



# Serionix Intro

GAS FILTRATION  
TECHNOLOGY

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Colorfil™



# WHO WE ARE

We're not just engineers. We're parents, siblings, homeowners, and pet owners who care about the health of our families. We're dedicated to making necessary evils, like changing your air filter, more manageable. Something so important should be easy.

A lot of other parents, siblings, homeowners, and pet owners agree. That's why we've won awards from Cozad, US Army, and NSF. We're even developing our technology for NASA.

We believe you have the right to breathe clean air, and we've been privileged to have the opportunity to help.

# OVERVIEW

**Colorfil** filters remove toxic chemicals, odors, and inactivate/inhibit bacteria, mold, and viruses on its surface. A brilliant color change lets users know when they should be changed.

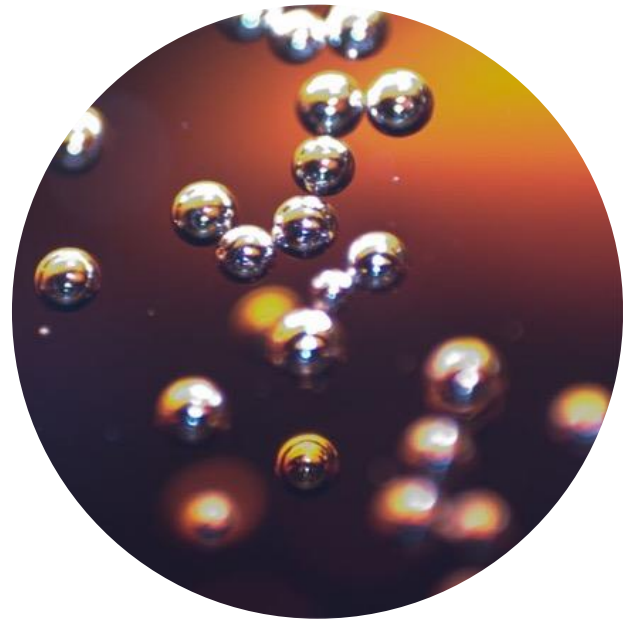
- Technology Overview – pages 3-4
- Colorfil performance properties – page 5-111
  - Efficiency data – page 6, 10
  - Capacity data – page 7, 11
  - Pressure data – page 8, 12
- Close up SEM – page 13
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# TECHNOLOGY OVERVIEW

Serionix **Colorfil** AM, SX, and FO media target and remove different gases:

- **AM**
  - Amine and basic gases
  - High use applications for urine/pet/food odors
- **SX**
  - Acidic gases ( $\text{SO}_2$ )
- **FO**
  - Aldehydes

**Colorfil** remove these compounds at significantly higher capacity and efficiency of existing market products such as carbon filters.



# COLORFIL AM PERFORMANCE

Colorfil amine-removal coatings are capable of removing amine compounds such as household chemicals, urine, pet, food, and other amine related odors from air with higher removal efficiency, and lower cost relative to activated carbon-impregnated media.

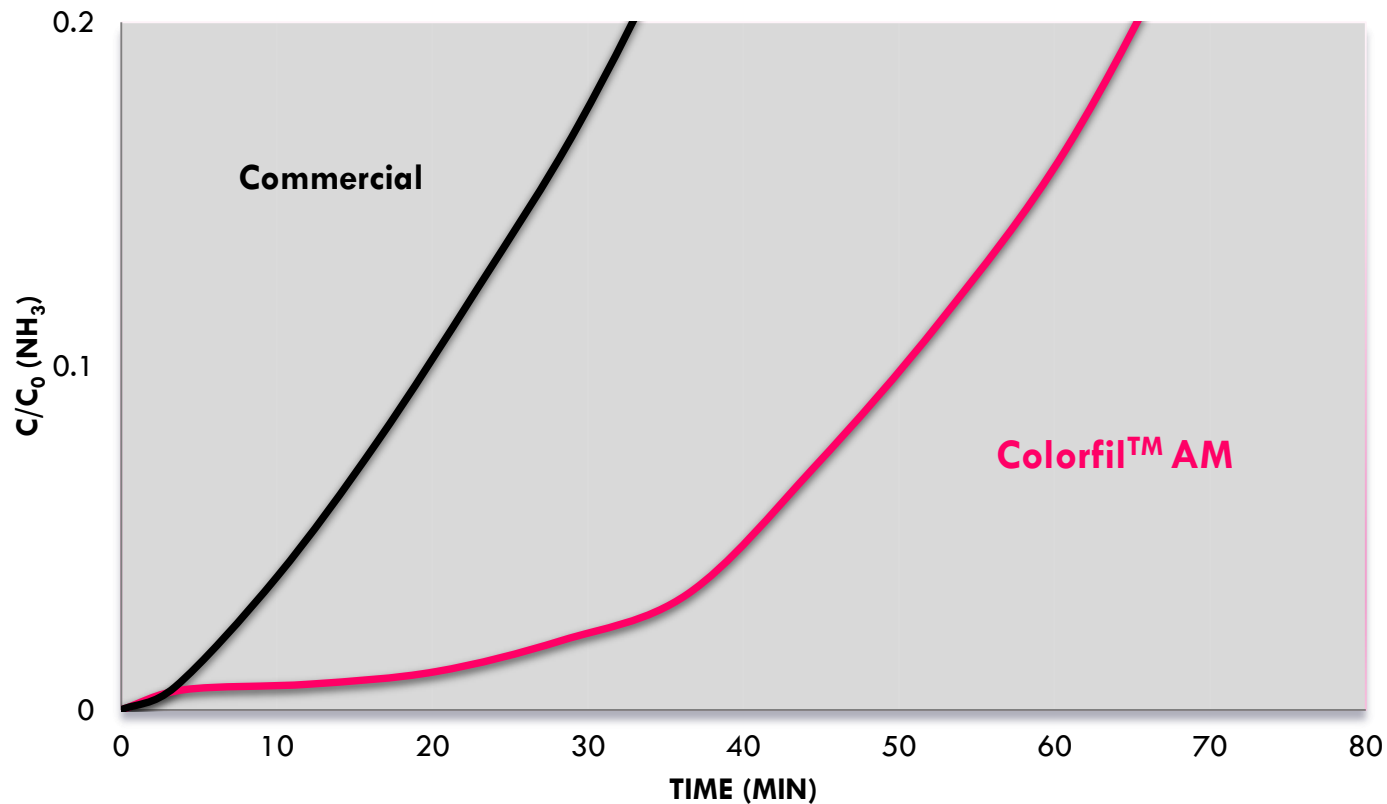
Specifications	Colorfil-AM	Benchmark*
Basis Weight (gsm)	265	750
Capacity at $C/C_0 = 0.5$ (mg/g)	74.5	15.8
Pressure drop (inch H <sub>2</sub> O) @ 20 fpm	0.028	0.086

\* Benchmark: leading industrial carbon web

\* ASHRAE 145.1 based tests (industrial standard test for gas phase filtration)

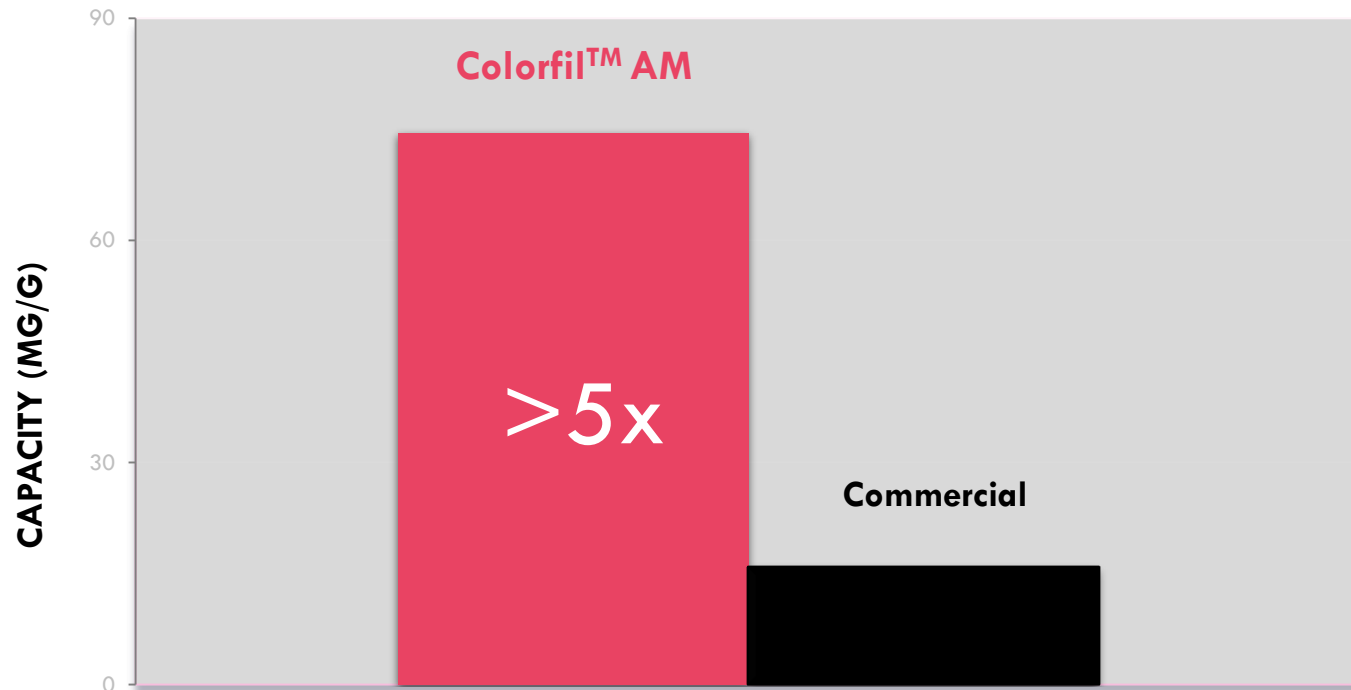
# AM – REMOVAL EFFICIENCY

The efficiency of Colorfil AM lasts far longer than leading commercial filters.



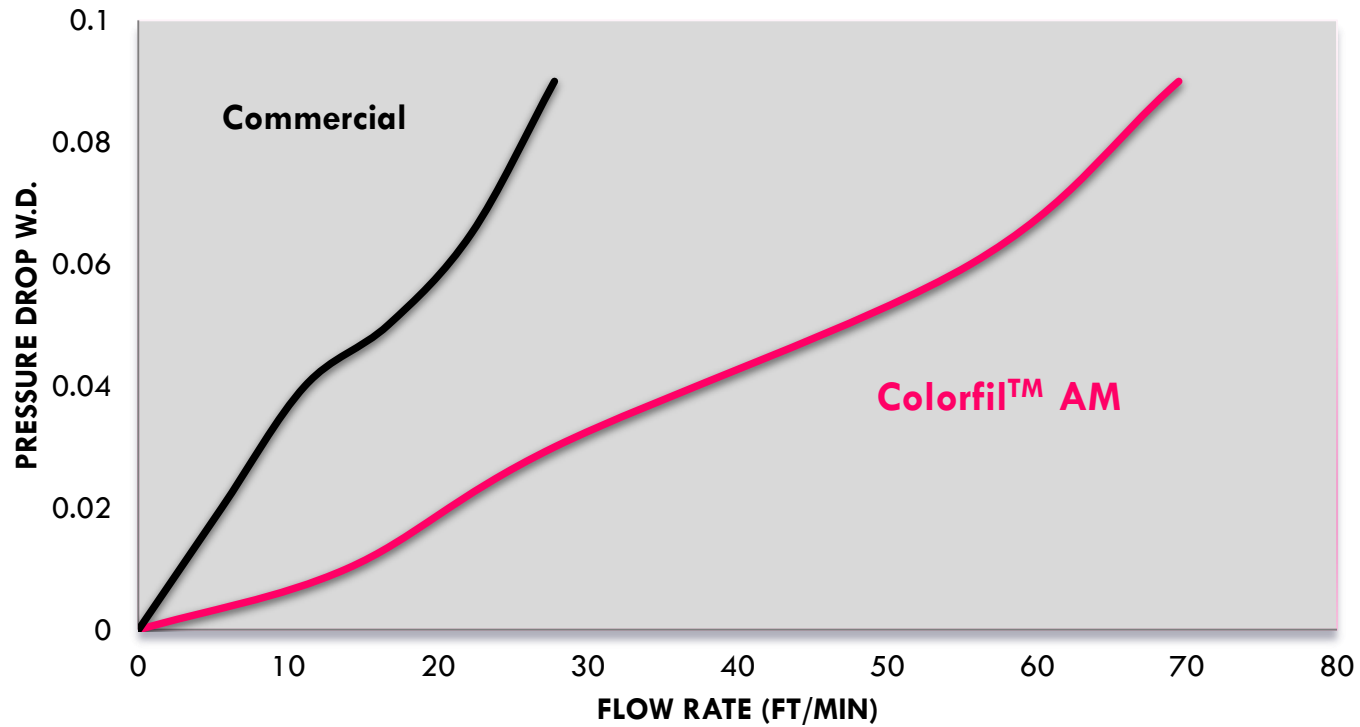
# AM – CAPACITY

The capacity of Colorfil AM is far higher than leading commercial filters.



# AM – PRESSURE DROP

The pressure impact of Colorfil AM is far lower than leading commercial filters.





# COLORFIL SX

Colorfil acid-removal coating designed to remove acidic and acid-forming gases (e.g. SO<sub>2</sub>) from ambient air with a focus on low  $\Delta P$  and high removal capacity.

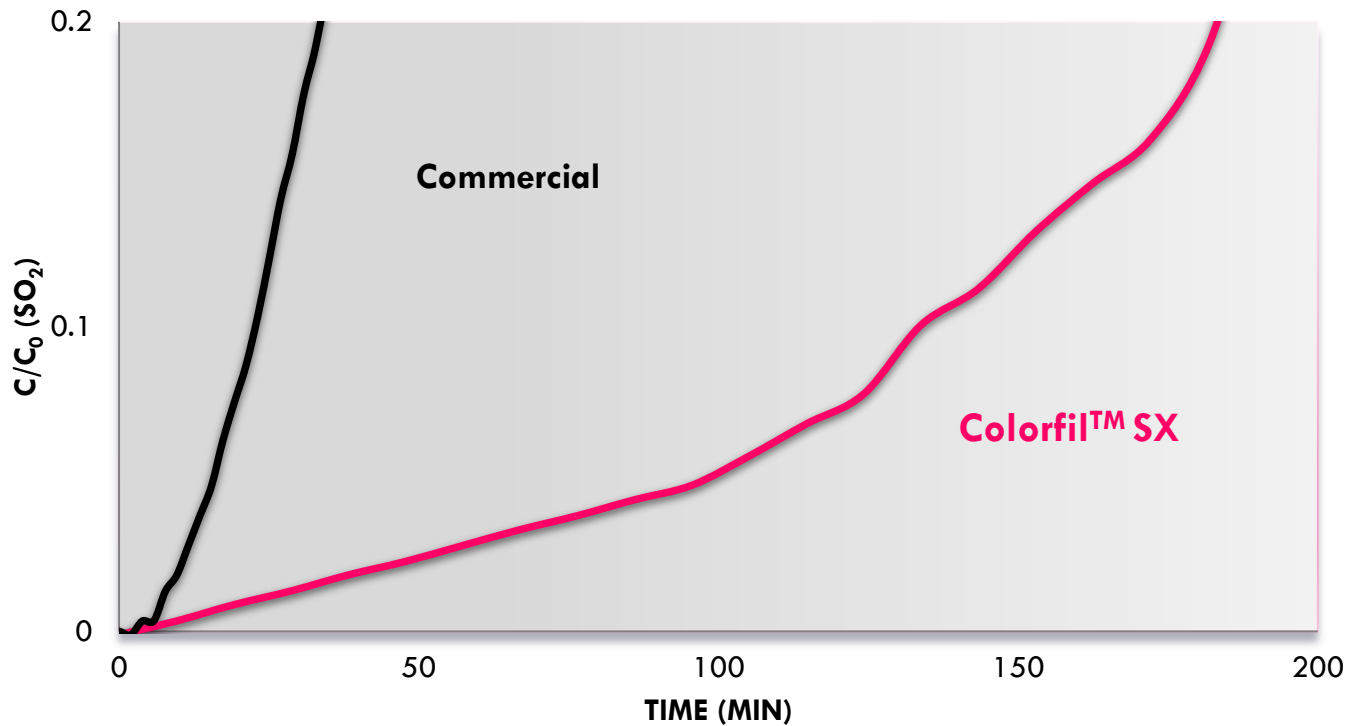
Specifications	Colorfil-SX	Benchmark*
Basis Weight (gsm)	280	800
Capacity at $C/C_0 = 0.5$ (mg/g)	120	14.1
Pressure drop (inch H <sub>2</sub> O) @ 20 fpm	0.030	0.045

\* Benchmark: leading industrial carbon web

\* ASHRAE 145.1 based tests (industrial standard test for gas phase filtration)

# SX – EFFICIENCY

The efficiency of Colorfil lasts far longer than leading commercial filters.



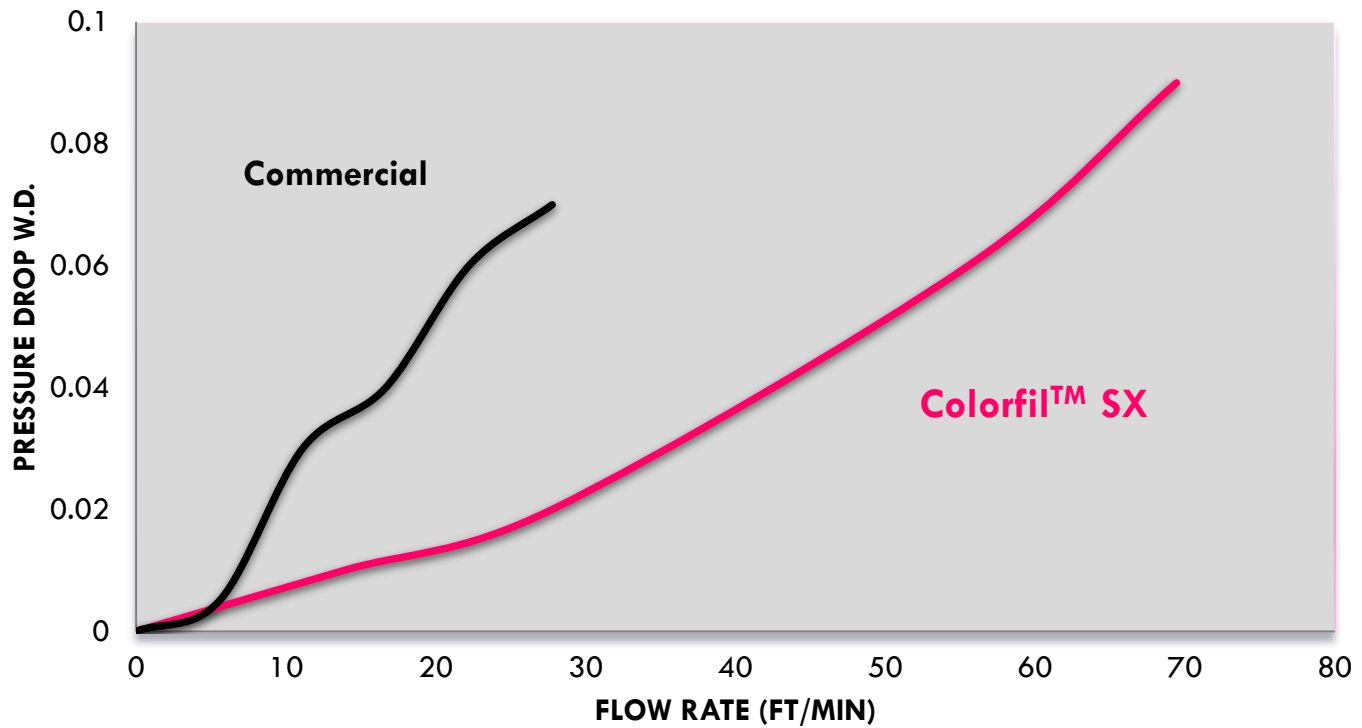
# SX – SO<sub>2</sub> CAPACITY

The efficiency of Colorfil lasts far longer than leading commercial filters.



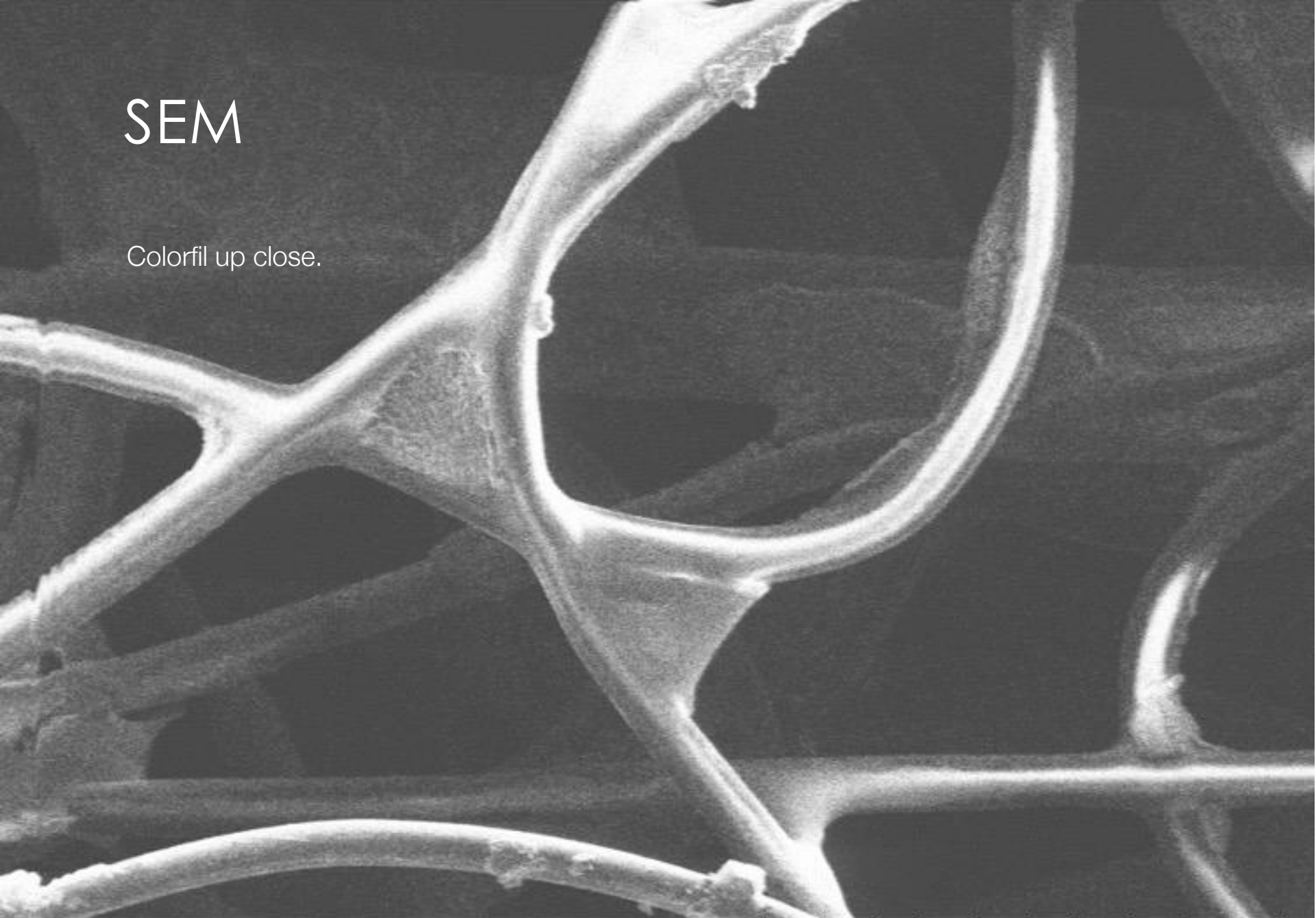
# SX – PRESSURE DROP

The efficiency of Colorfil lasts far longer than leading commercial filters.



SEM

Colorfil up close.



5.0kV 5.9mm x250 SE(U)

200um



# DISCLAIMER

Our goal at Serionix is to make the air cleaner for you and your homes with our filters. Although our filters have gone through extensive testing and we truly believe in their abilities to make the world a cleaner place to breathe, there are many claims we are want to be clear that we cannot make.

Medical: No information regarding the products of Serionix should be taken as medical advice. **Serionix products are not intended to cure, treat, or prevent any medical condition or disease.** Please seek medical advice from medical doctors regarding any health conditions, symptoms, or treatments.

Safety: Although we at Serionix routinely handle our filters, we like to be over-cautious. Our filters are meant to be used in your HVAC systems, so please don't intentionally rub on the filter with any parts parts of your body, or touch parts of your eye after handling our filters. Our filters reduce the amount of chemicals in the air by capturing them on our chemically active surface, so **please avoid touching the filters with wet skin or intentionally contact the filter with liquids.** Please keep our filters away from pets and children and store them in a dry area away from direct sunlight. If contact occurs, simply rinse the associated area contacted with water for 5 minutes. If irritation or discomfort persists seek medical attention.

Use: At Serionix, we know we can not foresee every potential use for our products. **We intend our HVAC filters to be used in your HVAC systems only,** therefore through your use of our filters, you accept Serionix is not responsible for any damages caused by any other applications or uses of our filters other than its intended purpose.