



SageGlass®

CHABOT COLLEGE

Hayward, California, USA

CASE STUDY

CHALLENGE

When tBP/Architecture began work on the new Chabot College Community and Student Services Center (CSSC), the design team wanted to incorporate as much glass as possible to create a visually stunning centerpiece for the institution. They also wanted to preserve the view outside and flood the interior spaces with natural daylight.

The CSSC atrium would include a two-story, 2,900 square-foot curtain wall facing south and west, posing significant glare and heat control challenges. Adding even greater complexity, Chabot College wanted the new CSSC to be an energy-efficient, LEED® certified building, part of a sustainability initiative calling for “green intelligent buildings” across campus.

Architects had to find a way to maintain outside views and keep people comfortable inside, while simultaneously minimizing energy consumption. Although conventional low-e glazing, automated interior blinds and automated exteriors louvers would manage the sun and solar heat gain, this approach would limit outside views and potentially compromise building aesthetics.

“Our design approach delivers exceptional energy-efficiency, due in large part to a ductless heating and cooling system that would not have been possible without deploying SageGlass.”

Phil Newsom

Architect, tBP/Architecture



SOLUTION

tBP/Architecture ultimately specified SageGlass® dynamic glazing for the new CSSC atrium. SageGlass automatically tints as needed to control glare and solar gain throughout the day, while maintaining clear views outside. This solar control solution is cost-competitive with less efficient static approaches, which made it an easy choice for the project.

The SageGlass curtain wall features six zones integrated into the building management system. The glass tints or clears by zone based on set air temperature thresholds, with a manual override for additional adjustments. Temperature is controlled by radiant heating and cooling in the concrete slab, combined with roof and ceiling air scoops for natural ventilation. No HVAC system is required for the CSSC atrium, and the building qualifies for LEED certification.

BENEFITS

Today, the CSSC serves as a thriving hub for nearly 15,000 Chabot College students, faculty and staff. SageGlass glazing keeps glare and temperature under control throughout the day, making effective use of the natural ventilation system. Sightlines to the surrounding campus grounds also remain unobstructed, while natural light reaches the interior spaces and reduces the need for artificial lighting.

According to Phil Newsom, tBP architect and senior project manager, SageGlass has made it possible to use an innovative natural air-cooling and heating strategy in the new building.

"The design approach we've taken for the CSSC delivers exceptional energy-efficiency, due in large part to a ductless heating and cooling system that would not have been possible without deploying SageGlass," Newsom said. "It's the architectural enabler that has allowed us to create a naturally ventilated, HVAC-free space."



The student services area in Chabot College features SageGlass as part of the school's "intelligent building initiative." By combining SageGlass with a number of other energy-saving technologies, architects were able to design this space without an air conditioning system.

ARCHITECT: tBP/Architecture

GLAZING CONTRACTOR: Capital 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.