

Working Instruction: Vacuum Cleaning for Airborne Infectious Diseases

Introduction:

CSCS Limited cleans a wide variety of buildings and equipment at Charles Sturt University.

Scope:

This procedure provides recommendations for vacuum cleaning of the environment where people suspected or confirmed to have airborne infectious disease infection may have been.

Purpose:

The purpose of this procedure is to provide CSCS Limited cleaning staff with a reference tool and guidelines for Carpet cleaning and to prevent transmission of airborne infectious diseases while vacuuming.

How long does Airborne Infectious Diseases live on common surfaces

While the focus on Infectious diseases to date has been on the spread by surface contact with the touching of glass, steel, paper & plastic, the World Health Organisation (WHO) has confirmed through research that the virus can still live for at least 3 hours once airborne (in the case of COVID-19).



Example of the Lifespan of COVID-19 on surfaces

Particle size and Filtration

Recent study findings (#1 Footnote) show that the CoVID-19 particles measure between 0.05 and 0.2 Microns in diameter. Aerosol droplets expelled from an infected person range from approx. 0.5 micron or larger.

What type of Vacuum cleaner should I use to clean Carpets?

HEPA (High efficiency particulate air filters) and are considered the minimum standard for high-grade air filtration. A HEPA filter must remove at least 99.97% of particles (with diameter is equal to 0.3 micron from the air) to be classed or rated as effective.

As a cleaner, you want to use a vacuum cleaner with a HEPA rated high grade filter so that can filter out contaminated particles. HEPA filters consist of a mix of filaments and fibers that carry a static charge which lures various microbes and particles like a magnet.

If an HEPA type machine is not available, the next type to use in cleaning for airborne infectious diseases is a vacuum cleaner with disposable cardboard/paper bags can be used.



Example of a HEPA rated filter.



Example of a disposable bag for a vacuum cleaner

Safety Guidelines

As CSCS cleaners, you are to keep our environment as clean as possible in stopping the spread of airborne infectious diseases. Cleaners are on the front-line cleaning surfaces, rooms and vacuum cleaning of carpet areas. If you are cleaning a public space where dust may contain infectious diseases, ensure the following when vacuuming:

- Good hygiene measure and consistent use of appropriate personal protective equipment (PPE) is recommended.
- That all PPE be placed on before entering the space, and removed after existing.
- Make sure hands and faces are sanitized before and after cleaning procedures.
- Use a HEPA rated (High efficiency particulate air filter) and replace filters every 6 months.
- If unable to use a HEPA filter, use a Disposable bags system instead.
- Disinfect all cleaning equipment after use
- Dispose of the cardboard disposable bag after 24 hours.
- DO NOT EMPTY UNTIL after 24 hours of cleaning to ensure any Coronavirus particles have died. (Disposable bags systems only)

NB: Always assess each job for dangers and hazards. Never place yourself or others at risk. If unsure please contact Supervisor prior to commencing work.

Recommended Equipment:

- Personal protective equipment (PPE) Mask, Gown, Disposable Gloves
- Cleaning chemical solution (Disinfectant)
- Vacuum cleaner with a HEPA rated filtration (less than 6 months old) and /or Vacuum cleaner with a disposable bags (cardboard/ paper).
- Replacement HEPA rated filters and replacement disposable bags.
- Yellow microfibre cloths to wipe outside of vacuum cleaner (this colour if available)
- Waste bag (New Bin Liner) for removal of disposable items.
- Alcohol-based hand rub or access to soap and running water

The purpose of personal protective equipment is to reduce the risk of direct contact with contaminated surfaces and harmful chemicals.

Procedures

Process step 1

If possible delay cleaning 24 to 72 hours before commencement

Process step 2

Gather the items needed for cleaning before entering the area.

Put on the recommended personal protective equipment before entering the area:

1. Clean your hands. This can be done with either liquid soap and running water or alcohol-based hand rub.
2. Put on a disposable apron. Fasten the back of the apron at the neck and waist.
3. Put on disposable latex or vinyl gloves. **DO NOT TOUCH YOUR FACE**
4. Assess area and identify hazards (report any issues - refer to CSCS Injury/Hazard/Incident Report Form)



Process step 3

Once you enter the area, avoid touching your face and don't touch or adjust your face mask if one is worn.

Once the person with suspected or confirmed COVID-19 has vacated the room, vacuum cleaning can commence immediately using the HEPA type vacuum cleaner or Disposable bag type system.

All furniture and equipment should be moved to vacuum thoroughly.



Process step 4

HEPA SYSTEMS –

1. Once cleaning is completed, place all disposable cleaning items in the rubbish waste bag immediately. Waste does not need any additional handling or treatment measures.
2. Clean the outside of the vacuum units with a yellow microfibre cloth wiped with some disinfectant. Used microfibre cloths should be clearly marked and separated for laundry, using hot water and completely dry before re-use.

IF USING A DISPOSABLE BAG SYSTEM –

1. Once cleaning is completed leave the bag in the machine for a 24 hour period.
2. After 24 hours (see caution note below) and then dispose of the cardboard bag properly.
3. Clean the outside of the vacuum units with a yellow microfibre cloth wiped with some disinfectant. Used microfibre cloths should be clearly marked and separated for laundry, using hot water and completely dry before re-use.

CAUTION NEEDED- Put on a new set of Personal Protective equipment (disposable gloves, mask and gown) before emptying the bag from the machine, and then removing the contents carefully to ensure no spillage.



Process step 5

People should use the following process to safely remove personal protective equipment:

1. Remove and dispose of gloves. The outside of gloves is contaminated. Remove gloves being careful not to contaminate bare hands during glove removal.
2. Clean your hands. This can be done with either liquid soap and running water or alcohol-based hand rub.
3. Remove and dispose of apron. The apron front maybe contaminated. Untie or break fasteners and pull apron away from body, touching the inside of the apron only.
4. Personal protective equipment and disposable cloths/paper towel can be disposed into general waste.
5. Cleaning equipment should be cleaned with disinfectant solution and allowed to dry completely before re-use. (ratio for chemical **is 2:1**). Cleankill dilution rate 20 – 40:1.
6. Replace the HEPA filter every 6 months to ensure maximum filtration capacity

Footnote:

#1 – Survey study Notes (see [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30211-7/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30211-7/fulltext)) for more information

References:

CSCS Online Induction Series [Home - Charles Sturt Campus Services - Charles Sturt University](#) – Staff Resources

Article- Filtration, containment and cleaning safety precautions on the frontline against COVID-19. This cleaning Life. Dated 30/4/2020