty in the event of a fire, it was necessary to ensure the exterior façade on the Roux Center’s exit stairwell provided fire resistance. However, many opaque forms of standard fire-rated building materials, like concrete and gypsum, limit light transfer and views – both of which are essential to LEED Platinum certification.

C7A overcame this challenge by incorporating Technical Glass Products’ (TGP) Fireframes SG Curtainwall® Series with Pilkington Pyrostop® glass firewall for the stairwell’s exterior façade. It brings the building up to code, while preserving daylight and views for occupants, supporting environmental considerations.

Both the frames and Pilkington Pyrostop fire-resistive-rated glass block the transfer of radiant and conductive heat. The UL-classified system acts as a barrier against high temperatures, along with smoke and flames in a fire situation. Should flames engulf the stairwell, Fireframes

SG Curtainwall Series also acts as the ultimate safety monitor for up to two hours. This allows first responders more time to arrive at the scene, while seeing students and staff safely out of a burning building.

Along with compartmentation, design considerations were equally important to the project. The fire-rated curtain wall resembles the glass used along the structure’s main entrance, creating a uniform look. Its toggle retention system helps achieve clean sightlines that match the seamless aesthetic of the neighboring silicone glazed (SG) curtain wall system. The toggles eliminate the exterior pressure plate, while still retaining the glass. The fire-rated system also uses a captured perimeter and verticals, with uncaptured horizontals to finish out the recessed section on the exterior façade and the exit stairwell.

The result is two complementary curtain walls, matched by their tall free spans of glass and slender profiles. In application, the large lites of glass invite ample daylight into the exit stairwell. Sunlight pours into the space, and illuminance increases student and faculty well-being, while ticking off LEED daylighting requirements. The curtain wall’s slim, minimal profiles further offer less-obstructed views, connecting building occupants with the outdoors and helping earn indoor environmental quality LEED points.

Today, the Roux Center’s smooth, continuous, fire-rated glass façade opens up the stairwell visually to a sea of green, red or gold-leaved tress, depending on the season. Large spans of fire-resistive glass flood the interior with natural light. The fire-rated system mirrors the non-rated curtain wall, and is a case in point that fire and life safety no longer compromise design.

Learn more about [Fireframes SG Curtainwall Series](#) and [Pilkington Pyrostop](#) fire-rated glass.