

MARKET SEGMENT BROCHURE: EDUCATIONAL INSTITUTIONS

# THE NEW GOLDEN RULE FOR EDUCATION

IMPROVING AIR QUALITY THROUGH GAS PHASE  
FILTRATION CAN HELP EARN YOU A LEED GOLD  
CERTIFICATION AND PROTECT STUDENTS FROM  
CONTAMINATION.



**purafil**

Filtration Group®



# ARE YOU MEETING THE GOLD STANDARD?



## A BREATH OF FRESH AIR

Education is a top priority, which is why you're dedicated to creating a comfortable environment that is conducive to learning. Smartboards and large libraries are a start, but what about the air they're breathing?

A report published in the *Indoor Air Journal* shows a direct correlation between ventilation rates and student performance and health. This data indicates that building environments with lower ventilation rates see increased indicators of inflammation, short-term sick leave, asthma symptoms and communicable respiratory infections. A study by Jerry Lamping, retired Director of Indoor Air Quality for the Department of Environmental Health, also shows significantly less asthma inhaler use in a school with gas phase and particle filtration systems cleaning the outdoor air that was being used for ventilation.

By getting rid of airborne pollutants, you can create a clean space that everyone can get on board with. These pollutants come in the form of volatile organic compounds (VOCs), formaldehyde and other harmful contaminants that can create an unpleasant learning environment and compromise student health and safety.

Purafil filtration systems are effective solutions to poor IAQ. By transforming contaminants into harmless salts, the filters allow students and faculty to focus on what matters most—the students' education.

***Purafil Solution: PuraShield 500, and Drop-In Gas Phase Filters (Purafilter, and PuraGrid)***

## SAVE ON ENERGY, SAVE ON COSTS

To create an ideal learning environment, you must have your temperature and humidity levels under control. This typically means bringing in fresh outdoor air, dehumidifying it and then heating or cooling it. But if you're exhausting air outdoors and then using your HVAC system to heat and cool the intake ventilation air, you're likely spending a lot of money.

Save on energy costs by installing a filtration system with Purafil media. Our media allows you to recirculate the already cooled air instead of bringing in new air to be cooled, which means big savings in the long run.

***Purafil Solution: Side Access System (PSA), PK Modules, Select CP Blend Media***

## BECOMING LEED CERTIFIED

LEED® (Leadership in Energy and Environmental Design) certification is a prestigious recognition of a property manager's efforts to be more environmentally conscious and efficient in the way the building is managed.

There are many ways to earn a LEED certification, including the HVAC system you install, how you heat and cool your air and so much more. Purafil helps educational institutions earn LEED points by efficiently cleaning and filtering air and improving indoor air quality. Not to mention the energy savings!

***Purafil Solution: Front Access System (FSA), Side Access System (PSA), PK Modules with Select CP Blend Media***

# THE GOLD STANDARD

A photograph of three students in school uniforms. A boy in the foreground is looking down at a book. Behind him, a girl is looking towards the camera, and to the right, another boy is smiling. They are all holding books or papers.

## PRESTIGIOUS WOODWARD ACADEMY STRIKES GOLD

Woodward Academy is a prestigious college preparatory school in metro Atlanta that host 2,700 students, grades pre-K through 12. Woodward was constructing a new state-of-the-art, 100,000+ square foot education facility. They hoped to achieve LEED Gold Certification for this new building.

Woodward created a plan to lower energy usage needed to heat and cool the building by utilizing geothermal wells and cleaning and recirculating already cooled building air. Through the LEED Pilot Credit Pilot Library, Purafil installed a combination of chemical and particulate filters with Purafil media to remove pollution and contaminants from the air—this meant Woodward didn't have to increase their geothermal capacity.

**By using gas phase filtration, the school was able to reduce energy usage, lower capital costs and improve the indoor air quality. This installation earned them points towards their LEED Gold Certification.**

Purafil, Inc. is the leading manufacturer of filtration media, scrubbers, and monitors that provide a safe and comfortable environment. Our products and solutions identify and remove harmful and unpleasant particles, gases, odors, bacteria, and viruses from the environment. The results are increased comfort levels, reduced energy costs, and confidence that your educational institution is a safe, comfortable and productive place for students to learn.



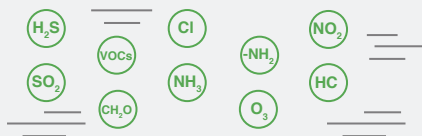
# PURAFIL'S MEDIA ADVANTAGE



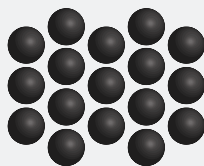
## WHEN ONE-SIZE-FITS ALL JUST DOESN'T WORK

Are you ready for a custom solution that thoroughly eliminates the gases that activated carbon leaves behind? A one-size-fits-all solution won't cut it, which is why Purafil specially engineered custom blends designed to address the unique problems you face while *permanently* removing gases—even the ones carbon can't remove. This is done through chemisorption, a process that chemically transforms gases into harmless solids that remain trapped inside the media.

### Problem Gases In The Air Stream



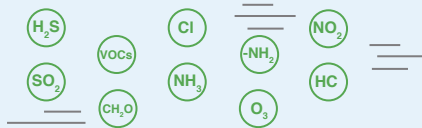
### Activated Carbon



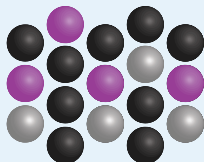
### Gases Carbon Fails to Eliminate:



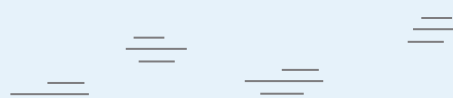
### Problem Gases In The Air Stream



### Purafil Custom Media



### Purafil Peace of Mind



## SELECT CP BLEND MEDIA:

Removes exhaust from local traffic and nearby vehicles, eliminates pollution from cleaning compounds, and captures common cafeteria odors such as burnt food, cheese and fire smoke so you can breathe in and smell fresh air, providing students and staff with a healthy environment. The World Health Organization (WHO) shows that exposure to nitrogen oxides can cause irritation of the eyes, skin and respiratory system, headaches, difficulty breathing and asthma. This blend removes common exhaust gases including  $\text{H}_2\text{S}$ ,  $\text{NO}_2$ ,  $\text{SO}_2$ ,  $\text{HC}$ ,  $\text{VOCs}$ ,  $\text{CH}_2\text{O}$ , and  $\text{Cl}$ .



## PURACARB AM MEDIA:

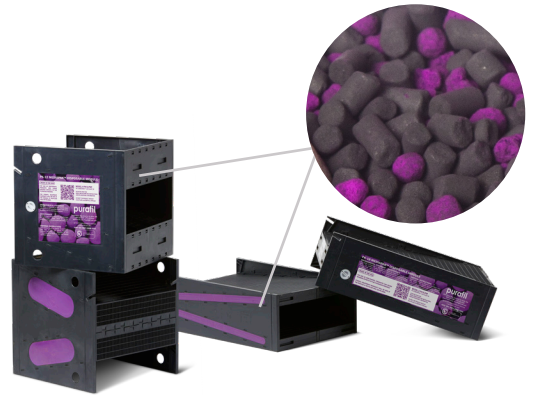
Removes common bathroom odors including urine, and ammonia. The Center for Disease Control and Prevention cites coughing, eye irritation, burns on the throat, skin, eyes and lungs and even lung disease as common symptoms of ammonia exposure. Give students a clean, odor-free environment in which to learn.



# ADVANCED FILTERS FOR EVERY NEED

## PK-18 Modules

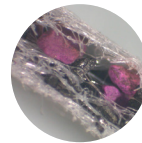
Purafil modules will help you save energy, money and time while improving indoor air quality. The specialty design features a durable, adhesive-free construction with highly aerodynamic airfoil screens, easy access sampling ports and the patented Posi-Track™ Purafil technology. Purafil's modules can be inserted into existing module or cassette based equipment. Purafil's professional team of scientists and engineers have created an aerodynamic airfoil screen design. This enhancement provides a lower pressure drop and increased energy savings.



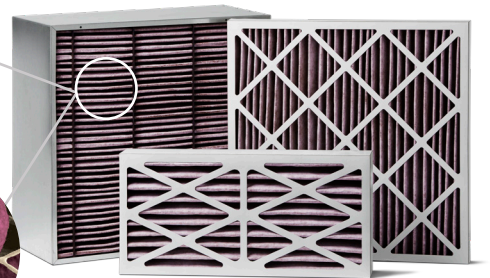
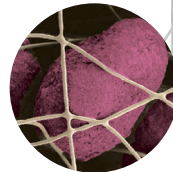
## The AOC Purafilter®

Combination chemical and particulate filter designed to replace existing particulate filters in retrofit or rework applications. The Purafilter contains Purafil SP Blend media and is useful in applications where space limitations exist. Purafil engineers are the first to successfully incorporate sodium permanganate media in a bicomponent fiber matrix, which does not require the use of adhesives so the media is fully available for reaction with gaseous chemical contaminants. Purafil's patented media formulation is evenly distributed throughout the filter structure to assure the highest filtration efficiency.

16X Magnified



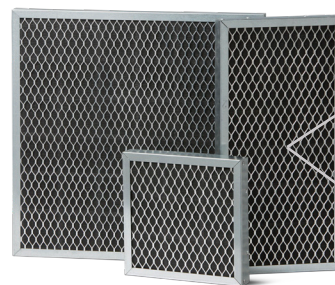
32X Magnified



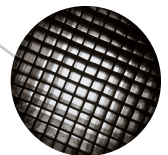
## PuraGRID™ Filter with GridBLOK™ Technology

Made of extruded monolithic block consisting of a large number of small parallel cells or channels. The GridBLOK™ is composed of essentially 100% adsorbent materials allowing the entire composite structure to function as a gas filter within the PuraGRID Filter. This filter features no bypass, low pressure drop and turbulent air flow with full utilization of the media. PuraGRID filters can be used inside Purafil's custom engineered equipment or installed into existing air handling systems. Purafil manufactures multiple GridBLOK formulations designed to eliminate common indoor pollutants.

GridBLOK Media



Magnified view of the GridBLOK structure



# HOW AIR FILTRATION IMPACTS LEED CERTIFICATION

## HOW PURAFIL HELPS EARN POINTS TOWARDS LEED CERTIFICATION

Environmentally and energy-conscious builders are utilizing LEED (Leadership in Energy and Environmental Design) guidelines to build green structures. This rating system provides a framework for creating efficient, sustainable buildings. LEED certifications are recognized worldwide.

### POINTS TOWARDS LEED CERTIFICATION

RATING CATEGORY	POINTS AVAILABLE	SUGGESTED AIR FILTRATION STRATEGY
Energy & Atmosphere Prerequisite: Minimum Energy Performance	Required	Quantify the energy implications of various filter selections
Energy & Atmosphere Credit: Existing Building Commissioning – Analysis	2	Perform a life cycle cost analysis and energy analysis on the HVAC filtration system
Energy & Atmosphere Credit: Existing Building Commissioning – Implementation	2	Choose air filters with lower resistance to air flow (such as PuraGRID and Purafilter) and follow an optimized change-out schedule
Materials & Resources Credit: Purchasing – Ongoing	1	Use extended-life filters (such as PuraGRID) to reduce changeouts and minimize waste generated while minimizing energy consumption
Indoor Environmental Quality Credit: Indoor Air Quality Management Program	2	Include all air filters in the I-BEAM-based IAQ management program & follow an optimized changeout schedule
Indoor Environmental Quality Credit: Enhanced Indoor Air Quality Strategies	2	Utilize MERV 13 filters for all systems supplying outdoor air to occupied spaces and follow an optimized changeout schedule

## PURAFIL CUSTOM EQUIPMENT



### FRONT ACCESS SYSTEM (FAS)

Modular frames are individually tracked for Purafil media modules. The FAS is specified in retrofit applications or custom air handling units.

Airflows up to 2,000 CFM per 24" frame



### PuraShield 500

A compact HEPA recirculation unit with a sound level less than 60dB, making it exceptionally quiet. It has a sleek design that fits in anywhere and casters for easy portability.

Airflows up to 250 CFM



### PURAFIL® SIDE ACCESS SYSTEM (PSA)

The PSA is designed for both particulate and gaseous contaminant control and works in conjunction with the facility's air handling system.

Airflows of 250 - 50,000 CFM.