



SageGlass®



COLORADO STATE UNIVERSITY

Fort Collins, Colorado, USA

CASE STUDY

CHALLENGE

Originally completed in 1964, the Morgan Library is a focal point of campus activity at Colorado State University (CSU) in Fort Collins, Colorado. As such, it provided an ideal site for a planned addition intended to give students more seating, computing resources and study space. Transparency was a key design objective. Administrators envisioned a sleek, modern glass cube that would demonstrate the virtues of a safe, open campus as well as showcase the university's commitment to sustainability and efficiency. To this end, they required the addition to achieve LEED® Silver certification. Student comfort was also critical, so the all-glass building needed effective control of both solar heat gain and glare. All of these competing demands created a serious challenge for architectural firm Studiotrope.

"In Colorado, the western sun is extremely harsh late in the day, making the glare and heat gain on the west facade very hard to mitigate," said Matt Edmonds, project manager at Studiotrope.

"We considered other technologies, but were not satisfied with their aesthetic characteristics. SageGlass® ended up being the most effective and most elegant solution."

Matt Edmonds

Project Manager, Studiotrope



SAINT-GOBAIN

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SOLUTION

To achieve the desired amount of control, Edmonds evaluated a number of alternatives, including shades, louvers and a thermochromic glazing product that changes tint based on temperature. In the end, however, SageGlass® proved to be the optimal solution. SageGlass is electronically tintable dynamic glass that maximizes daylight and outdoor views while effectively controlling heat gain and glare to help keep occupants comfortable throughout the day, all year long.

“Daylighting analysis showed that an extremely dense vertical shade solution would be needed to control the western sun, which would have negated the openness and transparency objectives of the design,” Edmonds said. “We considered other technologies, but were not satisfied with their aesthetic characteristics. SageGlass ended up being the most effective and elegant solution.”

SageGlass is now installed in the entire two-story western curtain wall of the library addition, including several operable windows and an egress door.

BENEFITS

By using SageGlass, Studiotrope was able to tame the unforgiving western exposure in the new addition to the Morgan Library — as well as help achieve LEED Silver certification. The addition, called the “Energy Chamber,” provides a comfortable, quiet study space for students and faculty, as well as an environment that fosters collaborative research and learning.

In addition, glass on the upper and lower floors is zoned so that it can be controlled separately and activated by exterior light sensors. The glass can also be manually controlled for events, movies and other activities that require additional room darkening or lightening. For example, the Energy Chamber commons area houses a digital production studio where the ability to instantly establish ideal lighting conditions is vital.



SageGlass, installed in Colorado State University's library addition, creates an energizing, sustainable study environment while maintaining a clear view to the outside. Shown here in three different tint zones demonstrates how students and faculty can always experience the ideal balance between comfort and daylighting.

ARCHITECT: Studiotrope

GLAZING CONTRACTOR: Horizon Glass

WHY SAGEGLASS?

The pioneer of the world's smartest electrochromic glass, SageGlass® is the ultimate connector between the built and natural environments. SageGlass tints on demand to optimize daylight, reduce glare and manage heat – all while maintaining unobstructed views of the outdoors. With SageGlass, architects and building owners can improve occupant comfort and reduce energy demand in buildings. As a wholly owned subsidiary of Saint-Gobain, SageGlass is backed by more than 350 years of building science expertise. Learn more at www.SageGlass.com or join SageGlass on Twitter, Facebook and LinkedIn.

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