Professional Cleaning

Cleaning with microfiber

Serviceerhvervene
UddannelsesSekretariat

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Microfiber

Cleaning with microfiber cloths requires very little water and detergent. Microfibre cloths are capable of removing grease and dirt and attract dust.

They are effective in cleaning either dry or damp. When used in the correct humidity, the cleaning process is completed using one procedure. Microfiber cloths do not leave streaks or fluff on surfaces.

Photo by: SUS

Work environment and microfiber cloths

Improvement in work environment:
No heavy lifting
No wet or sweaty hands
No wringing of cloths
Correct body posture
Fewer unilateral repetitions
Minimal use of detergents
Minimal friction at dry and damp floor mopping

Manufacturing of microfiber

Microfiber consists of very fine polyester and polyamide (nylon) threads that are combined to form a single thread.

Microfibers are 100 times thinner than a strand of a human hair, and when woven together they create a surface area 40 times larger than that of a regular fiber. This gives an expanded surface area with a dramatically enhanced absorbing power due to the capillary action of the fine threads.

Microfiber was invented in Japan, who were in search of an alternative to expensive silk.

Microfiber is traditionally defined as a fiber with a denier of less than 1. Denier is the unit used for measuring fiber thickness. 1 denier is 9000 meters of fiber that weigh 1 g.

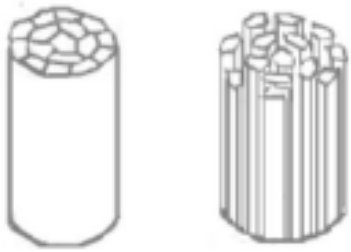


Illustration by: SUS

The advantages of microfiber

As each micro fiber strand is so small, it is capable of penetrating microscopic particles of dirt and grease on a surface. Split microfiber has numerous wedges instead of the rounded surfaces found on ordinary cloths, sweeping underneath the particles and trapping them inside. In addition to the rounded fibers seen on most traditional cloths, which only push the dirt around on the surface, the wedge-shaped micro fibers grab the particles of dirt and pull it into its dense internal structure.

Split microfiber compared to conventional fiber

Illustration by: SUS and edited by Maria Veha, TEC

Microfiber is made from two polymers:

- **Polyester:** Is lipophilic, it means that polyester has an affinity to oil and oil and grease adhere directly to the fibers.

- **Polyamide:** Is hydrophilic, which means that it has an affinity to water. Consequently, dirt is very quick and effective removed using microfiber cloth, leaving the surface sparkling clean and streak-free. Microfiber cloths clean without streaking, smearing, scratching or leaving lint.

A microfiber cloth can absorb 4 to 5 times its weight. This means that a 50 g cloth can absorb 2-2½ dl of water. If an anti-bacterial cloth is required, silver ions are melted into the fibers. This inhibits bacteria growth.

The Ministry of Environment (Miljøministeriet) have studied how silver ions affect health and concluded silver ion cloths are safe to use when the regulars rules of chemicals legislations are followed properly.

However, when ordinary microfiber cloths are washed and dried in a hygienic way (please see section “How to wash microfiber cloths”) they will not smell nor hide any bacteria, and the silver ions are not necessary.

Cloths labelled with the swan sign “Svanemærket” are efficient and clean without wear or abrade the surface. These cloths are durable and can be washed at least 200 times at 60°C. These clothes are manufactured maintaining strict requirements for environmental protection.

Illustration by: SUS

How Microfiber cloths work

Instead of using detergents, we rely on millions of fibres to remove dirt. The fibres are made from plastic (polyamide and polyester) and many of them attach themselves to the dirt with van der Waals forces. Dust is negatively charged and polyamide/polyester is positively charged. Working as a team, the many fibres apply powerful forces to dislodge the dirt (loosened with a small amount of water) thereby removing it and leaving the surface clean.

The dirt remains locked inside the cloth's fibres until it is washed in hot water (minimum 60°C), which enables the fibres to uncurl slightly and release their dirty content:

- Use a dry cloth to remove dust
- Use a damp cloth to remove grease and sticky stains

Can microfibres be used for everything?

Microfibre cloths can be used to clean virtually any hard surface. Use mikrofibers carefully on:

- Soft surfaces, they can by scrathed from the mikrofibers
- Dark and polished furnitures, they may lose their shine
- Wood surfaces treated with oil or soap, microfibers absorb the grease protecting of the surface, thereby leaving it unprotected
- Linoleum floors, the mikrofibers absorbs the protection of the linoleum and a floorcare product is needed

Micro Fibres will also dry out the skin by removing the natural lipids from your hands.
It is therefore important to wear gloves when working with microfiber cloths.

Photo by: Branimir Balogović on Unsplash

Cleaning furniture

How to clean furniture with a damp microfiber cloth:

- Take the cloths direct from the washing machine
- The cloths should be spin dried at 600-1000 rounds depending on how damp you want the cloths to be

Please do not forget that cloths should not be left damp for more than 8 hours. After 8 hours, microorganisms will have multiplied and leave the cloths smelly.

Dry cloths can be moistened in advance. This way wringing the cloths is avoided:

1. Fold a stack of dry cloths
2. Line a bucked with a plastic bag, this helps the cloths to maintain their moisture and thereby remaining damp for a longer period and it is more hygienic
3. Pour clear water or a cleaning solution in the bucket. Dosage: For moist cloths, add 25 ml per cloth. For damp cloths, add 40 ml per cloth (the dosage depends on the size of the cloths and can variate)
4. Place the cloths vertically in the bucket and turn them over
5. After one minute, the cloths are ready for use
6. To remove difficult stains from a surface, pour a solution of water and detergent from the plastic bottle on the spot using a spray bottle, leave it for a minute, then remove it with the cloth
7. Repeat the procedure until the cloth has been used on all sides. Replace with a clean cloth
8. Place the dirty cloth in a laundry net
9. When the work is completed, place all cloths in the net, also the unused ones

Pictures by: Maria Veha, TEC

For best results, work with a folded cloth. In this way the whole cloth reaches the surface.
Do not use a cloth that has been used in the bathroom on any other area. For hygienic reasons, place it in the laundry net immediately after use.

Mirrors and glass doors

Make sure the cloth is not too wet, use a ´ketchup' bottle with clear water. Spread the water on the cloth and wipe the surface.




Photos by: Maria Veha, TEC

Tables

Use a furniture mop.

You can moisten the mop cloth in different ways:

- Moistening the mop cloth in advance. Pour about 2 dl water on 5 mop cloths
- Pour water on the middle of the mop cloth
- Distribute the water from a 'ketchup' bottle

Photo by: Maria Veha, TEC

Remember to adjust the handle of the furniture mop. Remember to work with your arms close to your side, and not above your shoulders. Change the mop cloth when necessary.

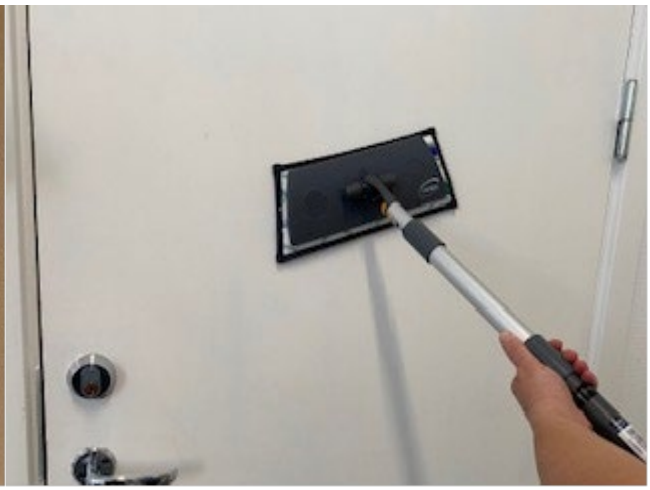
Blackboards/whiteboards

To clean whiteboards, the mop cloth must be damp not wet.
Use a measuring cup to dampen the mop cloth. Do not forget to hold the mop over the bucket.
Turn over the mop cloth and drag it over the edge of the bucket.

Photo by: Maria Veha, TEC

Walls and doors

Use the furniture mop again. (25 cm or 40 cm for doors).
The mop is easier to handle if you lock it. Use up- and downward movements.



Photos by: Maria Veha, TEC

Dust and cobweb on radiators and on top of cupboards/shelves

Use the interior mop. It is usefull for cleaning all difficult accessible areas such as pipes, lights, and other high places. It is flexible and can be attached to a telescopic handle, making usage of a ladder unnecessary.

Photo by: Maria Veha, TEC

Washing floors with microfiber mops

Microfiber floor mops are used for:

- Dry floor mopping (sweeping)
- Damp floor mopping
- Wet washing (needs a wet and a dry mop cloth)

Preparing the floor mops:

1. Place 10 (40 cm) mop cloths in a plastic bag in a cleaning bucket
2. Pour 1,5 L solution of water and detergent over the mop cloths and leave them for two minutes. Turn the mops over and let them soak for another two minutes (the dosage depends on the size of the cloths and can variate).

Others methods:
For example the cup method: Either pour a cup of detergent solution directly on the mop or pour a cup of water on the floor.

Photo by: Maria Veha, TEC

Daily floor cleaning:
Use a dry microfiber mop for removing dust and loose dirt such as hair, sand, paper, etc.

Weekly floor cleaning:
For best results, first use a dry floor mop cloth, then a damp one.

Dirty floors:
Use a dry mop cloth first, then a wet one for thorough wash, and finally, a dry mop to dry up the water.

Linoleum floors need a floor care product:
Microfiber cloths remove the oil nourishment from the surface, which will result in it drying it out. The microfibers will absorb some of the detergent before it reaches the floor, therefore always use the full dosage for floor care.
Microfibers can challenge some floors types, e.g. old damaged linoleum surfaces which result in high friction when cleaning them. Try using other methods, like pushing the mop instead of dragging it. Micro fiber floor mops are available for different types of floor surfaces and different types of floor treatments.

How to wash microfiber cloths

- Microfiber cloths cannot be washed successfully by hand. They must be machine-washed
- Avoid overloading the washing machine. Fill it to maximum 60% of its capacity, or the cloths will not clean properly
- Wash cloths and floor mops separately
- If using a laundry net, do not fill them fully up, avoid overfilling the washing machine, because this will result in a poor washing result
- Do not wash cloths with floor mops, sand may conceal itself in the cloth cavities and cause scratches on the surfaces they are used for
- Do not wash microfiber cloths with cotton materials, because the cotton fibers will adhere to the microfibers cloths and they will lint
- You should vacuum clean the dry floor mops to remove the loose dirt before washing them
- Microfiber cloths and floor mops should be washed at minimum 60°C. Cloths used in hospital and other Institutions, which require a higher hygiene standard, should be washed at 80-95°C
- Use the lowest dosage of washing powder
- Do not use optical brighteners or other bleach. If you use chlorine or bleach, the fibers will be destroyed
- Do not use fabric softener, it destroys the absorbency of the cloths
- The dryer should be maximum 55°C

Photo by: Jeremy Sallee on Unsplash