

Mikrotex® Expanded PTFE Membrane Filter Media

Mikrotex membrane laminate significantly improves filter bag performance and reduces operating costs in many applications.

Mikrotex membrane laminated media exceeds all current federal and state particulate emission regulation requirements. The Mikrotex laminate can be applied to a variety of woven, felted, and spunbond filter media. It is made from PTFE resin which is chemically inert and thermally stable up to 550°F (287°C). The resin is expanded under carefully controlled conditions to achieve the desired porosity.

Unique Properties Produce Superior Filter Media

Applied to conventional filter media, Mikrotex acts as a permanent primary dust cake. The combination of smaller pore size and unique chemical properties provides very desirable results:

- Superior emission control:** because establishing a primary filter cake for fine particle removal is not needed, far fewer of these particles pass through the filter (see graph 1). This can result in reduced regulatory fines or the ability to meet more stringent emissions codes.
- Lower average pressure drop:** there is no buildup of dust in the substrate filter media, so pressure drop is more consistent over time (see graph 2). Less energy is needed to achieve the same capacity.
- Higher air flows:** for the same reason noted above, Mikrotex also gives users the option of increasing filter capacity or reducing the number of bags used.

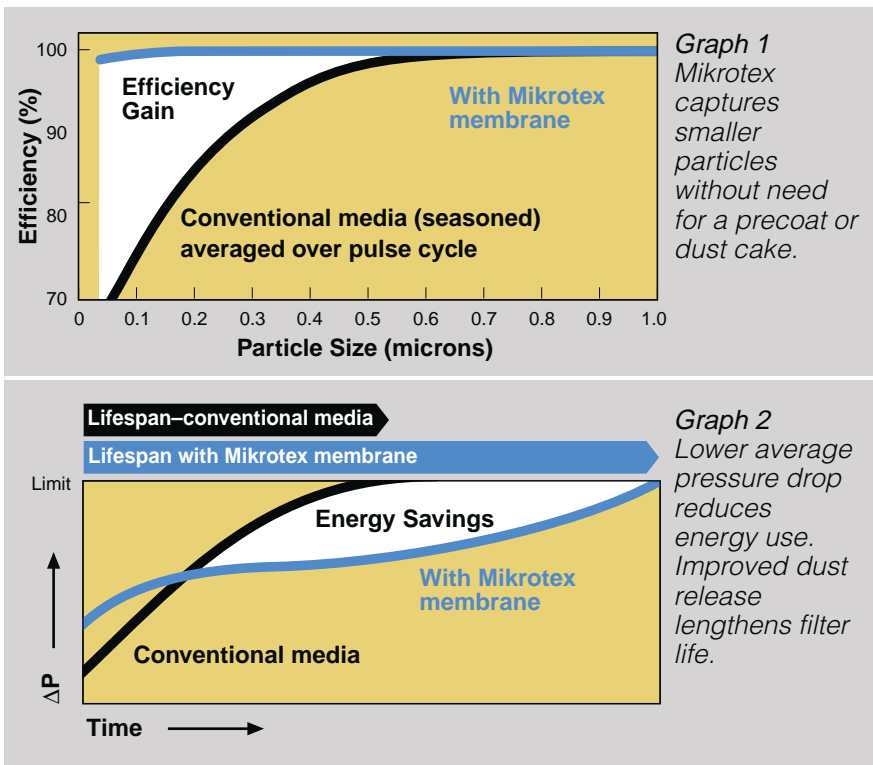


Photomicrograph of Mikrotex membrane.

- Longer service life:** The nonstick, hydrophobic PTFE surface promotes dust cake release thereby reducing cleaning frequency and duration. Less wear and tear on the filter bags and equipment means longer life (see graph 2).
- Improved recovery from upsets:** thermal, chemical, and moisture upsets pose no problem for Mikrotex. In some cases it can protect the substrate media from being damaged.

While the initial cost of Mikrotex media may be higher, the reductions in operating costs listed above often make it the **lowest cost choice** over its useful life.

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Applications

Except for special circumstances, Mikrotex improves media performance in pulse-jet, reverse air, and shaker air filters. Mikrotex can be thermobonded to woven, felted, and spunbond filter media made from the following fibers:

- Polyester
- Polypropylene
- Static conducting polyester
- Homopolymer acrylic
- Fiberglass
- Nomex®
- PPS
- P-84®

Existing dust collectors: Mikrotex can often bring new life to filters plagued by problems such as upset conditions, under capacity caused by process changes, and short bag life.

New dust collectors: The higher air flows provided by Mikrotex can reduce capital and operational costs compared to conventional media. They also provide a degree of protection from the unexpected changes that occur in baghouse operations.

Pleated Bags

Spunbond polyester media used in pleated bags already exhibits qualities similar to Mikrotex: high efficiency and easier dust release. However, very demanding applications have benefited by Mikrotex's higher performance in these areas along with the larger filter area provided by the pleated bag.

Typical Applications

Aluminum	Incineration	Polyethylene
Biomass	Iron Alloys	Power Generation
Carbon Black	Kaolin	Silicate
Cement	Lead	Starch
Cogeneration	Limestone	Steel
Detergent	Magnesium	Sugar
Fertilizer	Molybdenum	TiO ₂
Flour	Pesticides	Toner
Foundries	Pharmaceutical	
Gypsum	Phosphates	

Permeability

Mikrotex is supplied with a permeability averaging 8-12 CFM. Conventional media have permeability ratings of 25-45 CFM for woven material and 25-50 CFM for felted material.

Mikrotex's initial permeability is lower than the others, but their numbers drop sharply as the filter cake builds. Over time, dust particles become lodged in the depth of conventional media further reducing permeability.

Mikrotex is a surface media which is more easily cleaned and not as susceptible to particle buildup. Therefore, permeability remains more constant, overtaking depth media soon after put into use.

Mikrotex Features and Benefits Summary

- Expanded PTFE membrane is thin, smooth, chemically inert, and micro-porous
- Reduced emissions
- Higher average airflow
- Lower energy use
- Longer filter life
- Eliminates need for precoat
- Temperature resistant to 550°F (287°C)
- Moisture resistant

Let Our Experience Guide You

Achieving optimum filtration performance from a dust collector depends on selecting the right filter media for the job. MikroPul's broad scope of experience and selection are your best assurances for choosing the proper media construction, fabric finish, and size for your application.

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