

ABOUT US – WHAT IS C-POLAR?

As the COVID pandemic subsides, viruses and pathogens such as bacteria, fungi, and molds continue to infect us in our homes, schools, and workplaces, causing disease, disability, and even death.

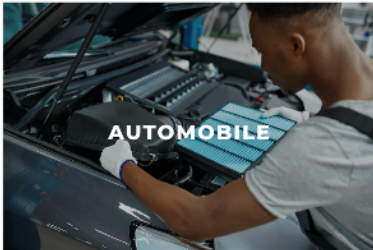
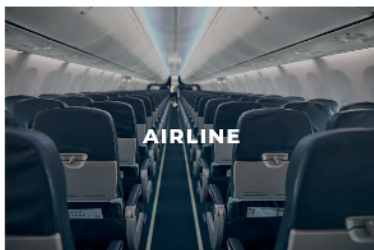
We developed C-POLAR™, a biodefense technology that uses positive polarity to protect users against viruses and pathogens.

Multiple third-party studies, commercial installations, and internal testing demonstrate that C-POLAR™ treated material captures, inactivates, and eradicates viruses and pathogens with up to 99.99% efficiency – in as little as five minutes, without the use of external energy, heavy metals, or toxic substances.

PRODUCT APPLICATIONS

C-POLAR™ is a versatile technology, with numerous product applications and potential addressable markets. These include ventilation solutions, Personal Protective Wear (PPW™), and medical devices. C-POLAR™ material can also be used to manufacture apparel and PPW™ such as lab coats, hospital gowns, and uniforms.

Testing from Hong Kong Metropolitan University demonstrated that even after 60 washes, C-POLAR™ material retained an antibacterial efficiency of up to 99.9999%, making it ideal for long-term wearability and protection.



**Based on third-party studies, commercial installations, and internal testing*

VENTILATION SOLUTIONS

C-POLAR™ material is being used to improve air filters and purifiers. As a solutions company, we provide clients and filter manufacturers with C-POLAR™ material and the technical assistance required to apply C-POLAR™ technology into ventilation products. Third-party studies, commercial installations and internal testing have demonstrated that when manufactured according to our specifications, C-POLAR™ filters capture, inactivate, and eradicate viruses and pathogens.

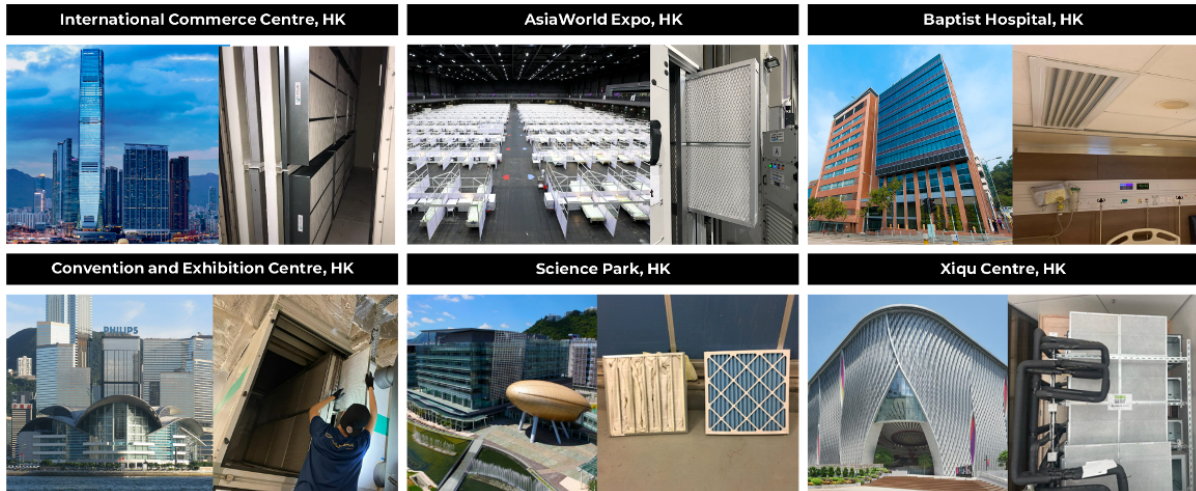
 <p>PLEATED FILTERS</p> <p>APPLICATION Air Handling Unit Primary Air Unit Roof top unit</p> <p>AVAILABLE EFFICIENCIES MERV 8, MERV 11, MERV 13</p>	 <p>BAG FILTERS</p> <p>APPLICATION Air Handling Unit Primary Air Unit</p> <p>AVAILABLE EFFICIENCIES MERV 11, MERV 13, MERV 16</p>	 <p>FAN COIL FILTERS</p> <p>APPLICATION Fan coil unit</p> <p>AVAILABLE EFFICIENCIES N/A</p>
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When compared to competitor technologies, C-POLAR™ filters have a stronger safety profile and require substantially less capital investment and maintenance cost.

	C-POLAR™ FILTERS	HEPA FILTERS	FILTERS USING UVC	FILTERS USING BIPOLAR IONIZATION
CAPTURE VIRUSES AND PATHOGENS	✓ Studies demonstrate that C-POLAR™ effectively captures viruses and pathogens.	✓ HEPA filters are effective in capturing viruses and pathogens.	✗ UVC filters do not effectively capture pathogens.	✗ Bipolar ionization filters do not effectively capture viruses and pathogens.
ERADICATES VIRUSES AND PATHOGENS	✓ Studies demonstrate that C-POLAR™ effectively eradicates viruses and pathogens in as little as 5 minutes.	✗ HEPA filters do not eradicate viruses and pathogens.	✓ UVC filters can eradicate viruses and pathogens. However, they require significant time to do so.	✗ A Boeing study found bipolar ionizers showed minimal reductions in viral inactivation and no reductions in pathogens.
MINIMAL CAPITAL INVESTMENT AND MAINTENANCE COSTS	✓ C-POLAR™ filters have low capital investment and maintenance (including energy consumption) costs.	✗ HEPA filters have a high capital investment and maintenance cost, because of their high pressure drop.	✗ UVC filters have a high capital investment and maintenance cost, due to the addition of UVC light fixtures. These costs recur every two years due to equipment replacement.	✗ Bipolar ionization filters have a high capital investment and maintenance cost, which recur every two years due to equipment replacement.
STRONG SAFETY PROFILE	✓ C-POLAR™ is created with a WHO and FDA-approved food additive. Studies show that C-POLAR™ is non-cytotoxic.	✗ Biofouling in a HEPA filter may contribute to the spread of pathogens in the air and result in filter degradation.	✗ Direct exposure to UVC can cause severe eye and skin damage. Exposing filters to UVC also leads to degradation.	✗ Bipolar ionization systems may emit ozone, which damages human lungs. One study found they increased harmful volatile organic compounds.

* Based on third-party studies, commercial installations, and internal testing

In less than a year, C-POLAR™ has commercialized and installed C-POLAR™ air filters in over 130 buildings across Hong Kong, the United States, and Canada. Key clients are included below:



PERSONAL PROTECTIVE WEAR (PPW™)

Using C-POLAR™ material, we developed a premium 3D face mask which includes an additional layer of C-POLAR™ material. The C-POLAR™ masks will soon become available in Hong Kong and provide consumers with enhanced protection against viruses and pathogens.



In the United Kingdom, we supplied QE Facilities, a wholly owned subsidiary of the UK NHS, with C-POLAR™ material to manufacture FFP3 antiviral face masks. These masks provide the highest level of protection for NHS frontline workers.

MEDICAL DEVICES

Our research and development team are working on incorporating C-POLAR™ into medical devices. Through rigorous research and development, we successfully created a C-POLAR™ silicone formulation that exhibits high antibacterial efficiency, low cytotoxicity, and decreased blood clotting. This formulation will be used to create medical devices such as catheters and implantable devices, reducing the risk of infection.

**Based on third-party studies, commercial installations, and internal testing*