



Exterior façade

In the age of “green building” trends, achieving a designated Leadership in Energy and Environmental Design (LEED) certification is only a means to an end. The ultimate goal for building owners is to reduce costs by reducing a building’s energy consumption, something that can’t be measured until after the building has been completed.*

Location: Greenville, SC

Type: 35,000 sq. ft. new construction

Architect:

Craig Gaulden Davis Architects - Greenville, SC

General contractor:

Triangle Construction - Greenville, SC

Window system manufacturer:

Graham Architectural Products - York, PA

Aluminum finish:

Keymark Corp. - Fonda, NY

Anodized and Pour and Debridge Thermal Barrier

AZON Technology/Machinery: 



Exterior façade (side view)

Hipp Hall - Furman University

When Furman University in Greenville, South Carolina, decided to build Herman N. Hipp Hall, a new academic facility, it wasn't aiming for just a passing grade. The university was going for Gold as the building achieved a "Gold" LEED rating, the first building in the state of South Carolina to receive this certification.

As a private liberal arts university, nationally acclaimed for its academic excellence and campus beauty, promoting sustainability in construction practices is just one facet of the university's strategic plan, which embraces innovation and improvement. The other facet is lowering energy costs, something that Hipp Hall has already done, saving Furman University about \$80,000 since it was completed.

Now, several years later, Hipp Hall is still passing the test and saving the university money as it continues to save energy. "The energy savings for Hipp Hall is roughly 30 percent more when compared to a similar building on campus. "We are saving approximately \$12,000 per year," says Jeff Redderson, Director of Facilities Services for Furman University. "After several years of seeing reports on how the building was performing, the trustees were so happy with the results they insisted that all buildings on campus to be built according to LEED standards," says Redderson.

The action plan

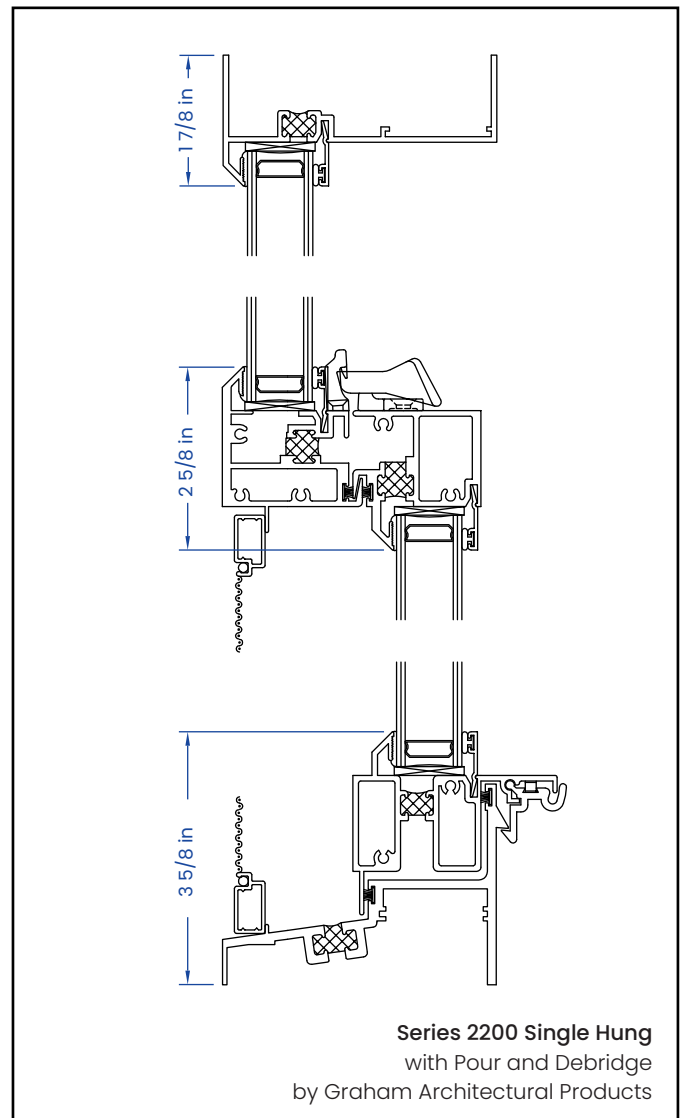
Johnson Controls, who had been providing the university with building management systems since 1996, conducted some comparisons of Hipp Hall to John's Hall, another similar building constructed in the late 1990s, to determine how the new building is performing. Furman University Board of Trustees wanted to see results. They were skeptical at first because years ago green buildings didn't have the same reputation that they do now. The misconception was that it had to be an unusual building and not typical architecture. The university needed to build in keeping with its existing architectural style, but at the same time, it needed to be innovative with the use of modern building technology to get the desired energy savings. The university designed an energy model to look at factors such as daylight penetration and the role that the building envelope played in heating and cooling for operational efficiency.

The fenestration products

David Moore, a partner with Craig Gauden Davis Architects and a LEED AP Allied Performance Professional says that Furman University was progressive in deciding to go LEED. "We had the opportunity to specify high performance materials which gave us the reason to specify particular products that otherwise would have been optional. The choices were there before and the reality is we could have specified these materials anyway but LEED was a way to formalize this," he says.

Graham Architectural Products based in York, Pennsylvania, supplied 76 window units for the building. The Graham Series 2200 Single Hung windows are approximately 43 inches wide and 75 inches high, one inch insulating glass units with a fixed upper sash and an operable lower sash (Figure 3).

"Windows let in a lot of daylight into the building," says Moore, pointing out that 'daylight and views' are point contributors under the LEED Indoor Environmental Quality category. "More daylight is better for the indoor environment. But when you make a larger window opening you reduce the thermal efficiency of that part of the building envelope at that spot. So we went for the aluminum windows with the high performance glazing," he explains. "Thermally broken windows keep the heat out of the building. So when the sun is beating down, it will not radiate heat inside because the conduction of heat is broken so there is no heat transfer," he says, adding that reducing the thermal transfer helps to cut down the building's energy consumption.



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