



ELECTRICAL AND SYSTEMS ENGINEERING UNIVERSITY OF PENNSYLVANIA | PHILADELPHIA, PA. Department renovation uses five different glazing systems

By: Amanda Gibney Weko

CASE STUDY

AGI Glazier

Synergy Glass & Door Service, LLC
Collingdale, Pa.

Project Team

Owner: University of Pennsylvania
Architect: Buell Kratzer Powell, Ltd.
Contractor: Flatiron Building Co.
Structural Engineer: Keast & Hood
MEP Engineer: AHA

Scope

Five types of interior glazing for department renovation.

Completion

November 2017



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INTRODUCTION

The growing Department of Electrical and Systems Engineering (ESE) within the University of Pennsylvania's School of Engineering and Applied Science evolved from a merger of the Electrical Engineering and Systems Engineering departments. According to its website, the combined department responds, "to the rapidly changing intellectual and career landscape of engineering at the vital junction of 'atoms and bits.'"

To accommodate ESE's rapid growth, architects Buell Kratzer Powell, Ltd. (BKP) designed renovations to the department offices in the Moore Building. Built in 1912 with an addition in 1926, Moore is the home of ENIAC, the first modern computer. The department's existing spaces were outmoded and cramped with awkward circulation. BKP designed a high-tech, contemporary space to foster faculty and student interaction and present a professional look comparable to industry leaders such as Apple and Google. Color, light, and collaboration characterize the renovation design.

OPEN THE WINDOWS

Although one of the Moore Building's standout features is its large windows, pre-renovation conditions had them obscured by office furniture panel systems. Exposing the windows and increasing natural light and views throughout the department was a first priority. AGI member glazing contractor Synergy Glass and Door Service installed five different glazing systems to achieve BKP's architectural vision.

"We wanted to take advantage of natural light from the building's original large windows. Clerestories and side lites allow shared light in all spaces and also provide openness and connection," said BKP Associate and Project Manager Caitlin A. Daley, AIA.

FIVE SYSTEMS

Five different glazing systems were used in the 8,000-square-foot project. According to Synergy Project Manager Robert Zeigler, he and owner Pat McIntyre spent a lot of time up front communicating

with the architectural team to identify products that would best meet the aesthetic goals and the project's accelerated timeframe. The early communication let the team identify manufacturers and products that could meet the schedule. It required shifting slightly from the original spec. "There was a lot of work in the beginning to ensure – 16 weeks later – that everything would be right," Zeigler noted.

Private offices use interior storefront partitions manufactured by YKK-AP and glazed with 3/8-inch laminated glass. The administrator's office features Vivid Glass 9/16-inch low-iron laminated glass with a gradient inner layer to hide office furniture, cords, and clutter along the floor. Vivid Glass also appears in the lab and collaboration space, where 1/2-inch white marker boards with a magnetic inner layer wrap the walls. McGrory Glass 5/8-inch tempered glass surrounds the conference room, creating a glass box effect. Frameless double glass doors allow a seamless entry into the conference room and can be opened to extend the lobby for informal gatherings or larger meetings. Safti First fire-rated glass was used to separate the offices from the central building core. At ESE's main entrance, Penn installed a glass film featuring the university's logo.

COMPLEXITIES

Aside from an accelerated schedule and a mix of glazing types, the fire-rated glass entrances needed to be electrified and tied into Penn's security system. Synergy worked closely with the security vendor to ensure the custom hardware installation and coordination was performed on schedule. Working within an occupied building also posed problems. Noise constraints meant any floor drill work had to be done off-hours.

GREAT WORK

"The crew in the field was great," said Zeigler. Led by Synergy Foreman Kenny McClaine, crews worked a continuous schedule for about three weeks. "Our team worked alongside the painters and carpenters who were doing their finish work at the same time. We all did our work without interfering with the other trades," Zeigler added.

BKP agreed the advance communication and field performance were excellent. "Synergy did a great job, especially with all of the work required to add the fire-rated glass," Daley stated.

Upon entering the updated ESE suite, the extensive use of glass opens the entire space to view. Bold, bright colors resonate with students and staff alike. The light-filled environment has helped to dramatically brand the high-tech department within Penn Engineering.



Front: fire-rated glass entry; From top: offices with interior storefront glass and side lites; lab and collaboration spaces with glass marker boards