



Ahlstrom FiltEV[®] Fuel Cell Air Intake

High performance filtration materials for Electric Vehicles

The purity of the cathode air intake is an essential parameter in the performance and the reliability of Fuel Cell units. By removing particles and harmful gases, air intake filters protect the catalyst and the membrane, and extend the fuel cell lifetime.

Ahlstrom has developed an effective range of high-performance media matching the unique requirements for fuel cell air intake.

- Premium activated carbon media with exceptional adsorption performances on VOCs and acid gases, combined with an EPA particulate efficiency.
- Premium activated carbon media with exceptional adsorption performances on VOCs, acid and alkali gases, combined with particulate efficiency.

Benefits

- ✓ **Highest adsorption performances** – maximal activated carbon content delivering best initial breakthrough and extended capacity
- ✓ **Enlarged molecular protection** – customized activated carbon blend effectively adsorbing hydrocarbons but also SO₂, NO_x and NH₃
- ✓ **Enhanced particulate efficiency** – up to HEPA 13 performance for ultrafine particle removal
- ✓ **Flexible solutions** – customizable, thin multi-layer design and easy to process media to reach most demanding customers' targets

Ahlstrom FilteV® Fuel Cell Air Intake

Based on a proprietary **multi-layer dry technology platform**, Fuel Cell Air Intake media deliver a unique combination of exceptional adsorption performances and highest particulate efficiency, to reach always more challenging cathode air quality requirements. Our new production asset enables us to incorporate up to **1000 g/m²** of customized adsorbent blends with limited amount of adhesive and low overall thickness, keeping an excellent processability whatever the filter design.

Specific activated carbon blends have been selected for FilteV® Fuel Cell Air Intake portfolio, to protect the catalyst from poisoning by harmful gases. MA6 focuses on the effective adsorption of hydrocarbons (toluene, n-butane...), and acid gases including sulfur dioxide (SO₂), nitrogen oxides (NO_x). MAC62 and MAI62 widens the range of targeted molecules, complementing excellent hydrocarbons and acid gases adsorption performances with an efficient ammonia (NH₃) removal.

Our products are laminated with a high particulate efficiency meltblown layer which effectively protects the channels and the proton exchange membrane from fouling and degradation.

The flexibility of our technology platform guarantees a high level of customization of our filtration solutions. Outer layers characteristics, activated carbon blend and content, type and performance of the particulate efficiency layer can be modified to perfectly match our customers' specifications.

Key Grade Characteristics

Tailor-made solutions are available on demand.

	Basis Weight	Thickness	Carbon Content	Air Permeability	MD Stiffness	Initial Fractional Efficiency	Initial Breakthrough n-Butane**	Initial Breakthrough SO ₂ **	Initial Breakthrough NO ₂ **	Initial Breakthrough NH ₃ **
Main Grades	g/m ²	µm	g/m ²	L/m ² /s @200 Pa	mg	% NaCl, @0,3µ 5,3 cm/sec	%	%	%	%
MAC62 700M65	970	2,500	700	710	9,300	65	1.3	0.3	2.4	3.3
MAC62 700M995	950	2,300	700	300	14,400	99.5	1.3	0.3	2.4	3.3
MAI61 700M98	960	2,400	700	420	13,000	98	1.3	0.3	2.4	2

**According to DIN71460-2 at 10 cm/s (concentration 80ppmv for n-Butane and 30 ppmv for SO₂, NO₂ and NH₃).

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