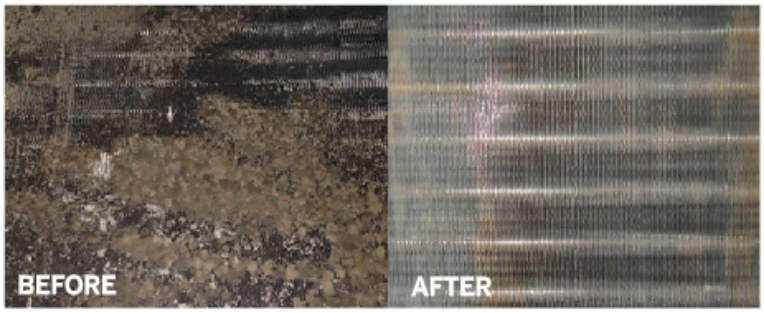
# Green Cleaning

## PURE-Steam coil cleaning helps Georgia Tech improve IAQ, save energy

Georgia Tech University, founded in 1885, covers over 400 acres and has 275 buildings with 9 million square feet occupied by over 25,000 students. Georgia Tech is a leading technology and science university renowned for its deeply held commitment toward improving the human condition.

The faculty and students are solving some of the world's most pressing challenges: clean and sustainable energy, disease diagnosis and treatment and national security, among others. The campus of Georgia Tech participates in the Green Buzz and LEED programs.




**Traditional cleaning methods use chemicals to clean the surface of the coils, but often actually push debris deeper resulting in even more restricted airflow. The PURE-Steam coil cleaning process is an environmentally friendly service. It uses no chemicals or detergents. Instead, it utilizes high and low pressures to deeply cleanse the coils without damaging them.**

### THE CONCERN

With energy costs rising, university officials had taken a close look at HVAC maintenance, including the total operating cost of its HVAC system. They found that the conventional coil cleaning foam/rinse method only superficially cleaned the surface of the coil and pushed small debris further into the coil causing decreased airflow, a musty odor, decreased temperature and humidity control and decreased the quality of the indoor air. In addition, Georgia Tech was concerned about the thousands of gallons of chemicals that would otherwise be sent into the wastewater system polluting the environment.

The forward-thinking facilities staff felt these dirty coils were a pot of gold buried in dust and debris within these air-handling systems. They were right.

### THE SOLUTION

Due to the university's desire for going green, saving energy and providing a healthy learning environment for staff, guests and students, they turned to the building scientists at Pure Air Control Services and their innovative process for cleaning evaporator coils: PURE-Steam coil cleaning.

The process is totally green (no chemicals) certified by the Green Clean Institute (one of the few in the country) and has a proven track record for saving energy, improving indoor air quality and improving comfort.

### THE PROCESS

The PURE-Steam coil cleaning process is an environmentally friendly service. It uses no chemicals or detergents. Instead, it utilizes high temperatures (up to 350 F) and low pressures to deeply cleanse the coils without damaging them.

The coils and air-handling unit — including the blower assembly, rails and pan — are completely sanitized because of the high temperatures. Traditional cleaning methods use chemicals to clean the surface of the coils, but often actually push debris deeper resulting in even more restricted airflow.

The pressures, in combination with the temperatures at which PURE-Steam operates, ensure that latent debris and microbial growth is thoroughly removed from the coils. The debris and wastewater is captured by HEPA wet vacuums and disposed of properly.

Beyond the reduction in microbial growth and volatile organic compounds, which improves indoor air quality, post PURE-Steam studies exhibit a typical energy savings of 14-22 cents per square foot or an average of $60 per ton.

### THE OUTCOME

After the steam coil cleaning services, Environmental Diagnostics Laboratory analyzed samples taken from the air-handling units. When compared to the before samples it was reported that Georgia Tech recognized a 97.01 percent microbial reduction in mold spore content. This reduction led to a marked improvement in indoor air and environmental quality.

### ENERGY & COMFORT

Based upon a NEBB study that Georgia Tech commissioned, a 42.6 percent improvement in airflow across the air-handling unit and a decrease in inches in water column of 21.2 percent was realized.

Pure Air Control Services' Building Sciences division also noted a 21.3 percent improvement in Delta P (pressure) across the surface of the coils. These optimizations have ultimately led to better system performance, fewer service calls and lower energy costs.

With the PURE-Steam coil cleaning process the university was able to add back almost 7 tons of air conditioning to the building improving comfort, temperature control, indoor air quality, energy efficiency and extending equipment life.

The verdict is the high temperature, low pressures and green-certified PURE-Steam coil cleaning process was a successful endeavor for Georgia Tech University.

CHECK OR CIRCLE #170

Thinking Different with PEX › Quiet Water Solutions › Fresh Ventilation Approaches

HVAC & PLUMBING PRODUCT NEWS

HVAC/P®

PAGE 12

Clearing the air, keeping water sparkling fresh

# Clean Air & Water


SPRING 2017 Volume 5, Issue 1 HVACPproducts.com

## › Plumbing Tools

**New products and more to get the job done right.**

PAGE 23

## › Controls

**Smart thermostats and equipment controls that keep systems in proper shape.**

PAGE 24

## › VRF Systems

**The latest variable refrigerant flow systems and other new equipmen on the market.**

PAGE 26

ELECTRONIC SERVICE REQUESTED
HVAC/P, P.O. Box 4636, Scottsdale, AZ 85261