

# CabinPro™ XT HEPA Cabin Air Filter Media

Cabin air filters protect drivers and passengers from harmful pollutants such as dust, debris, bacteria, viruses, volatile organic compounds (VOCs) and allergens. Good vehicle interior air quality (VIAQ) is essential because even an hour or two riding in a vehicle can expose people to dangerous levels of air pollution. Occupants of all types of vehicles, from internal combustion engine cars to electric vehicles to commercial trucks and buses, trains and airplanes benefit from high-efficiency cabin air filtration.

Hollingsworth & Vose is a global leader in providing high-quality filtration solutions, including our patented CabinPro™ XT HEPA cabin air filter media. This filter media technology features the highest quality materials and design because there should be no compromises when it comes to protecting people's health.

## Why Do We Need HEPA Filters for Cabin Air Filtration?

Amid increasing awareness of the dangers of fine particles, high-efficiency particulate air (HEPA) filtration is considered essential to protecting vehicle operators and passengers. Fine particles are defined as 2.5 µm in diameter or less.

Fine particles present a major health concern because the human body cannot filter them out, putting us at greater risk of developing pulmonary and cardiovascular diseases.

According to ISO 29463:2022 and its older version EN 1822:2019, true HEPA filters can filter particles below 0.3 µm, whereas other standards stop at 0.3 µm, not covering the full range of fine particles. Current solutions on the market feature various filter technologies claiming HEPA efficiency, but not all of them offer true HEPA efficiency filtration and thus the best possible protection.

## H&V's CabinPro™ XT HEPA Solution

H&V's CabinPro™ XT HEPA cabin air filter media are an example of our ability to innovate and offer high-performance solutions. This highly stable HEPA efficiency filter media offers best-in-class protection against particulate contamination for vehicle occupants. Internal tests have shown that the CabinPro™ XT HEPA provides a much higher dust holding capacity (DHC) than other similar products on the market, meaning filters using CabinPro™ XT HEPA filter media have a much longer lifespan.



The CabinPro™ XT HEPA is a sophisticated composite filter media made of three distinct materials:

- **Pleatable synthetic layer:** This custom-designed and manufactured flame resistant synthetic layer is highly durable and can be pleated at different pleat heights on any pleater type (rotary/blade), allowing superior processability and filter design flexibility.
- **Layer featuring our NanoWeb™ Technology:** Submicron patented durable synthetic fibers, that through their fiber diameter approaching the slip-flow region of performance, offer best in class high efficiency and low pressure drop, prolonging filter service life and conserving energy in vehicles.
- **Meltblown layer:** When placed on the upstream side of the final filter, this protective layer prolongs filter life and capacity even without a separate prefilter. This design saves on filter production costs and space in the final vehicle's air conditioning unit.

If the final application has a dedicated prefilter upstream of the filter made of CabinPro™ XT HEPA filter media, automotive OEMs and AC manufacturers can reverse the orientation of the filter to further reduce pressure drop and maximize energy savings.

In addition, CabinPro™ XT HEPA is made without the use of per- and polyfluoroalkyl substances (PFAS) which are coming under increased regulatory and environmental scrutiny.

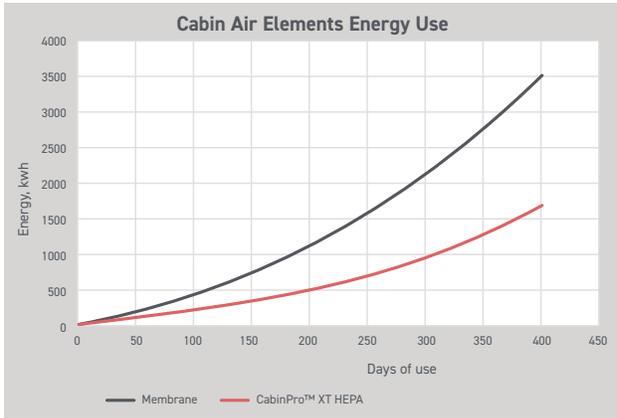
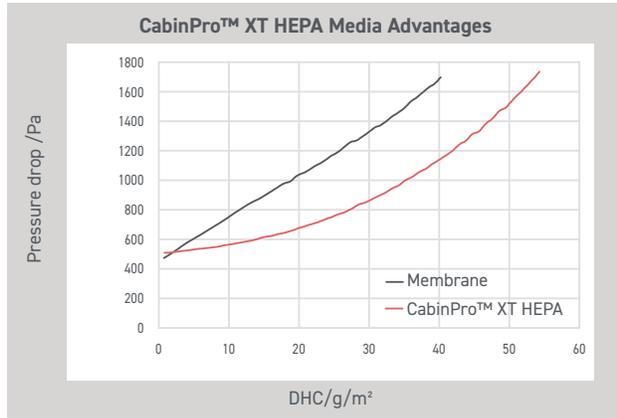
Therefore, the media not only improves Vehicle Interior Air Quality (VIAQ) but also minimizes the environmental impact of the filters after their service life.

## Technical Specifications

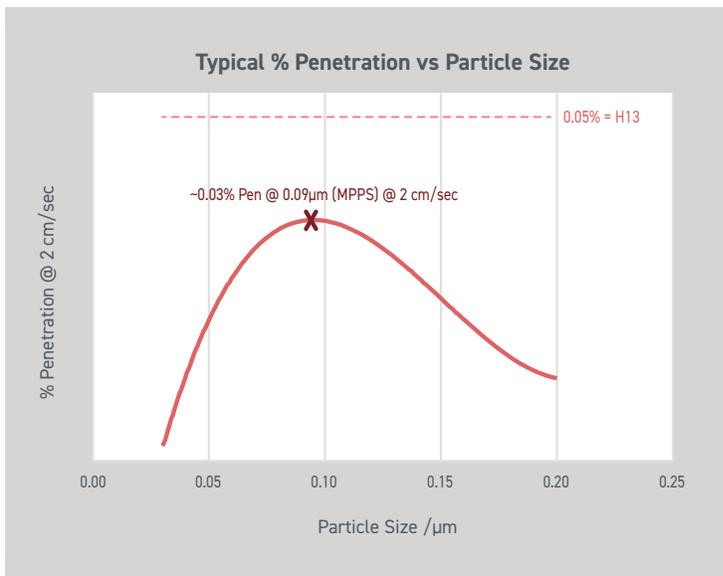
Grade	Pressure Drop @ 2.0 cm/sec (3.9 ft/min)		Penetration @ MPPS (0.09µm) DOP @ 2.0cm/sec (3.9 ft/min)	Test Standard	Filter classification (@ MPPS)				
	mm H <sub>2</sub> O	Pa			1 cm/sec	2 cm/sec	3 cm/sec	4 cm/sec	5 cm/sec
CabinPro™ XT HEPA	4.7	46	0.02%	ISO 29463	ISO 45 H	ISO 35 H	ISO 25 E	ISO 25 E	ISO 20 E
				EN 1822*	H14	H13	E12	E12	E11

**Technical specs table:** This graph summarizes the CabinPro™ XT HEPA's pressure drop, penetration and classification at the most penetrating particle size (MPPS).

\*as made data

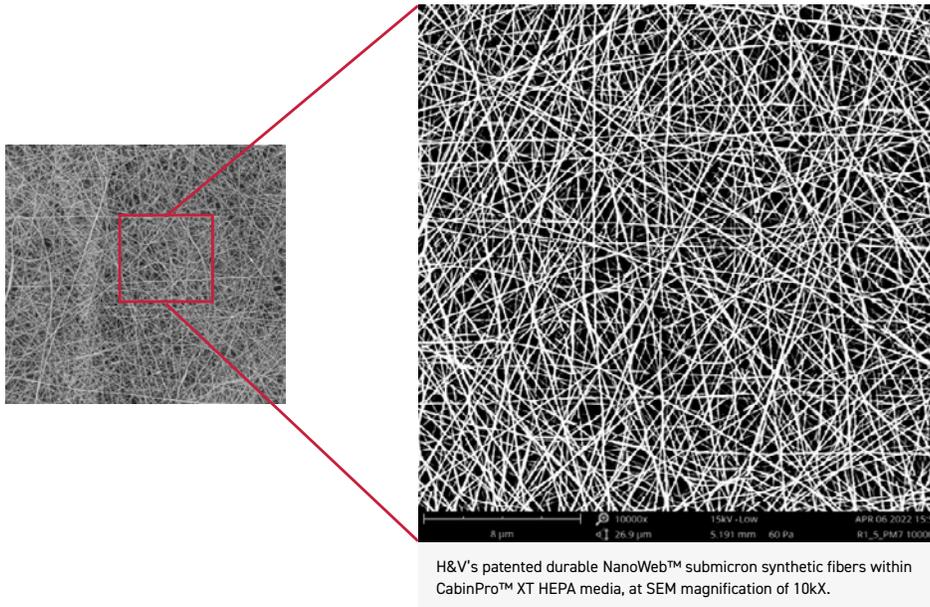
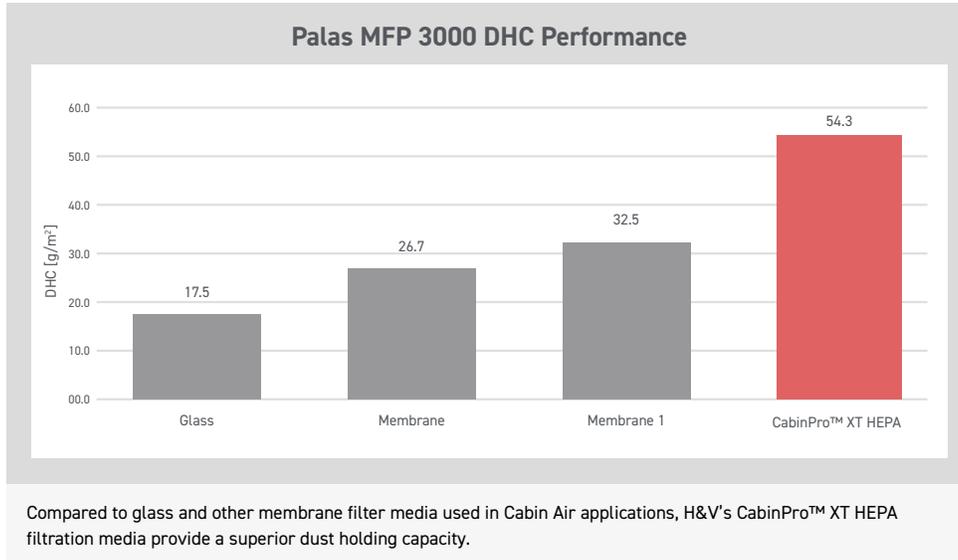


**Over its lifetime**, CabinPro™ XT HEPA filter media shows a **lower pressure drop** compared to other products on the market, even the ones having a lower initial pressure drop. This is **significant for the overall energy consumption** over the lifetime of a filter and additionally benefits the energy use and thus thermal management in electric vehicles.



At an MPPS of 0.09 µm, there is only 0.03% penetration at 2 cm/sec.





## About Hollingsworth & Vose

Hollingsworth and Vose is a global manufacturer of advanced materials used in filtration, battery, and industrial applications. Family-owned for seven generations, the company's origins go back to the early 1700s and we have evolved continuously since that time.

Today, H&V's advanced materials contribute to a cleaner world through their use in products that provide clean air, clean liquids, and energy storage. Our Company is headquartered in East Walpole, Massachusetts USA, with 13 manufacturing and research & development facilities in the Americas, Europe, China, and India.