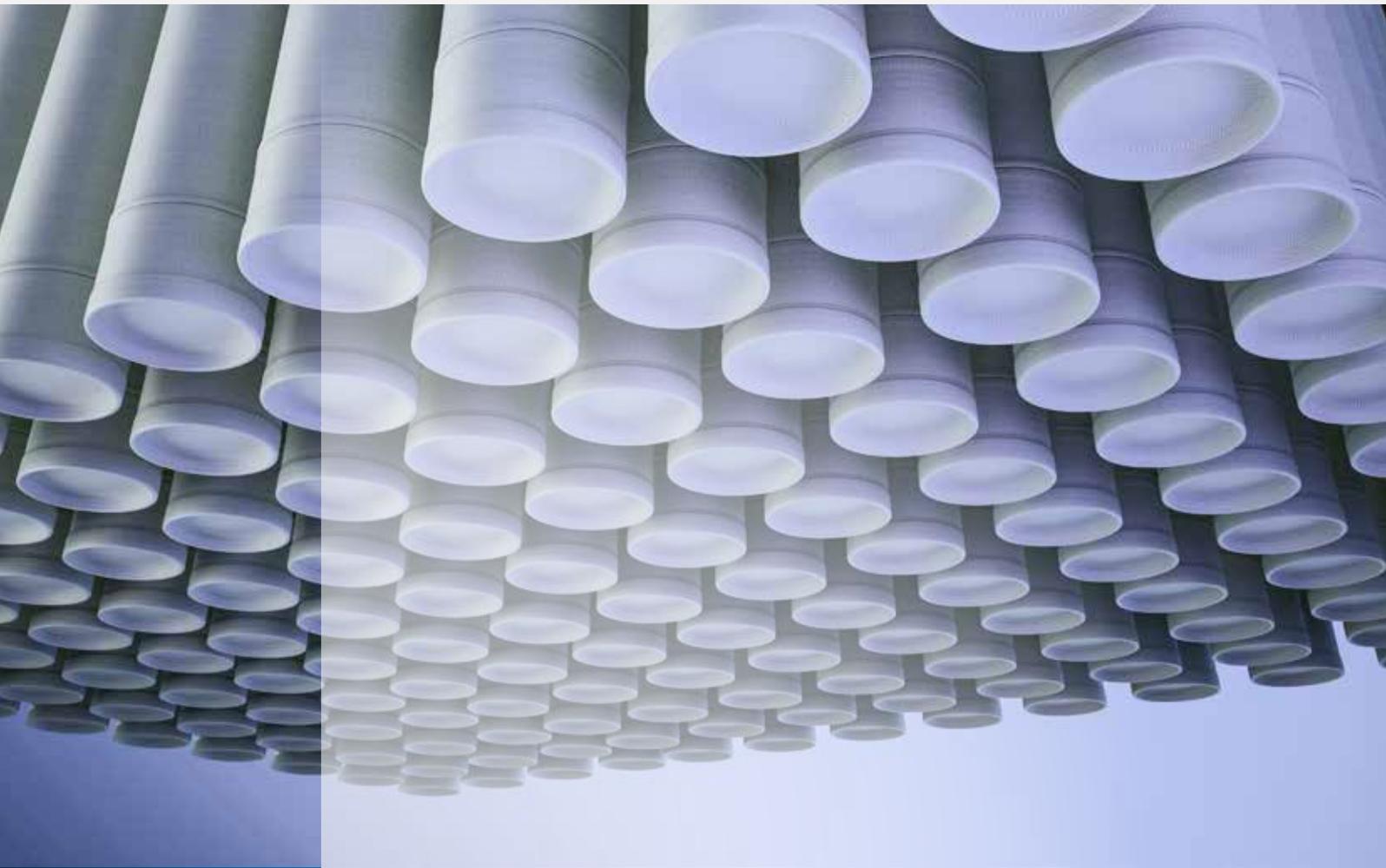


# AFT® Filter Bags

and accessories



# Unmatched experience in filter bag manufacturing

Advanced Filter Technologies® (AFT®) services can help you maintain regulatory compliance, reduce operating costs and eliminate unplanned outages so you can get the most out of your process with the least environmental impact.

## Key benefits

■  
World-class manufacturing  
facility and fabrication  
techniques

■  
Onsite filter bag  
testing and analysis

■  
Baghouse and fabric  
filtration seminars  
and training

■  
Baghouse inspection  
and evaluation



FLSmidth AFT in Augusta, Georgia, USA

In early 2000, FLSmidth began manufacturing filter bags from their world-class facility in Augusta, Georgia, USA, under the name AFT (Advanced Filtration Technologies). The range of products offered includes AFT™ filter bags, wire cages, pleated filters, cartridge filters, baghouse parts and accessories designed to exceed customers' performance expectations.

#### **Expert knowledge**

FLSmidth AFT filter bag specialists have the expertise to help select the best media based on application, process conditions, gas temperature, dust loading, particle size, abrasiveness, potential for process upset and expected life.

#### **Environmental regulation standards**

FLSmidth AFT engineers have extensive field experience in all industries and applications worldwide including cement, lime, minerals, utilities, ferrous and non-ferrous metals, chemicals and carbon black. FLSmidth AFT works with customers to develop a total strategy to ensure compliance with environmental requirements such as:

- NESHAP (National Emission Standards for Hazardous Air Pollutants)
- MATS (Mercury and Air Toxics Standards)
- MACT (Maximum Achievable Control Technology Compliance)
- CISWI (Commercial/Industrial Solid Waste Incinerators)
- IPPC (Integrated Pollution Prevention and Control) – European Union

# Filter bags and cages

Unsurpassed filter media for more efficient dust collection

FLSmidth AFT supplies a wide range of filter media for all OEM baghouse and dust collector styles and types, such as pulse jet, reverse air, and shakers.

## ePTFE Membrane

A wide range of woven and felt filter media with ePTFE membrane is available. The membrane lamination serves as a primary filter surface allowing air to pass through while the fine particulate is collected. The membrane allows for excellent dust release and particle retention, keeping the filter bags as clean as possible for longer life.

Benefits ePTFE of membrane:

- Lower differential pressure
- Higher throughput
- Much more efficient in capturing submicron dust particles
- Less bag cleaning to reduce compressed air usage
- Longer bag life

## Pleated filters and cartridges

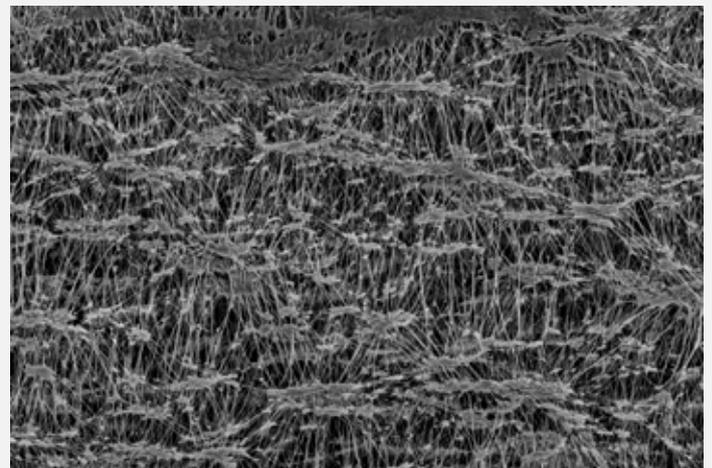
Pleated filters provide 2–3 times additional cloth area over standard bags in dust collectors where increased production demands have overwhelmed original capacity. Properly applied, pleated filters will reduce pressure drop, increase collection efficiency and lower pulse air consumption.

FLSmidth AFT offers cartridges and pleated filters made of cellulose, synthetic blends, Aramid, PPS and spun bond polyester with special coatings, finishes or ePTFE membrane.

These can be constructed using galvanized or stainless components, designed to meet a variety of conditions and temperature requirements.



Filter bags



PTFE membrane

## AFT™ filter media

- Polypropylene
- Acrylic
- Polyester
- PPS
- Aramid
- P-84®
- PTFE
- Fiberglass
- Huyglas®
- Mixed Felts
- Basalt
- Blends

## AFT™ finishes

- ePTFE Membrane
- PTFE
- Acid Resistant
- Singed
- Glazed
- Silicone
- Oleophobic
- Hydrophobic
- Many more

## Cages

Proper bag-to-cage fit is paramount in obtaining the longest possible service life. FLSmidth AFT offers a diverse variety of cage styles and reviews every order to ensure optimum bag-to-cage fit. The latest advancement in cage design options incorporates “star rings” to reduce the amount of contact area between the bag and cage.

Cages are fabricated from:

- Galvanized carbon Steel
- 304 Stainless Steel
- 316 Stainless Steel
- Coated

Connection styles:

- Twistlock
- Fingerlock
- Slidelock



Filter media



## Fiber selection

Fiber	Maximum temperature	Acid resistance	Alkali resistance	Abrasion resistance	Flex resistance
Polypropylene	212°F (100°C)	Excellent	Excellent	Excellent	Very Good
Acrylic	260°F (126°C)	Good	Average	Good	Very Good
Polyester	275°F (135°C)	Fair	Fair	Excellent	Very Good
PPS	375°F (190°C)	Very Good	Very Good	Very Good	Very Good
Aramid	375°F (190°C)	Fair/Poor	Good	Excellent	Excellent
P-84®	473°F (245°C)	Good	Fair	Good	Good
PTFE	500°F (260°C)	Excellent	Excellent	Fair/Poor	Good
Fiberglass	500°F (260°C)	Good	Fair	Average	Average

# Accessories

A wide range of accessories to refurbish and improve baghouse and dust collector equipment have been designed to meet or exceed the OEM specifications, increasing dependability and reduce costly downtime.



## Leak detector powder

Lite-Dust™ is a fluorescent powder that helps detect leaks from the fabric filter after a bag change out to ensure that the system is leak-free in the initial start-up or at any time throughout the life of the bags. It is introduced into the system with the fan running at a rate of 1 lb. per 1000 ft<sup>2</sup> (0.45 kg per 93 m<sup>2</sup>) of cloth area.



## Leak detector flashlight and lamp

A UV flashlight or lamp can be used to quickly and easily detect broken bags after a change out. The UV cordless flashlight kit includes 120V or 220V charger, 12 V DC for portable charging, plastic carrying/storage case and UV enhancing glasses. The UV lamp kit includes a corded UV lamp, UV absorbing glasses, plastic carrying/storage case and 8 oz dye cleaner spray bottle. UV lamp kits are available in 120V/60Hz (American) and 230V/50Hz (European).



## Precoat

Using the precoat Quick-Start™ results in maximum, even, air flow and enhanced operational efficiency. Quick-Start™ is a chemically inert light density powder that is injected into the fabric filter to establish uniform porous dust cake on the filter bags. The amount of Quick-Start™ used should be a minimum of 0.05 lbs. per ft<sup>2</sup> (0.23 kg per m<sup>2</sup>) of filter bag cloth area.



### Diaphragm repair kits

Diaphragm repair kits are stocked to fit all standard pulse valves of the leading manufacturers. We can ship quickly from our inventory and each kit uses premium diaphragm material for maximum long-life performance. Repair kits fit: ASCO®, Autel®, Goyen®, Mecair®, Tae-Ha™, Trimec® and Turbo® pulse valves.



### Door seals

We have a variety of door seals and gaskets that prevent outside air from leaking into your fabric filter. Properly sealed doors can prevent fugitive emissions, reduction of airflow and production loss condensation from in-leakage.



### Clamps

Clamps are often the cause of dust leakage and bag failure. There are different clamps for different applications – Worm Gear, T-Bolt or Spring Latch – that our technical specialists can recommend.



### Broken bag detectors

The broken bag detectors are used to monitor fugitive emissions during operation. It is essential to monitor and control solutions for fabric filters and cartridge dust collectors for optimum process control and meeting EPA regulations. Benefits include improved differential pressure and airflow control, preventing particulate emissions, reduced maintenance costs, protecting downstream equipment, lowering energy use and preventing unforeseen downtime.



### Tensioning assembly

Maintaining proper tension is very important to the life and performance of reverse air fabric filters and a full range of hanging hardware is available, including:

- Draw bar assemblies
- J bolts
- Chain S hook type
- Linear springs
- Non-linear springs
- Coined hangers
- Specialty hanging hardware

# Installation services, engineering support and process reviews

When you need to replace filter bags or cages, we help you choose the right materials, including proprietary bags and cage manufacturing. You can rely on us for supervision or full installation services for repairs.

FLSmidth AFT provides everything from standard filter bag replacement to complete fabric filter refurbishment and conversions.

To reduce costs and increase system reliability, it is recommended to have dust collection systems serviced by trained filter bag technicians, including:

- Filter bag change out service
- Monthly or quarterly preventative maintenance
- Emergency rebuild or change out
- Troubleshooting service
- Installation supervision
- Pulse jet conversions
- Sonic or shaker conversions
- Media efficiency testing

## Technical Field Services

We offer professional and dedicated turnkey filter replacement services for any size baghouse and dust collector. We're available 24/7 year around to meet your production and outage schedule. Services can be performed offline or online. All service projects have a dedicated onsite Field Superintendent that oversees the project from start to finish, and every project is handled by an FLSmidth Project Manager. MSHA and OSHA approved equipment, tailored to the demands of your baghouse.

In addition we offer these baghouse maintenance and services:

- Maintenance and welding repairs
- Baghouse evaluations and troubleshooting inspection surveys
- Maintenance service programs
- Monthly, quarterly or during a scheduled outage or downturn
- Inspections and equipment repairs
- Leak detection services and spot replacement of filters
- Precoating and start-up services
- Baghouse conversions and retrofits
- Installation supervision



### Engineering support and process review

An A–Z system audit determines your equipment’s requirements and limitations and facilitates the design of viable solutions to optimise operation and maximise capacity. FLSmidth AFT application engineers have valuable field experience in ventilation systems and can analyse your application in detail, regardless of the equipment style or manufacturer.

By analysing the air pollution control system and physical installation, we can determine the changes necessary to solve performance problems. This might involve modifying an existing installation, a simple refurbish or upgrade, or a complete modernisation of your equipment. We can also investigate how to optimise the rest of the system, including enclosures, hoods, ductwork, the fan and even the stack.

### Lab analysis

Analyzing bag failure is an important part of troubleshooting fabric filter problems and facilitating the ultimate media selection. Industry standard (ASTM) laboratory services performed by FLSmidth AFT lab technicians include:

- **Mullen burst** – to show the relative total strength of fabrics to withstand pulsing or pressure
- **Tensile strength** – provides data on fabric break, elongation and tear
- **MIT flex testing** – to measure the ability of fabrics to withstand self-abrasion from flexing
- **Microscopic examination** – useful for examining both fabric and coatings and can yield data such as particle size, retention, shape, abrasiveness or agglomerating tendencies
- **Loss on ignition** – to determine whether a coated fabric retains the coating
- **Permeability** – to determine the amount of air that can flow through a given cloth area, whether clean or dirty.



### Baghouse and fabric filtration training

Our Baghouse and Fabric Filtration Training provides a working understanding of how a baghouse operates and how to identify typical operating and maintenance problems associated with a baghouse. Seminars can be tailored to your specific application, and the types of baghouses at your facility. Seminars can be performed on- or off-site or at our manufacturing facility located in Augusta, GA.

Typically our seminars provide training on:

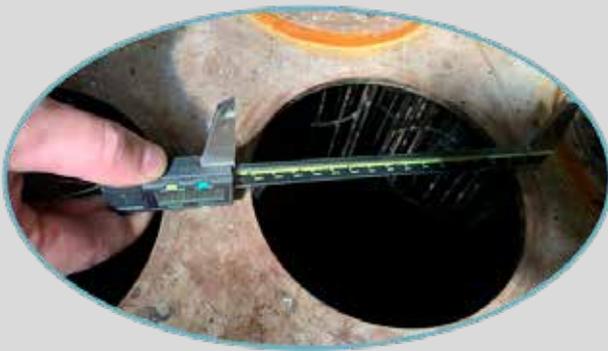
- Baghouse safety
- Baghouse design considerations
- Baghouse operation and filter installation
- Filter bag medias and fabric finishes
- Baghouse maintenance and troubleshooting
- Baghouse inspections
- Leak testing and precoating
- Filter bag testing and analysis



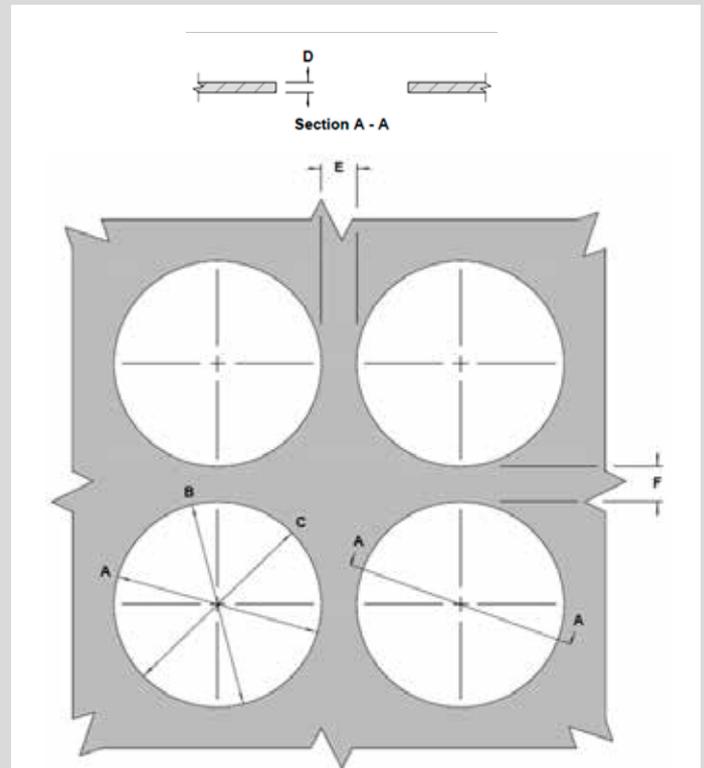
# Useful tools

## Measuring a Tubesheet Hole

How to properly measure a tubesheet hole for the correct filter bag fit.



A = Hole diameter	
B = Hole diameter	
C = Hole diameter	
D = Tubesheet thickness	
E = Hole spacing	
F = Hole spacing	



## How to calculate your powder requirements for performing a leak detection test and filter bag precoating.



### Lite-Dust™ Leak Detection Powder usage calculation

1 lb of leak detection powder per 1,000 ft<sup>2</sup> filter surface area

#### Calculating filter bag surface area:

Filter bag diameter (inches) x  $\pi$  = **Circumference**  
 (Circumference x OAL (inches))/144 = **ft<sup>2</sup> filter surface area**

#### Calculating leak detection powder:

Filter surface area x number of filters = **total surface area**  
 Total surface area x .001 = **Amount of powder required**



### Quik-Start™ Precoat Powder

1 lb of precoat powder per 20 ft<sup>2</sup> filter surface area

#### Calculating filter bag surface area:

Filter bag diameter (inches) x  $\pi$  = **Circumference**  
 (Circumference x OAL (inches)) / 144 = **ft<sup>2</sup> filter surface area**

#### Calculating precoat powder:

Filter surface area x number of filters = **total surface area**  
 Total surface area x .05 = **Amount of powder required**



## AFT Filter Bags

Find out more about  
AFT Filter Bags and Accessories

[www.flsmidth.com/AFT](http://www.flsmidth.com/AFT)



## Learn how to extend the life of your baghouse filters

Watch our 3-part webinar series:  
*Influences of FILTER BAG Wear*

[www.flsmidth.com/AFT-webinars](http://www.flsmidth.com/AFT-webinars)



## Get in touch

Interested in a 15 minute one-on-one  
session with an expert?

[www.flsmidth.com/AFT](http://www.flsmidth.com/AFT)

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# Mission Zero

TOWARDS ZERO EMISSIONS IN CEMENT AND MINING



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emissions



100% fuel  
substitution



Zero  
waste

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