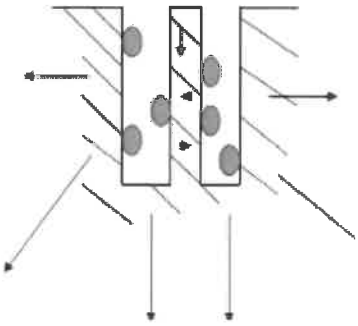
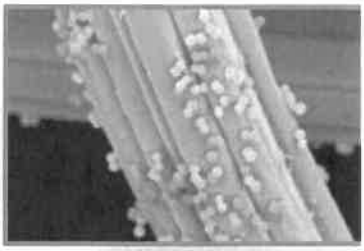
How Does Flexzorb Work?

- Activated Carbon Cloth is used for wound management due to the antimicrobial properties of the material
- Bacteria (or viruses) are drawn to the cloth surface by naturally occurring "van der Waals" forces
    - Small gas or liquid molecules are rapidly drawn to the highly structured micropores by strong electrostatic forces
    - Electrostatic tension builds up on the cell until it overcomes the tensile strength of the cell wall and ruptures
- Flexzorb is both antimicrobial and antiviral





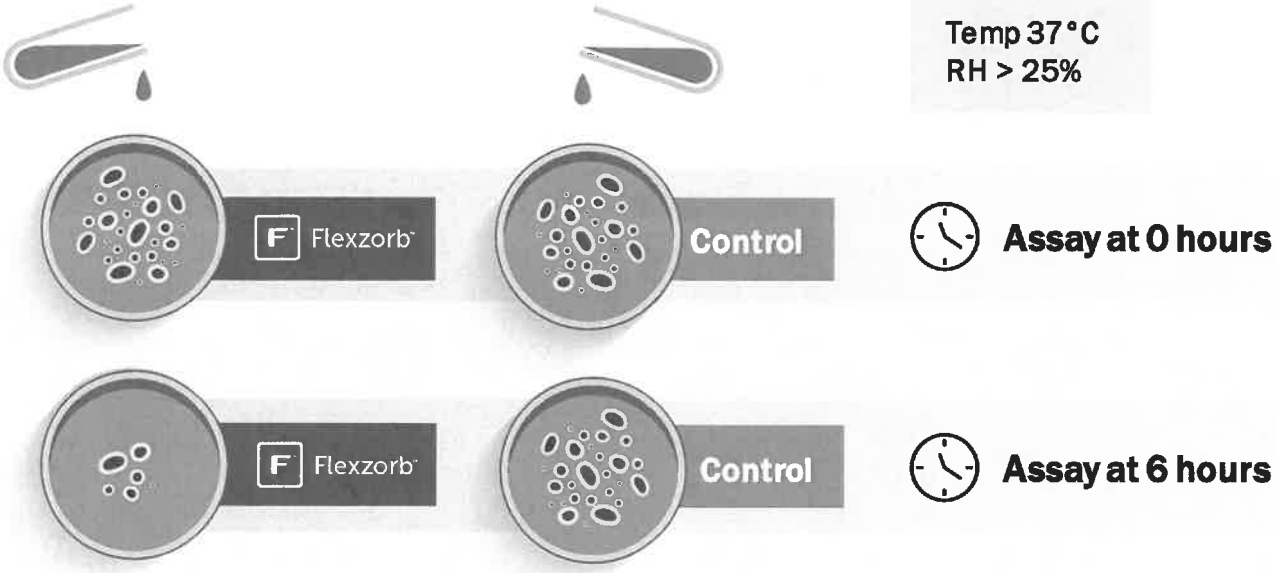
About the Study

- Completed in 2009
- Performed by the Health Protection Agency in the U.K.
- Multiple tests performed to demonstrate the effectiveness for virus capture, retention and destruction
  - Tested Flexzorb™ performance both as an independent layer and incorporated into face mask
- MS-2 Coliphage was used as a surrogate virus for the testing
  - Single stranded RNA without enveloped member
  - 23-28 nm in diameter (smaller than COVID-19)
  - Common surrogate used for evaluating antiviral and virucidal properties

Flexzorb's Viral Destruction

Sterilized Flexzorb™ and Control (HPA) were contaminated with 100 uL of MS-2 coliphage.

Destruction



Flexzorb's Viral Destruction

98.13% of the virus captured was destroyed over a 6-hour period.

Destruction

FM10 Cloth

0 Hours	6 Hours	Log 10 Reduction	Efficiency of the material to reduce growth after 6 hours
1.23E+07	2.30E+07	1.73E+00	98.13

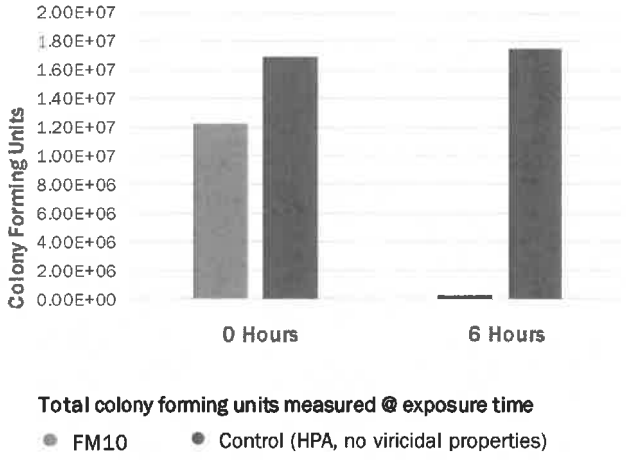
Total colony forming units measured at exposure time

Control Cloth (HPA, no viricidal properties)

0 Hours	6 Hours	Log 10 Reduction	Efficiency of the material to reduce growth after 6 hours
1.69E+07	1.75E+07	No effect	No effect

Total colony forming units measured at exposure time

Viricidal Properties of Flexzorb vs. Control



Flexzorb's Virus Retention

99.9998% of the virus captured was retained on Flexzorb.

After performing the virus capture test where the cloth captured 85.67% of the virus, the cloth sample was removed and tested for virus retention

Virus Capture

Cloth	Layers	Silver	Challenge (pfu)	Virus Collected after Filter (pfu)	Virus Capture (%)
FM10	4	N	1.200E+10	1.720E+09	85.67%

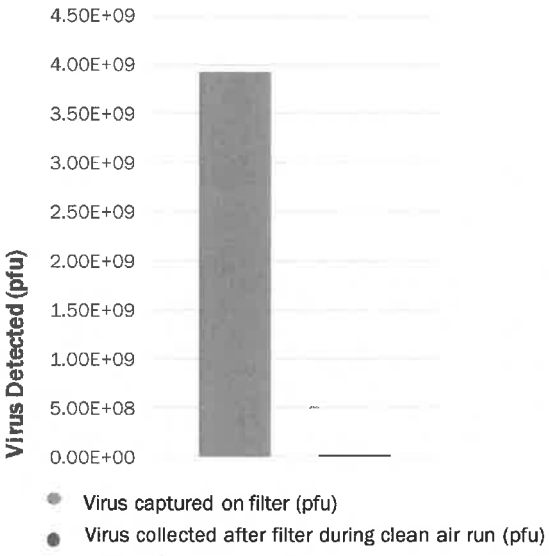
Virus Retention

Virus captured on filter (pfu)	Virus Collected after filter during clean air run (pfu)	Virus retained in filter (%)
3.93E+09	7.05E+03	99.9998%

MS-2 Coliphage is smaller than COVID-19

Retention

Virus Retention on Flexzorb



Benefits of Flexzorb Include...

Viricidal properties

Flexzorb not only captured the virus, it also deactivated it

Increasing comfort for the wearer

Flexzorb has more favorable (lower) pressure drop than other technologies without compromising performance

Consistent performance when exposed to moisture

Flexzorb is not negatively impacted by moisture, a key factor

Highly Customizable Design

Allows manufacturers to tailor mask design with various laminates and carbon cloth layers

Simultaneous removal of many other compounds

Ability to remove bacteria, VOC removal, others (acid gases, bases, etc)