

## LEAK DETECTION POWDER

for identifying leaks in filters, seals, tubesheets, or housings in baghouse and cartridge dust collectors

Leak detection testing is an important part of any baghouse system inspection. To confirm that filter bags are properly installed and there are no points of bypass, a simple leak test using fluorescent dye powder is performed. The safe and non-toxic leak powder is introduced into the dusty air inlet airflow, then a UV lamp is used on the clean side of the dust collector to quickly and easily identify any illuminated points of dust bypass.



## USE 1 POUND OF POWDER FOR EVERY 1,000 SQUARE FEET OF FILTER MEDIA

### HOW TO CALCULATE THE REQUIRED AMOUNT FOR YOUR DUST COLLECTOR:

#### BAGHOUSE STYLE:

Multiply the filter diameter in inches by the filter length in inches, then multiply by 3.14. Divide this product by 144. This is the filter area per bag in square feet.

#### Calculate total filter area for the dust collector

- Multiply the per filter area from above by the number of filters in the collector. This equals the total filter area in square feet.

#### Calculate pounds of leak powder

- Divide the square feet by 1,000. Round the result up to the nearest full pound. This is the amount of leak detection powder required.

#### Example calculations:

Baghouse containing 100 bags, 5-7/8" diam.  
x 120" long  
 $5.875" \times 120" \times 3.14 = 2,213.7$  sq inches  
 $2,213.7 / 144 = 15.4$  sq ft per bag  
 $15.4 \times 100$  bags = 1,540 sq ft total filter area  
 $1,540 / 1000 = 1.54$   
2 pounds of powder is required

#### CARTRIDGE STYLE:

Multiply the number of pleats by the pleat height in inches, then multiply by the filter length in inches and by 2 (2 sides to each pleat.) Divide this product by 144. This is the filter area per filter in square feet.

Cartridge collector containing 64 filters, 26" long with 313 pleats, 2" deep  
 $313 \times 2" \times 26" \times 2 = 32,552$  sq inches  
 $32,552 / 144 = 226$  sq ft per filter  
 $226 \times 64$  filters = 14,464 sq ft total filter area  
 $14,464 / 1000 = 14.464$   
15 pounds of powder is required

Or order online at:

**FILTERBAG.COM**

[Ordering information](#)

for 5-pound pails

Green: part number **M00335**

Orange: part number **M00336**

## BAGHOUSE / CARTRIDGE DUST COLLECTOR LEAK DETECTION CHECKLIST

Note: This checklist is a general guide. Adapt it to your specific baghouse system and safety requirements.

### Preparation

- **Equipment and Materials:**
  - Fluorescent dye powder
  - Black light and UV-filtering glasses
  - Injection port or adapter
  - Safety equipment (gloves, mask, etc.)
  - Data recording sheet
  - Camera
- **Baghouse Preparation:**
  - Clear hopper of accumulated material.
  - Deactivate baghouse cleaning mechanism.
  - Ensure exhaust/ID fan is operating.
  - If pulse jet, shut off and lockout main compressed air supply.
  - If mechanical shaker or reverse air, de-energize and lock out-tag out (LOTO) the equipment.



### Dye Injection

- **Injection Process:**
  - Inject appropriate amount of dye powder into injection port.
  - Allow up to five minutes for dye to disperse.
  - Shut down exhaust/ID fan.

### Inspection

- **Safety:**
  - Follow OSHA/MSHA and site-specific safety protocols.
  - Ensure LOTO and confined space entry procedures are followed.
- **Inspection Process:**
  - Enter clean air side of baghouse.
  - Use black light to inspect tubesheet, filter bags, snap bands, and other areas.
  - Mark areas with dye indication (leaks).
  - Take photos for documentation.

### Data Recording

- **Record Leak Locations:**
  - Document leak locations on data recording sheet.
  - Include date, time, and any relevant details.

### Post-Inspection

- **Repairs:**
  - Address identified leaks according to maintenance procedures.
- **Retest:**
  - Perform a second dye test with a different color dye to verify repairs.

### Additional Considerations

- **Training:** Ensure personnel are trained in dye test procedures and safety.
- **Frequency:** Determine appropriate dye test frequency based on baghouse operation and maintenance plan.
- **Documentation:** Maintain records of dye test results for compliance and troubleshooting.

