THE WORLD LEADER IN CLEAN AIR SOLUTIONS

Office Building Upgrades Filtration – Achieves LEED® Certification, Receives NAFA Clean Air Award

CASE STUDY — COMMERCIAL

Customer Profile

- 777 Main Street: 40-story, Class A office building totaling 954,895 rentable square feet
- Located in the heart of downtown Fort Worth
- Owned by F7 Sssm LLC and managed by Cushman & Wakefield, Inc.

Current Filtration Situation

Cushman & Wakefield of Texas has been a loyal AAF Flanders customer for many years. When Cushman & Wakefield began investigating ways to improve its building efficiency at 777 Main Street in 2009, AAF Flanders was there to assist with proven filtration solution options.

The building at this time utilized MERV 8 PerfectPleat® Ultra filters. In order to obtain a Leadership in Energy and Environmental Design (LEED®) certification for the building, the plaza needed to upgrade its filtration.

Sustainable Filtration

Rising energy costs and the current economic downturn are increasing the pressure on commercial buildings to cut energy costs and create more sustainable properties. The LEED Green Building Rating System,™ administered by the U.S. Green Building Council, is the nationally accepted benchmark for designing and sustaining green buildings. LEED provides third-party verification that a building is designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO_2 emissions reduction, improved indoor environmental quality, stewardship of resources, and reduction of waste.

LEED provides building owners and operators the framework for identifying and implementing practical and measurable design, construction, operations, and maintenance solutions.

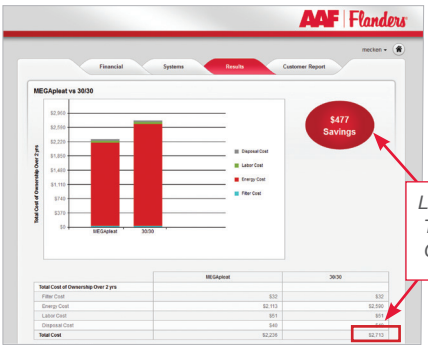
Proper air filtration strategies can contribute to credits toward certification. These strategies involve increasing the efficiency of the air filtration, thereby reducing the particulate being distributed.

The AAF Flanders Solution

A complete survey was done to find economical solutions to upgrade the efficiency level of the current filtration without a significant impact on the budget.

AAF Flanders recommended MERV 13 VariCel® M-Pak filters to upgrade efficiency in the large recirculation units inside the building. The dual-density media design of the VariCel M-Pak filter utilizes the full filtering potential of the media and maximizes dust holding. Maximized dust holding capacity extends the life of the filter and minimizes operating costs.

Cushman & Wakefield was presented with AAF Flanders' Total Cost of Ownership (TCO) report comparing the overall costs of the PerfectPleat Ultra filter in combination with the VariCel M-Pak filter, and the VariCel M-Pak filter alone. The most economical outcome was to install VariCel M-Pak filters without the prefilters. No costly fan modifications were required with this choice and energy savings would be greater.

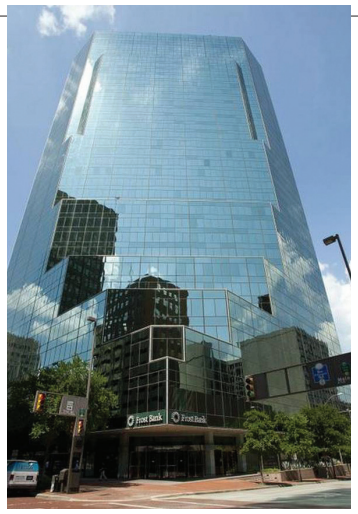


Total Cost of Ownership (TCO) Report

Additionally, AAF Flanders recommended MERV 14 DriPak® 2000 filters with no prefilter for the new fresh air intakes that were added on the roof. These fresh air intakes are exposed to a great deal of moisture, and DriPak 2000 filters will not block off the airflow if they get wet. This also minimized pressure drop across the filter.

AAF Flanders®

Office Building Upgrades Filtration



777 Main Street.

The Results

Cushman & Wakefield decided to run a six month trial on air handlers with the heaviest dirt load in the building. The trial revealed they could get one year of life from the VariCel M-Pak filters without using a prefilter.

Over a twelve month period, all interior and exterior air handling units in 777 Main Street were refurbished and all MERV 8 filters were upgraded to either MERV 13 VariCel M-Pak filters or MERV 14 DriPak 2000 filters.

As a result of the improvements, the particulate matter was reduced 62% at 777 Main Street. The industry assumption for this type of improvement is a 40% reduction in absenteeism, due to a reduction in upper respiratory problems for people who work in the building.

777 Main Street achieved LEED EB certification in 2009. In addition, the building was awarded the National Air Filter Association (NAFA) Clean Air Award for 2010. The purpose of the Clean Air Award is to recognize leadership and excellence in air filtration by selected air filter users, and to promote the National Air Filtration Association and its member companies.

Any facility or company that has demonstrated a concerted effort to provide a clear indoor air environment by using proper filtration and has a minimum score of 52 is eligible for the NAFA award. 777 Main Street scored an astounding 67. In the past, no more than eight facilities per year nationally are recognized for this accomplishment.

VariCel® M-Pak filters installed in recirculation units (top) and DriPak® 2000 filters installed in fresh air intakes (bottom) at 777 Main Street, Fort Worth, TX.

NAFA National Air Filtration Association

AAF Flanders®

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ISO Certified Firm AFP-6-103C 01/17