Case Study

BHA® ThermoPleat® Filter Elements

US tire and rubber manufacturer increased airflow through collectors venting Banbury mixers to reduce workplace emissions and housekeeping.

Challenge:

The plant's W.W. Sly and Pangborn baghouses had been previously converted by Parker Hannifin to pulse-jet cleaning to increase airflow. The conversion provided approximately 95% of the airflow needed to vent their Banbury mixer process. The collection system operated effectively with an average bag life of five years.

However, during the mixing process, plant workers would frequently leave the charge door open to ease adding and mixing each new batch. With the door open, fine carbon black dust was released into the work area, creating a visible haze that the existing collector could not exhaust.

Solution:

The introduction of BHA PulsePleat filter elements provided an additional upgrade opportunity for these units. The elements were easily installed in the existing pulse-jet tubesheets without any further physical changes to the collectors.

Results:

- Average differential pressure was reduced from 4.5"–5" w.c. to 3.8"–4.5" w.c.
- The air volume increased from 13,000 CFM to 14,000 CFM, a 7% increase, providing improved mixing process ventilation.
- The additional airflow allowed the mixing unit to operate with the door open and still draw the fine carbon dust through the system rather than contaminate the work area.

Replacing filter bags and cages with BHA PulsePleat filter elements provided sufficient additional filter area to increase air volumes to reduce workplace emissions in the Banbury mixer process area.

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Parker Hannifin Corporation
Industrial Gas Filtration and Generation Division
11501 Outlook Street, Suite 100
Overland Park, KS 66211 USA
p: 800.821.2222 | f: 816.353.1873
e: filtration@parker.com
www.BHA.com

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