CASE STUDY Pearl River Community College

Syracuse University Housing Qualifies For Energy Rebate with Aeroseal

Pearl River Community College is an academic institution with a philosophy for timeless curriculum. Since the school was anticipating a growing student population, it had to address a rising demand for additional residential buildings to accommodate all Pearl River's students. To fulfill this, the community college built two new dormitory buildings, a men's dormitory and a women's dormitory. After starting at 8, the school was now at 10 residence halls.

This was a new construction project for the school. After construction, they realized there was a significant problem with duct leakage in their internally lined ductwork. This leakage had been an ongoing issue for the building, and the college had not been able to close the job because of it. As it turned out, the job had been advancing without thorough sealing of the ductwork. This had to be corrected for the project to be closed out.

Once they discovered it was a duct leakage problem, they began sending people into the ductwork to attempt to seal it manually. This didn't deliver the required leakage reduction, meaning there was still underlying leakage. There was not one obvious hole or repair – the ductwork was consistently leaking throughout the building. Many of the leaks could be seen from access doors, but technicians could not access them. This caused setbacks.

Pearl River had been trying to resolve this problem for the last 2-2 ½ years. After consulting a team for a full investigation, they determined the hard ceiling had been put up before the ductwork was installed and finished. Because of this, there were sections that had been improperly sealed as well as sections that had not been sealed at all.

TruSeal was tasked with identifying a solution that would solve the project's problem once and for all. They suggested Aeroseal, and although it seemed like a miracle solution at first, the school was willing to try it. Both buildings had two air handling units for a total of four, and Aeroseal had the job of sealing all four systems. For each system, they completed multiple tests and seals.

Reed Woods, the project manager at TruSeal, detailed how Aeroseal addressed the challenges presented by the project. "Most of the leaking ductwork was inaccessible, but with Aeroseal, we were able to seal it from the inside."

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PROJECT OVERVIEW

BUILDING Pearl River Community College

LOCATION Poplarville, Mississippi

ARCHITECT/ENGINEER Edmonds Engineering, Inc.

AEROSEAL CONTRACTORS Century Heating & AC

CONTRACTOR Colony Construction, LLC

SUBCONTRACTOR TruSeal, LLC Seal new dormitory buildings' underlying leakage

GOAL

TOTAL CFM OF SYSTEM 54,490 CFM

BEFORE AEROSEAL 19,190.4 CFM of leakage

AFTER AEROSEAL 3,409.9 CFM of leakage

RESULTS Energy savings; 66% leakage reduction



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Reed Woods Project Manager TruSeal Reed noted the ductwork was lined with 1" x 1 ½ pound fiberglass duct liner, which created concerns that this would hinder the Aeroseal process. However, those concerns were unfounded. The Aeroseal process proceeded and they were able to reach the desired leakage reduction.

Of all the sealing sessions, the most significant leakage reduction results were from the very first seal. The initial pre-seal test exhibited 5146.9 CFM of leakage, equivalent to 39% of the total 13200.0 CFM. The final post-seal test showed 1759.3 CFM of leakage, constituting just 13% of the system's capacity. For all 4 units, there was a total leakage of 19,190.4 CFM of the designed 54,490.0 CFM. Overall, they were able to save 15,780.5 CFM.

Pearl River's new dormitories were able to achieve a leakage reduction of 66%. With the new energy-efficient system, both buildings are experiencing energy savings while benefitting from the improvement in energy performance overall.



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