PROJECT PROFILE

Duke University Chapel

Since the early 1930s, the Duke University Chapel has stood on the highest ridge of Duke's West Campus. This iconic building has a rich history and is known for its architectural grandeur. Over the past eight decades, Duke University Chapel has been the site of thousands of services, welcomed millions of guests, and served as the preeminent icon for this distinguished University.

In May of 2015, Duke University kicked off a year-long restoration project to rehabilitate the interior and exterior of the Chapel. Pur-Vent, a full-service HVAC cleaning and sealing company with experience in historic restoration projects, was tasked with restoring the entire HVAC system, including 100 feet of underground ductwork.

Pur-Vent, located in Cary, NC, specializes in air-side and water-side HVAC restoration projects. The company cleans ductwork, air handling units, cooling towers, condensing units, boilers. "If it has to do with the HVAC system, we can clean it," said Henry Baker, President of Pur-Vent. With over 28 years of experience in commercial HVAC installation, renovation, and repair, the professionals at Pur-Vent have the knowledge and expertise to clean and seal any commercial HVAC system.

Duke University was replacing the existing air handling units, and Pur-Vent was responsible for cleaning all of the remaining ductwork and grills. The project's scope was eventually expanded to include 100 feet of underground fresh-air ducts that had previously been taken out of service. "They decided to put it back in service, and they wanted to coat it, so we suggested using Carlisle Hardcast's RE-500," said Baker.

A building's ductwork can be resurfaced – as opposed to being replaced – with RE-500, a high-performance, spray-applied insulation coating. Coating the fiberglass liner or duct board with RE-500 increases the equipment's service life at a fraction of the cost of replacement. RE-500 is a low-VOC product that can be used inside the HVAC ductwork.

Duke University Chapel

Applicator:
Pur-Vent, LCC

Job Location:
Durham, North Carolina

Start Date:
May, 2015

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"Crews really like the RE-500 because it flows through the airless sprayer well and doesn't clog it up, and it provides a nice, even coat."

—Henry Baker,
President of Pur-Vent

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Pur-Vent's technicians first cleaned the ductwork with vacuums, then they performed a more thorough cleaning using whips and air-washing. Duct cleaning is extremely important in order for a facility to have a healthy and efficient airflow system, and after cleaning, sealing and coating the duct system is essential to ensure that dirty, dusty air is not pulled into the ducts and recirculated throughout the building.

"Architects and engineers are starting to realize that you can't just replace an air handling unit and not clean the existing ductwork and the air distribution, especially if you put new ductwork downstream. I've seen cases where dirt from old ductwork blew into the new ductwork, then the entire duct system has to be cleaned," said Baker.

Because the Duke University Chapel is such a significant and important building, Pur-Vent's first priority was to preserve its historic elements, including the brass grills, limestone walls, and woodwork. "The air distribution was literally on top of the woodwork, and the entire back of the seats were the air plenum, so we had to go down in back of that and clean that out. Getting zoning and enough suction on that was tough."

After the clean-up phase of the project was complete, Pur-Vent technicians hand-applied RE-500 using an airless sprayer. "Crews really like the RE-500 because it flows through the airless sprayer well and doesn't clog it up, and it provides a nice, even coat," said Baker. In addition, it is a low-VOC product that can be used inside an HVAC system, unlike many other products.

"It works better and costs less," said Baker. "How can you beat that?"

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