



CASE STUDY

Georgia Institute of Technology



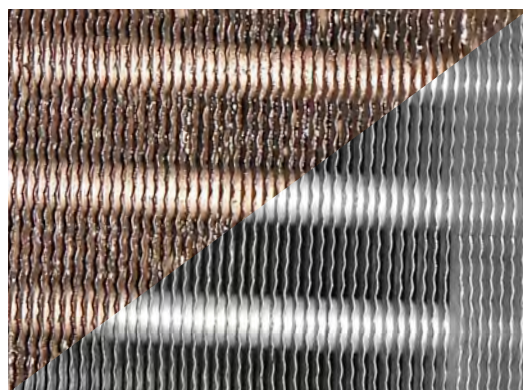
PURE-Stream Coil Cleaning Helps Georgia Tech Facilities Save Energy and Improve IAQ

The Project:

Georgia Institute of Technology is a leading technology and science university renowned for their deeply-held commitment to 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 defense and security, among others. The campus of GT participates in the GREEN BUZZ and Leadership in Energy and Environmental Design (LEED) a third-party certification program and the nationally accepted benchmark for the design, construction and operation of high-performance green buildings.

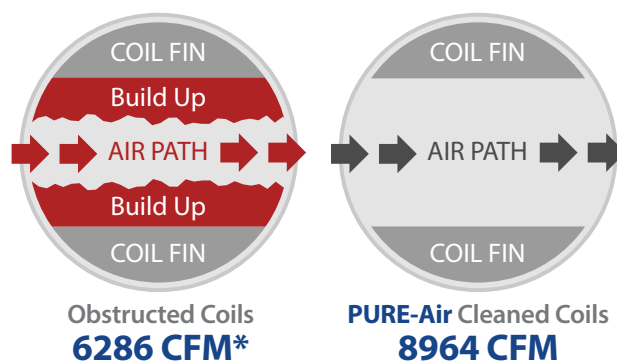
To that end, the GT team wanted to test the performance gains that could be realized through the innovative HVAC cleaning process PURE-Stream. They decided to test the method on a working air handling unit in the Guggenheim Aeronautics Building on campus.

Before



After PURE-Stream

Georgia Institute of Technology Revealed Significant Air Flow Improvement



**Net Improvement
2678 CFM or 42.6%**

*Cubic Feet Per Minute



BUILDING REMEDIATION SCIENCES



The Concern:

The Georgia Institute of Technology (GT) has always been at the forefront of research and academic excellence. In their ongoing efforts toward sustainability they decided to evaluate the viability of the PURE-Steam HVAC cleaning method as way to improve system performance and save energy over their traditionally utilized maintenance processes. They understood that the foam/rinse method conventional coil cleaning only affected the surface of the coils and did not provide performance gains in air flow or pressure. They were also concerned that the chemicals used in that process would deteriorate the HVAC equipment and have a negative impact on the environment.

The facility and research teams intuitively knew that there was energy efficiency to be obtained within their HVAC Air Handling Units. So, they commenced testing and analysis of the PURE-Steam method through their own NEBB certified Testing and Balancing report as well as, reconciling their data with Pure Air Control Services Inc. Coil Cleanliness Verification Test (CCVT).

The Solution:

Due to Georgia Techs desire for going green, saving energy and providing a healthy learning environment for staff, guests and students. They turned to the scientists at Pure Air Control Services and the PURE-Steam Coil Cleaning process. PURE-Steam is a totally GREEN process (uses no chemicals) that utilizes a proprietary 280-350 degree steam to deep clean coils. PURE- Steam is certified by the Green Clean Institute and has a proven track record for saving energy, improving indoor air quality and improving comfort. GT has recognized a 42.6% improvement in air flow and added 7 tons of cooling capacity overnight after utilizing PURE-Steam.

Benefits of the PURE-Steam Coil Cleaning Process

- Sanitizes the coils/ blower assembly
- Removes latent debris from deep within the coils
- Creates improved air flow
- Creates better cooling capacity
- Saves Energy (typically .22 cents per sq ft)
- Improves indoor air quality
- Reduces HVAC related work orders
- Extends HVAC equipment



Georgia Institute of Technology PURE-Steam Coil Cleaning Results

Units	Before PURE-Steam	After PURE-Steam	Improvement Net
CFM*	6286	8964	2678 or 42.6%
WC*	0.16	0.126	.034 or 22%
Pa	39.9	31.4	8.40 or 22%
BTU	180,000	270,000	90,000 or 50%
Tons	15	22	7 or 46%

CFM: Cubic Feet per Minute **WC:** Inches in Water Column
Pa: Pascal **BTU:** British Thermal Unit

*NEBB certified third party report

Air Handling Unit Testing and Balancing Report

Before
After

The image shows two side-by-side copies of an Air Handling Unit Testing and Balancing Report. The left report is labeled 'Before' and the right is labeled 'After'. Both reports feature a table for 'Airflow Data' with columns for 'Actual', 'Design', and 'Actual'. In the 'Before' report, the 'Actual' CFM is 6286. In the 'After' report, the 'Actual' CFM is 8964. Both reports also include 'Motor / Fan Data' and 'Static Pressure Profile Data' sections.



NATIONAL ENVIRONMENTAL BALANCING BUREAU
We deliver high performance buildings

Certified third party report