

KILLING COVID WITH FOAMSTREAM

The ability of the Foamstream technology to kill coronavirus was evaluated by a professional test house that has accreditation according to international standard BS EN16777.

The technology was evaluated using a coronavirus that infects mice and that is accepted as a reliable surrogate for COVID-19, MERS, and SARS.

The technology was evaluated under clean and dirty conditions. For clean conditions, the virus was dried on a steel disc. For dirty conditions, the virus was mixed with protein (bovine albumin) and blood cells before drying on a steel disc. Since dirt can prevent killing, the results under dirty conditions are the ones that are most relevant for Foamstream customers.

The results showed that, under dirty conditions, Foamstream killed at least 99.99% of COVID in 10 seconds. The way that the test is done makes it difficult to measure the exact time to kill 99.99% of the viruses but it probably was 1 or 2 seconds.

The virus was dried on steel discs and, since steel is a very good conductor of heat, the temperature of the foam would have dropped more rapidly than it would do on poorly conducting surfaces. That is, 99.99% killing in 10 seconds is a 'worst case' scenario.

Why does Foamstream kill COVID?

One way of thinking about COVID is to consider your favourite chocolate in a box of Quality Street, e.g. the 'Purple One'. In this analogy, the filling is the genetic material of the virus and the chocolate shell represents the protein coat of the virus. The purple wrapper represents the lipid (fatty) membrane that surrounds COVID, and other viruses such as influenza. When you wash your hands with soap and water or if you apply a hand sanitizer, which is basically soap plus alcohol, you destroy the fatty membrane thereby inactivating the virus. The heat that Foamstream applies not only destroys the fatty layer but completely destroys the protein coat. Using our analogy, the wrapper is destroyed and the chocolate has melted.

Note on terminology

A standard for many disinfection tests is to measure the time for a 4-log reduction in the number of microorganisms. For those not familiar with log scales:

- A 1-log reduction is equivalent to 90% (tenfold drop)
- A 2-log reduction is equivalent to 99% (hundredfold drop)
- A 3-log reduction is equivalent to 99.9%
- A 4-log reduction is equivalent to 99.99%