AHLSTROM

NEW PORTFOLIO

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 an HEPA 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 SO_2, NO_x and NH_3
- **Enhanced particulate efficiency** – wide choice from 75% to 99.95% removal of the finest airborne particles
- **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 to incorporate up to 700 g/m² of customized adsorbent blends with limited amount of adhesive and low overall thickness, keeping an excellent processability whatever the filter design.

Our products are laminated with a high particulate efficiency meltblown layer reaching respectively EN1822-E10 (MA6/700M5) and H13 (MAC62/700M3) which effectively protects the channels and the proton exchange membrane from fouling and degradation.

	Basis Weight	Carbon Content	Thickness	Air Permeability	Stiffness	NaCl Initial Fractional Efficiency*
Grades	**g/m²**	**g/m²**	**µm**	**L/m²/s**	**mg**	**%@0.3µm**
MA6/700M5	875	700	2440	450	12,000	75
MAC62/700M3	885	700	2250	270	11,000	99.5

*According to DIN71460-1 at 20cm/s

Two 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 (SO_2), nitrogen oxides (NO_x). MAC62 widens the range of targeted molecules, complementing excellent hydrocarbons and acid gases adsorption performances with an efficient ammonia (NH_3) removal.

	Breakthrough at 0' / 60' (%)*				Adsorption Capacity (g/m² @60')*			
Grades	**n-Butane**	**SO_2**	**NO_x**	**NH_3**	**n-Butane**	**SO_2**	**NO_x**	**NH_3**
MA6/700M5	0.2 / >95	0.5 / 4	0.2 / 37	86 / >95	21 (@95%)	27	14	0.1 (@95%)
MAC62/700M3	1.0 / >95	1.5 / 13	1.4 / 39	0.0 / 78	13 (@95%)	26	13	4.5

*According to DIN71460-2 at 10 cm/s (concentrations: 80ppmv for n-Butane, 30ppmv for SO_2, NO_x and NH_3)

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.

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