GE
Energy

case studies

From roofing granules to toner manufacturing, proven PulsePleat® technology delivers results to customers across the globe. For improved baghouse performance, turn to PulsePleat filter elements and see your production and filtration efficiency increase, like these businesses did.

Gain Filter Capacity

Pharmaceutical Company

Application: Tabulation and Pill Coating

Challenge: The particulate collected in this process, similar to talc, is extremely fine and hygroscopic. Production increases over several years had led to higher grain loading to the baghouse and to extremely high air-to-cloth ratios (10:1). Filter bags had to be replaced every 4-6 weeks due to the high differential pressure, and excessive blinding of polyester felt media. The frequent bag changes required constant maintenance and unscheduled production downtime.

Solution: Concerned that a new baghouse would be needed, plant management turned to GE Energy's environmental services team for advice. After careful evaluation, GE recommended to retrofit the existing dust collector with PulsePleat filter elements.

Results: Pleated elements helped increase cloth area by **250%** without any physical modification to the collector. Benefits were noticed immediately after installation. The pleated filters have been in operation for 2 years and have required no maintenance. The cleaning cycle is able to operate at 50 psi—**a 50% reduction in compressed air usage**. Differential pressure now averages 2.5" – 3", with a notable increase in airflow.

Extend Service Life

Toner Production

Challenge: A central vac pulse-jet dust collector used to vent several points. The original polyester filter bags required frequent changeouts due to bleed-through and leaking caused by the extremely fine toner particulate.

Solution: PulsePleat filter elements laminated with BHA-TEX® ePTFE membrane were installed increasing the available filtration area by 154%. Air-to-cloth ratios decreased sharply (3:1 from 6:1). The membrane also helped prevent penetration of the fine particulate into the filtration media.

Results: After 18 months of installation, there has been a **400% increase in filter life.** Air volume through the collector has also improved by **40%**, which has allowed the addition of more pick-up points, eliminating the need for a new dust collector.

Reduce Abrasion & High Differential Pressure

Manufacturer

Application: Roofing Granules

Challenge: This plant's dust collector was facing aggressive air-to-cloth ratios and restricted air flow due to high differential pressures. Maintenance costs were also on the rise due to bottom bag abrasion that required constant spot changing of damaged filter bags.

Solution: PulsePleat elements are designed to provide greater filtration surface and efficiency. Their internal core and self-supported filtration media eliminates the need of support cages. Their shorter length keeps pleated elements away from the area where abrasion can occur.

Results: Shortly after the pleated elements were installed, there was a **70% reduction in differential pressure** and a significant drop in emission levels. Abrasion is no longer a problem. The table below illustrates operating data before and after PulsePleat elements:

	With Filter bags/cages	With PulsePleat elements
Total filtration area	5,452 ft^2	11,092 ft^2
Airflow	37,300 acfm	50,000 acfm
Air-to-cloth	6.84 fpm	4.77 fpm
Diff. pressure	10"-15" w.g.	3.5"-4.0" w.g.
Inlet loading	3,000 lb/hr	3,000 lb/hr
Emissions	10.734 lb/hr	.48 lb/hr

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