

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: Drop-In Gas Phase Filters, Purafil Odor Pleat, Purafilter HE, Purafil V-Bank, Bathroom Odor & Ammonia Blend, Kitchen Odor & Smoke Blend***

## 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, Outdoor Pollution Blend***

## 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 PuraGRID, Purafil V-Bank, Outdoor Pollution Blend***

# 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 at the same book, and to the right, another girl is smiling. They are all wearing dark blue sweaters with white collars.

## 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

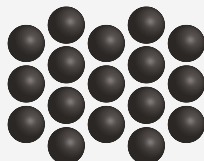
## WHEN ONE-SIZE-FITS ALL JUST DOESN'T WORK

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



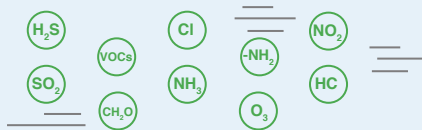
### Activated Carbon



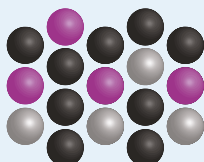
### Gases Carbon Fails to Eliminate:



### Problem Gases In The Air Stream



### Purafil Custom Media



### Purafil Peace of Mind



## JET & DIESEL EXHAUST BLEND:

Removes exhaust from local traffic and nearby vehicles, 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  $\text{H}_2\text{S}$ ,  $\text{NO}_2$ ,  $\text{SO}_2$ ,  $\text{HC}$ ,  $\text{VOCs}$  and  $\text{CH}_2\text{O}$ .

## BATHROOM ODOR & AMMONIA BLEND:

Removes common bathroom odors including urine, ammonia and chlorine. 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. This blend removes bathroom gases including  $\text{H}_2\text{S}$ ,  $\text{NH}_3$  and  $\text{-NH}_2$ .

## OUTDOOR POLLUTION & CORROSION BLEND:

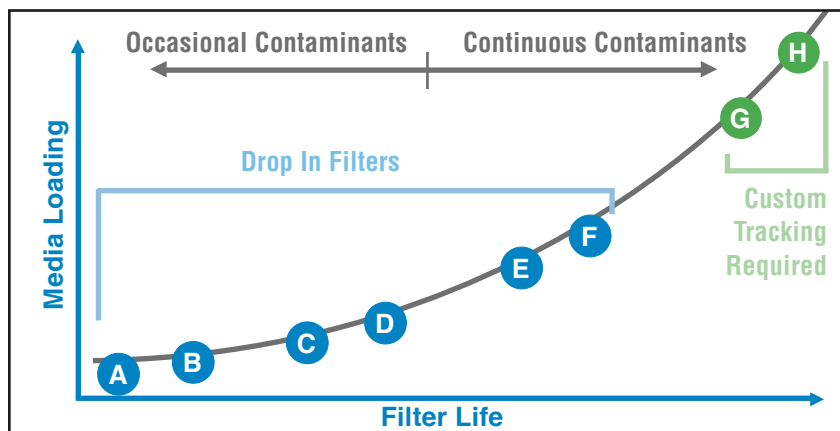
Eliminates pollution and cleaning compounds, so you can breathe in and smell fresh air. Hydrogen sulfide exposure can result in nausea, headaches, fatigue, coughing, eye and throat irritation and even unconsciousness, according to the US Department of Labor. This blend removes common gases including  $\text{H}_2\text{S}$ ,  $\text{NO}_2$ ,  $\text{SO}_2$ ,  $\text{VOCs}$  and  $\text{O}_3$ .

## KITCHEN ODOR & SMOKE BLEND:

Captures common cafeteria odors such as burnt food, cheese and fire smoke. The EPA defines the effects of exposure to sulfur oxides as difficulty breathing, respiratory system problems and asthma irritation. It can also cause nose and throat irritation and excessive coughing. Keep moldy and food odors at bay with Purafil's custom media. This blend removes common kitchen gases including  $\text{H}_2\text{S}$ ,  $\text{NO}_2$ ,  $\text{SO}_2$ ,  $\text{VOCs}$  and  $\text{Cl}$ .

## MEDIA LOADING BY FILTER

After you've decided which blend best suits your application, you can choose the media loading capacity that makes the most sense for your needs. We offer a wide range of filters to suit any filtration need.



# ADVANCED FILTERS FOR EVERY NEED

## Purafilter Odor Pleat



A

Excellent entry level gas phase filter for intermittent applications. Low Pressure drop keeps operating expenses down.

Media Loading up to	0.5 lb	0.2 kg
Pressure Drop 1"	N/A	N/A
Pressure Drop 2"	0.36 iwvg	89.7 pa
Pressure Drop 4"	0.21 iwvg	52.3 pa

## Purafilter Odor Pleat Plus



B

Low Pressure drop keeps operating expenses down. Get Purafilter Odor Pleat Plus for 50% more media loading.

Media Loading up to	1 lb	0.5 kg
Pressure Drop 1"	N/A	N/A
Pressure Drop 2"	0.52 iwvg	129.4 pa
Pressure Drop 4"	0.47 iwvg	116.9 pa

## Purafilter



C

Combination chemical and particulate filter that integrates Purafil® patented dry-scrubbing media. Easily replace current particulate filter and upgrade the air quality for your tenants.

Media Loading up to	12 lbs	5.44 kg
Pressure Drop 2"	0.51 iwvg	127 pa
Pressure Drop 4"	0.43 iwvg	107.1 pa
Pressure Drop 12"	0.47 iwvg	117.1 pa

## Purafilter HE



D

Combination chemical and particulate filter that integrates Purafil® enhanced carbon-loaded non-woven media using 100% synthetic fibers. Available in four specially blended combinations to address common air quality issues.

Media Loading up to	15 lbs	6.8 kg
Pressure Drop 2"	0.62 iwvg	154.4 pa
Pressure Drop 4"	0.46 iwvg	114.6 pa
Pressure Drop 12"	0.36 iwvg	89.7 pa

## PuraGRID Filters



E

A revolutionary filter designed to supply large amounts of chemical filtration with minimal pressure drop. Available in Puracarb IAQ and Puracarb AM (Ammonia).

Media Loading up to	21 lbs	9.53 kg
Pressure Drop 2"	0.29 iwvg	72.2 pa
Pressure Drop 4"	0.58 iwvg	144.5 pa

## Purafil V-Bank



F

The Purafil V-Bank uses a high-impact plastic frame with a built-in header for strong, lightweight housing. Ideal for use in odor control where higher levels of contaminants would overwhelm the particulate filter.

Media Loading up to	28 lbs	12.7 kg
Pressure Drop: PCB	0.51 iwvg	127 pa
Pressure Drop: CLR	0.36 iwvg	89.7 pa
Pressure Drop: Blend	0.36 iwvg	89.7 pa

## Purafil Canisters



G

For high concentrations of gaseous contaminants. Available in galvanized steel, stainless steel and high-impact plastic housing. Designed to fit existing holding frames or built into Purafil's custom equipment.

Media Loading up to	90 lbs	40.82 kg
Pressure Drop 9"	1.75 iwvg	435 pa
Pressure Drop 18"	0.42 iwvg	105 pa
Pressure Drop 24"	0.18 iwvg	45 pa

## Purafil Modules



H

Available in high-impact plastic or galvanized steel, the specialty construction is adhesive free with highly aerodynamic airfoil screens to increase contact time while reducing pressure drop. Sampling ports allow you to test media life before replacing.

Media Loading up to	200 lbs	90.72 kg
Pressure Drop CK	0.6 iwvg	149.5 pa
Pressure Drop PK12	0.6 iwvg	149.5 pa
Pressure Drop PK18	0.49 iwvg	102.1 pa



# 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 and Purafil V-Bank) 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 GreenPleat 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



### COMPACT QUIET CABINET (CQC)

A compact 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 500 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.