Filtration Group®
Industrial

AM I PROTECTED FROM THE VIRUS-CONTAMINATED FILTER LAYER?

CONTACT AND FILTER CHANGE

SilentCare

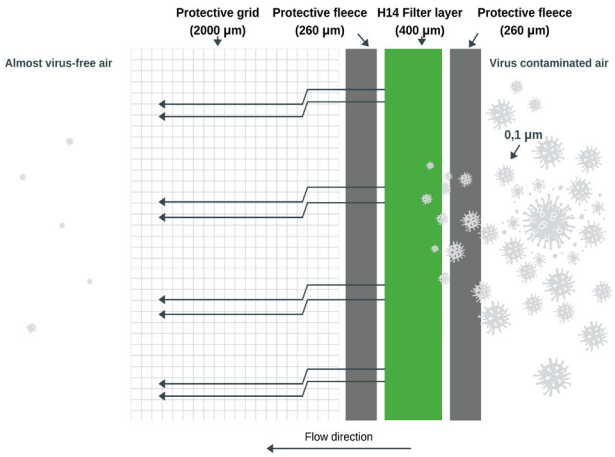
YES, BECAUSE...

The filter element consists of a **multi-layer filter material.** The actual filter layer is installed **in the middle between two polyester layers.** Inside, at least 99.995 % of the viruses are separated (H14 according to DIN EN ISO 1822), i.e. out of 100,000 incoming particles, a maximum of 5 particles are not filtered.

The **viruses cannot leave the filter layer** because they have no possibility to move on their own. Since they can only survive in the host body (e.g. human), they will die in the filter layer. Survival time depends on various factors. According to current scientific knowledge, the half-life of the half-life of the corona virus on plastic surfaces is in the range of only a few hours*.

The outer layers of the filter are made of polyester, i.e. plastic. Since the actual filter layer is separated by the two polyester layers (protective layer) from the filter layer that may be contaminated with corona viruses, **contact with the filter layer cannot occur when touching the filter element externally.** The usual hygiene measures by washing hands must of course be taken after touching the filter element.

Filter layer structure



THE EXAMPLE OF THE FLY AND THE BARN DOOR

The ratio of the polyester layer (260 µm) to the 0.1 µm virus is approx. 2600. This means that the virus is a factor of 2600 away from the outside of the filter material. In relation to a human being with a height of approx. 1.8 m, this means a distance of approx. 4600 m, i.e. approx. 4.6 km. This clearly shows that there can hardly be any direct contact with the virus. Around the filter element there is an additional protective grid made of plastic with a thickness of approx. 2000 µm (2 mm), which in picture terms brings a further distance of approx. 36 km in relation to the size of the person under consideration. To demonstrate this using the example of a 5 mm fly, it would be as if the fly flew through a barn door (polyester layer) which is followed by a 13 m long corridor and then intercepted by a silk stocking (H14 filter layer). Here the fly gets stuck (inside the filter layer) and can no longer escape. It is not able to survive.

* *Information based among other things on data from the BGHW (https://www.bghw.de/weiterbildung-services/fuer-sie-zusammengestellt/faq-haeufige-fragen-bghw/allgemeines-zum-coronavirus, query on 21.01.2021); cf. Kähler, C./Fuchs T./Hain R., Studie zu Infektionsgefahr durch Aerosolpartikel, Universität der Bundeswehr München, 2020.*

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