

# Filtration Solution for LEED® Gold Certified Convention Center

## Environmentally-Friendly and Ensures High IAQ

### CASE STUDY – COMMERCIAL

#### Customer Profile

- LEED Gold certified convention center in Tennessee
- 32.808 m<sup>2</sup> of exhibition space, 8.361 m<sup>2</sup> of meeting space
- 3-level, 1.800 space parking garage, 32 loading docks

#### The Filtration Situation

This LEED (Leadership in Energy and Environmental Design) Gold certified convention center was constructed utilizing low-emitting Volatile Organic Compound (VOC) materials and has a green cleaning program in order to maintain good Indoor Air Quality (IAQ). Green building practice is achieved by efficiently using energy, water, and other resources, while reducing impact on human health and the environment.

The facilities management personnel for this convention center make substantial efforts to minimize the building's carbon footprint as part of the center's green building practice. They also strive to provide good IAQ so that the many people who go in and out of this enormous building every day are not exposed to particulates that could harm their health and the environment.

These management personnel had to frequently change out their air filters, since the filters being used did not have a high Dust Holding Capacity (DHC) and were being overwhelmed by the large amount of traffic in the building. There were coil cleaning maintenance issues as well. Since approximately 50% of a building's energy consumption goes to the heating, cooling, and moving of air, this high changeout frequency, as well as filter inefficiency, added up to a high Total Cost of Ownership (TCO). The high filter changeout rate also ran counter to the green building practices established for this building.

#### The AAF Solution

The AAF representative for the center met with facility maintenance personnel and audited the original plans of the five-year-old center to see what specifications for air filtration had initially been recommended, in order to optimize the filtration system and filter-related spending. The specifications



called for AAF's PerfectPleat® SC and VariCel® filters. Given this, the representative suggested that the facility personnel test these filters in the facility and see how they performed.

The PerfectPleat SC filter contains no

metal and is fully incinerable, making it a good choice for this convention center's green building practices. This filter has an initial G4 efficiency rating (EN779:2012), but the efficiency increases significantly when dust loading begins. Support straps on the air-entering side are used in combination with uniquely designed pleat stabilizers on the air-leaving side to provide additional strength. The support straps and pleat stabilizers ensure integrity against turbulent airflow, making this filter extremely durable.

The VariCel filter is well-suited to protect a convention center's IAQ, since it is manufactured with two layers of glass fibers: coarser fibers on the air entering side, and finer fibers on the air leaving side. This dual density design allows dirt particles to be collected throughout the entire depth of the filter, utilizing the full cleaning potential of the media. Maximum dust holding capacity extends the life of the filter, minimizing operating costs. Galvanized steel headers and cell sides resist damage during shipping and handling, and prevent corrosion over long service life. This long service life supports the green building practices of this convention center.

#### The Results

The facilities management personnel at this convention center have been very happy with the performance of the filters suggested by AAF, ordering 288 of the PerfectPleat SC filters and over 1.000 of the VariCel. These filters are lasting twice as long as the previously used filters, fitting in well with this convention center's green building practices and lowering the center's TCO. This filter combination is also ensuring high IAQ for the center's many visitors.



AAF International  
European Headquarters  
Robert-Bosch-Straße 30-32, 64625 Bensheim  
Tel: +49 6251 80368 – 0, Fax: +49 6251 80368 – 20  
aafintl.com

AAF has a policy of continuous product research and improvement and reserves the right to change design and specifications without notice.

©2017 AAF International  
and its affiliated companies.

ISO Certified Firm CASE\_107\_EN\_052017