

White paper: COVID-19

FFP2 facemask reprocessing in MATACHANA Hydrogen Peroxide sterilizers (HPO Series), models 130HPO® y 50HPO®

MATACHANA vaporized hydrogen peroxide sterilizers could be used to reprocess single-use FFP2 polypropylene facemasks/respirators that do not contain cellulose, in case of shortage of these products.

The preliminary study carried out by the **Dutch National Institute of Public Health and the Environment (RIVM)** ⁽¹⁾, confirms that hydrogen peroxide sterilization is a valid reprocessing method that provides, in cases of emergency such as the one caused by the COVID-19 pandemic, an acceptable quality for face masks reprocessed under the described conditions.

This study shows that, based on compliance testing, FFP2 face masks retain their anatomical fit and maintain filter integrity (Fit Test) after sterilization, in up to two occasions with a short hydrogen peroxide cycle.

The RAPID cycle contained in the MATACHANA HPO Series sterilizers is equivalent to the short peroxide process mentioned in the **RIVM** study.

Meanwhile, last September a study comparing the performance of the MATACHANA 130HPO® sterilizer with the equipment used in the **RIVM** study was presented at the congress of the **Société Française de Stérilisation SF2S** ⁽²⁾ (French Sterilization Society). The conclusions confirm a similar performance of both devices, and superior, in terms of penetrability; especially in the RAPID cycle of the MATACHANA sterilizer. Additionally, the study presented during the **SF2S** congress also showed that the average measurement of H₂O₂ waste quantified on the medical devices/sanitary products after their reprocessing in the MATACHANA sterilizer, is significantly lower than the rest of the compared units.

What kind of masks can I reprocess?

FFP2 type masks cellulose free, as well as the models mentioned in the study.

How many times can I reprocess them?

A total of 2 sterilization cycles; that is, 3 uses in total.

Which program should I use to reprocess the masks?

The RAPID program needs to be used.

How many masks can I reprocess in each cycle?

A maximum of 20 individually packed and evenly distributed in the 130HPO® sterilizer, and up to 10 in the 50HPO®.

NOTE: In all cases, it is very important that the masks/respirators to be reprocessed are not damaged or broken and that they are clean ^(3,4) to reduce the dirt load. Therefore, it is recommended to protect the masks with a previous surgical mask. The masks cannot possibly be washed because the polypropylene filtering material loses its water-repellent layer when wet ⁽⁴⁾.

White paper: COVID-19

FFP2 facemask reprocessing in MATACHANA Hydrogen Peroxide sterilizers (HPO Series), models 130HPO® y 50HPO®

The reprocessing of potentially contaminated masks should not affect the normal processes of the RUMED in such a way that the quality of other sterilized material may be compromised. Among others, these aspects should be considered:

- The implementation of a procedure and circuit, within the health centre, to collect used masks safely. The establishment should pay attention to the time that the masks can be stored without negatively affecting their quality or the reprocessing.
- The place where the masks will be received and packed.
- The necessary protective measures for staff manipulating the masks.
- The health centre should at least visually and physically inspect that the masks are not affected by reprocessing (shape and properties of the material).
- A system should be established to identify that a **mask/respirator** has been reprocessed and to record the number of reprocessing.

#todosjuntosvenceremos

References

1. Hergebruik mondkapjes Informatie (English version). Rijksinstituut voor Volksgezondeheid en Milieu (RIVM). Ministerie van Volksgezondeheid, Welzijn en Sport. March 16, 2020 + amendement March 18, 2020. <https://www.rivm.nl/en/documenten/reuse-of-ffp2-masks>
2. Hervé Ney. SF2S 2019. <https://www.sf2s-sterilisation.fr/wp-content/uploads/2019/11/HNey-SF2S-2019-vF.pdf>
3. European Centre for Disease Prevention and Control. Cloth masks and mask sterilisation as options in case of shortage of surgical masks and respirators – 26 March 2020. Stockholm: ECDC; 2020. <https://www.ecdc.europa.eu/en/publications-data/cloth-masks-sterilisation-options-shortage-surgical-masks-respirators#copy-to-clipboard>
4. Instituto Nacional de Seguridad y Salud en el Trabajo (INSST) Prevención de riesgos laborales vs. COVID-19- Compendio no exhaustivo de fuentes de información. Ministerio de trabajo y economía social. Gobierno de España. <https://www.insst.es/documents/94886/693030/Prevenci%C3%B3n+de+riesgos+laborales+vs.+COVID-19+-+Compendio+no+exhaustivo+de+fuentes+de+informaci%C3%B3n/4098124f-5324-43a6-8881-0bbd4e358de7>