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Rules of dealing with ventilation systems in rooms during the coronavirus pandemic

In case of virus risk, including the coronavirus type SARS-CoV-2, appropriate organisational and technical protection measures are recommended, depending on the location.

1. Ventilation and/or air-conditioning installations inside buildings:

- a) Surface disinfection of room equipment and air ventilation and/or air conditioning systems with chemical disinfectants recommended in the List N by The Environmental Protection Agency (EPA).

The Disinfectant type and duration of use are indicated in document “Disinfectants for use Against SARS-CoV-2”.

- b) The disinfection of entire rooms with UVC radiation. The general rules for UVC disinfection are:

- duration of disinfection is at least 30 minutes,
- no person is allowed to be in the room during disinfection,
- after the completion of disinfection, it is necessary to wait an additional 30 minutes to use the rooms,
- UVC radiation cannot be used to disinfect hands and other parts of the human body.

- c) Disinfection inside the ventilation and/or air conditioning system as well as air filter surfaces with UVC radiation.

Note: UVC disinfection is not suitable for EPA, HEPA and ULPA high performance filters due to their depth and packing density of the filter material.

- d) The ventilation and/or air-conditioning installation shall provide the prescribed

pressure parameters in the rooms strictly during each stage of the installation's operation, regardless of air filter contamination, mode of operation (full or reduced capacity) or other disturbances.

- e) The minimum indoor air exchange multiplication factor should not be less than 2 h^{-1} , however, WHO recommendations suggest to at least double the multiplication factor of air exchange in rooms, where virus infection risk is present.
- f) The main protective measures of ventilation and/or air conditioning systems are air filters.
- g) Air filters should be marked and classified in accordance with the standards of the series PN-EN ISO 16890, PN-EN ISO 29463 and PN-EN 1822-1. Due to the filtration classes, the air filters are divided into: preliminary (Coarse Air Filter), $e\text{PM}_{10}$ for particles from 0.3 to 10 μm , $e\text{PM}_{2.5}$ for particles from 0.3 to 2.5 μm , $e\text{PM}_1$ for particles from 0.3 to 1 μm and high-performance EPA (E) - Efficient Particulate Air Filter, HEPA (H) - High Efficient Particulate Air Filter and ULPA (U) - Ultra Low Penetration Air Filter or according class from ISO 15E to ISO 75U.
- h) The installation of air filters is required in all ventilation ducts providing outside air and recirculation air. The filters can be installed in series in the main ventilation system or in individual ducts.
- i) In installations, high efficiency filters type EPA, HEPA, ULPA should be preceded by ISO Coarse, ISO PM_{10} , ISO $\text{PM}_{2.5}$ or ISO PM_1 type booster filters.
- j) The recommended frequency for testing the cleanliness of individual components of ventilation and/or air-conditioning systems is as follows for:
 - air handling units and/or air conditioning units and/or air treatment units - 12 months
 - air filters - 6 months or as recommended by the manufacturer
 - ventilation ducts - 12 months
 - the final elements/devices like anemostats, ventilation grids - 12 months.
- k) Used air filters for ventilation and/or air-conditioning installations should be disposed of as "Hazardous waste" - code 18 02 02*.

2. Ventilation and/or air-conditioning installations in individual and collective means of transport

- a) Periodic disinfection of the surfaces elements supplying air to the interior with the chemical disinfectants recommended in the EPA List N.
- b) If it is found that the person with confirmed coronavirus type SARS-CoV-2 has used a means of transport or passengers have been in contact with an infected person, the internal surfaces and the ventilation or air-conditioning system should be cleaned using a chemical disinfectant recommended by the EPA in the List N.
- c) Disinfection of the entire interior with UVC radiation.

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