



Commercial Air Filtration

Real Estate Investment Trust (REIT) Property and 3M achieve energy savings, New York City

Situation

The HVAC system in this building was originally installed in 1958. Many modifications of the system were implemented over the years, including attempts to improve the original high pressure, high velocity dual duct systems, but the main air handling units (AHU) were old and had casing leaks, resulting in the loss of air delivered to the building occupants. In addition, dirt in the system was creating airflow resistance. The owners were seeking ways to improve energy efficiency in this facility.

Solution

After conducting a preliminary audit of the building, 3M proposed that the owner conduct a comparison of their current filter with the new Filtrete™ Commercial High Performance HVAC Filter to determine the impact on airflow resistance for a single air handling unit (AHU). Further, in consultation with 3M, a contractor cleaned the AHU coils, repaired several leaks in the AHU, monitored multiple system parameters including CFM delivered, airflow resistance, and power consumption, analyzed performance parameters and reported on key findings.

Results

Application of this solution, including installation of Filtrete filters in the one AHU resulted in a 0.75" water gauge improvement in system static pressure during this trial period.

Benefits

Based on the results of this study, the savings over the 25-day trial period for the AHU, were \$525. This represented a fan energy cost reduction of 23.4%. If this analysis was applied to the entire building over 12 months, the potential savings could be much greater.

Project Summary

Trial Duration: 25 days

Trial Period: January – February 2005

Zone Area: 50,000 sq. ft.

Building Area: 590,000 sq. ft.

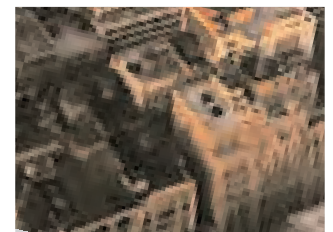
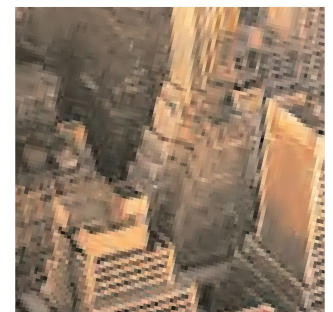
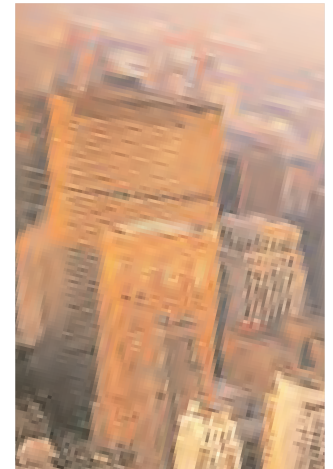
Product: Filtrete Commercial High Performance HVAC Filter

Services: Coil and fan cleaning AHU Leak repair System monitoring Performance analysis & reporting

Fan energy cost reduction: 23.4%

Case Study

This assessment is only intended to provide a general indication as to possible fan energy savings that may be obtainable. 3M does not warrant that this assessment, or its products, will result in any specific energy savings at a facility. One customer's successful use of a product in a particular application is not necessarily representative and is not a guarantee of the results another customer may have in the same or similar application. Every customer is responsible for evaluating the 3M product to determine whether it is fit for a particular use and suitable for the customer's application.





■ Additional Information

For questions or to place an order in the U.S., contact your local 3M Filtration distributor or 3M Customer Service at 1-800-648-3550 or 651-737-2433

IMPORTANT NOTICE: The information in this literature is based on tests 3M believes are reliable. It is not and should not be relied on as a product or technical specification. We do not guarantee the accuracy of this information. If any products described in this literature are defective, 3M will replace them at no charge. THERE ARE NO OTHER EXPRESS OR IMPLIED WARRANTIES FOR THESE PRODUCTS, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. You are responsible for determining whether products described in this literature are fit for a particular purpose and suitable for your application. Because there are many factors within your knowledge and control that might affect the use and performance of these products, you must evaluate these products to determine whether they are fit for a particular purpose, are suitable for your application, and meet your performance expectations. 3M IS NOT LIABLE FOR ANY LOSS OR DAMAGES, WHETHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL ARISING OUT OF THE USE OF OR INABILITY TO USE ANY OF THESE PRODUCTS.

⚠ CAUTION: USED FILTERS MAY CONTAIN CONTAMINANTS FROM OPERATION OF THE HVAC SYSTEM. FOR PROPER HANDLING OF USED FILTERS, CONSULT APPLICABLE HEALTH AND SAFETY STANDARDS OR CONTACT AN INDUSTRIAL HYGIENIST. TO REDUCE RISK OF ILLNESS OR INJURY, ALWAYS USE APPROPRIATE RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING WHEN REMOVING OR HANDLING USED FILTERS. DISPOSE OF USED FILTERS ONLY IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

IMPORTANT USE RESTRICTIONS: DO NOT EXPOSE THIS FILTER DIRECTLY TO UV RADIATION FROM A UV PURIFICATION SYSTEM. EXCESSIVE UV EXPOSURE MAY LEAD TO A REDUCTION IN THE MECHANICAL INTEGRITY AND PERFORMANCE OF THE FILTER. THIS FILTER MUST NOT BE USED FOR THE FOLLOWING UNAUTHORIZED USES: A) ASBESTOS REMEDIATION; B) BIOTERRORISM PROTECTION; C) LEAD REMEDIATION; OR D) APPLICATIONS IN BUILDINGS THAT REQUIRE OR ARE UNDERGOING AIR HANDLING SYSTEM REMEDIATION OF HAZARDOUS SUBSTANCES.



Filtration

3M Center, Building 223-6S-04
St. Paul, MN 55144-1000
1-800-648-3550

Issued: 3/2006
© 3M 2006
3M and Filtration are trademarks of 3M Company.

5182 (HB)
70-0713-8930-1