

Do You know Your IAQ Score?

Facts from The EPA's Tools For Schools, High Performance Schools

- "In the US, there are about 120,000 schools providing for the educational needs of approximately 54 million students."¹
- "Many school facilities in the U.S., estimate that more than 50% have environmental problems."¹
- "There is a direct connection between healthy school environments, behaviors and attitudes of students, parents and educators: and academic performance and achievement."¹
- "Asthma is more common in children ages 5-12 years old."³
- "In Georgia alone, nearly 210,000 children have asthma."³
- "In 2000, Georgia children missed an estimated 540,000 school days due to asthma."³
- **"Healthier environments can bring money into the school by lowering absenteeism and increase funding based on average daily attendance"**²
- "Airborne infectious particles can be disseminated through buildings including ventilation systems."⁴



*"The Classroom is the most important area of the school because it is where students and teachers spend most of their time and where the learning process takes place."*¹

Benefits of a High Performance School

1. Higher Test Scores²
2. Increased Averaged Daily Attendance²
3. Reduce Operating Costs²
4. Increased Teacher Satisfaction and Retention.²
5. Reduced Liability Exposure²

Indoor Air Quality



Tools For Schools

Based on its absolute index scores, Bellevue Elementary is rated:



- ★★★★ -- Comfort/Ventilation, Air Cleanliness, and Building Pollutants Absolute Scores all exceed 50
- ★★★★☆ -- Any one Comfort/Ventilation, Air Cleanliness, and Building Pollutants Absolute Scores less than 50
- ★★★☆☆ -- Any two Comfort/Ventilation, Air Cleanliness, and Building Pollutants Absolute Scores less than 50
- ★★☆☆☆ -- Comfort/Ventilation, Air Cleanliness, and Building Pollutants Absolute Scores all less than 50

The Genesis Air Difference

1. Reduces Levels of contaminants
2. Maintains a level of comfort with lower ventilation rates
3. Reduced pressure drops Oxidizes and Converts
4. Proven Satisfaction with 3rd party testing, DoD, RTI ect...
5. Reduced landfill costs with a 15 year catalyst life



U.S. Corps of Engineers Office Fort Sam Houston

One Classroom-One School-One-District-One County-One State-One Country= No child left behind

"When outbreaks occur in the workplace HVAC systems have to be considered"⁴

A common finding of recent research is that a significant amount of infectious particles are less than 4 mm in size.⁴ Particles of this size can remain suspended in indoor air for long periods of time and be recirculated throughout the building by natural air currents and the HVAC system.⁴

This validates an airborne disease transmission path that is not being adequately addressed by the surface and close-contact precautions being used today.⁴

Based on research findings and on ASHRAE's position, it seems prudent for infection-control professionals and building designers to consider additional control measures for airborne transmission, **in addition** to the precautions already in use when designing new healthcare facilities and updating existing facilities.⁴

"Assume a 500-Student elementary school invests \$4.00 per sq ft on high performance lighting and air-conditioning improvements that will improve the IAQ. Based on a \$4,000 revenue limit, an increase of Average Daily Attendance of 1.75% would **pay back** all of the investments in only two years."²

1. Berry, M. Dr. 2002. *Healthy School Environment and Enhanced Educational Performance, The Case of Charles Young Elementary School Washington, DC*
 2. EPA, Design Tools for Schools, High Performance Schools. <http://epa.gov/iaq/schooldesign/highperformance.html> (2009)
 3. Georgia Department of Human Resources, Tools For Schools Action Kit. http://www.fcs.uga.edu/extension/housing/iaq_prog.html (2009)
 4. Hodgson, M. M. D., MPH VA, ASHRAE, Position Document on Airborne Infectious Diseases, June 24, 2009

Genesis Air Installations:

- **Federal Law Enforcement Training Center (FLETC)**

*Building 28 Training and Command Center
Physical Training Building*

- **Joint Reserve 914 Airlift Wing**

Fire and Crash Rescue Station

- **Goodfellow AFB**

*Student Pipeline Dormitory
School Age Facility*

- **El Paso VA**

Health Care Clinic & Hospital

- **Grand Junction VA Hospital**

Grand Junction, Colorado

- **Big Springs VA Hospital**

Big Spring, Texas

- **US Postal Service**

Sundown, Texas

- **Laughlin AFB**

Fuel Systems Building

PT Training Building

- **Fort Sam Houston**

Corp of Engineers Regional Office

- **Integrated Cancer Center**

El Paso, Texas

- **TTUHSC - Medical School**

El Paso, Texas

- **Medical Examiner's Office**

Lubbock, Texas

- **TTUHSC - Medical School**

Lubbock, Texas

- **University of Louisville Hospital**

Pharmacy Lab Clean Room

- **Bellevue Elementary School**

Bellevue, Nebraska

- **San Francisco Airport T2 Terminal**

San Francisco, California (In progress)

Third Party Testing

U.S. Army Developmental Test Command

(Dugway Proving Ground)

RTI International

HRA Environmental

G.D. Air Testing

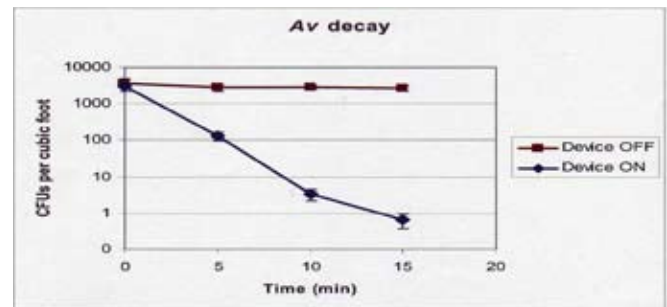
Prism Analytical Technologies

Quality Environmental

Eastmount Environmental Services

Introduction to Conversion

- The most powerful advanced oxidation systems are based on the generation of hydroxyl radicals.
- Hydroxyls convert and breakdown biological contaminants at a molecular level.
- Hydroxyls oxidize and convert these contaminants into benign CO₂ and H₂O.
- In odor reduction applications, hydroxyl radicals accelerate the breakdown of most volatile organic compounds (VOCs) by destroying the molecular bonds.



Aspergillus versicolor

Test Data Courtesy of RTI (2006)

“As designed and tested the Genesis Air system was able to remove or neutralize better than 98% of the airborne material as it processed the test chamber.”

Dugway Proving Grounds Western Desert Test Center
(2006). WDTC-TR-06-078,3.8,33.



Corp of Engineer's Regional
Office Fort Sam Houston
GAP™ Catalyst



Bellevue, NE Elementary School

www.genesisair.com