

CASE STUDY 4

THE CORPORATE RIDGE OFFICE BUILDING

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PURAFIL REMOVES AUTOMOTIVE EXHAUST ODORS 4 THE CORPORATE RIDGE OFFICE BUILDING



ABOUT THE CORPORATE RIDGE OFFICE BUILDING

The ten-story commercial office building at 2000 Corporate Ridge in McLean, Virginia is located within a growing, urban metropolis. When building tenants began to complain about bothersome odors, the managing office of Spaulding & Slye contacted Purafil's local representative. An investigation revealed that the building's main air intakes were located at ground level, within feet of a busy loading dock. In addition, the Corporate Ridge building is located within 100 yards of Interstate 495, also known as Capital Beltway. The eight-lane divided highway is a major source of odors during morning, mid-day and evening rush hours.

THE PROBLEM

Automotive exhaust is composed of gases such as aldehydes, hydrocarbons and sulfur oxides. Though nitrogen oxides constitute the main components of automotive exhaust, they are not the components most responsible for odor complaints.

Aldehydes, hydrocarbons and sulfur oxides, however, have relatively low odor thresholds. The lower the odor threshold, the lower the concentration at which these gases can be detected. For example: Xylene (a hydrocarbon) and sulfur dioxide both have odor thresholds of 0.47 parts per million (ppm). The odor threshold of nitrogen dioxide is 5.0 ppm, much higher than xylene or sulfur dioxide.

PURAFIL PROVIDES THE SOLUTION

To control these gases, Purafil used their CP Blend Media. CP Blend is a 50/50 volume blend of *Purakol* (activated carbon) and *Purafil* (activated alumina impregnated with potassium permanganate). Both medias are needed to combat diesel exhaust because of the varying molecular weights of the above mentioned gases. Purakol has a high removal capacity for hydrocarbons, but will desorb gases of lower molecular weight, such as aldehydes and sulfur oxides. A 50% blend of Purafil was needed to oxidize these lower molecular weight gases.

To filter the 100,000 CFM of outside intake air, Purafil installed a bank of Front Access Systems, containing disposable modules and Purafil's CP Blend Media, within the building's main air handling unit.

Purafil's Front Access System is a non-powered unit composed of individual metal frames. The frames can be stacked horizontally or vertically allowing for flexibility in terms of size and media bed depth. Inside the metal frames are sliding tracks for Purafil's Disposable Modules. The modules are prefilled at Purafil's factory with CP Blend Media and are easy to install and replace. With no separate handling of the media (i.e. emptying and refilling modules with new media), maintenance time is significantly reduced.

Once Purafil's Front Access Systems were installed, the manager of operations for Spaulding & Slye reported no further odor complaints from building tenants.

PRODUCT APPLICATION

The Corporate Ridge Office Building in McLean, Virginia installed **Purafil's Front Access Systems** to filter odorous gaseous, including aldehydes (RCHO), hydrocarbons (C) and oxides of sulfur (SOx) from outside intake air.

PRODUCT BENEFITS

- *Easy retrofit.* The system's modular components permit customized designs for specific space requirements.
- *Easy media replacement.* Disposable modules are factory-filled and come ready to be installed.
- *Permanent gas removal.* Purafil's CP Blend is a combination of two media for maximum removal of odors.



PURAFIL® SELECT CP BLEND MEDIA

PURAFIL® FRONT ACCESS SYSTEM

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