



Microfiber 101:

The Importance of Microfiber
in Sustainable Cleaning



White Paper: All About Microfiber

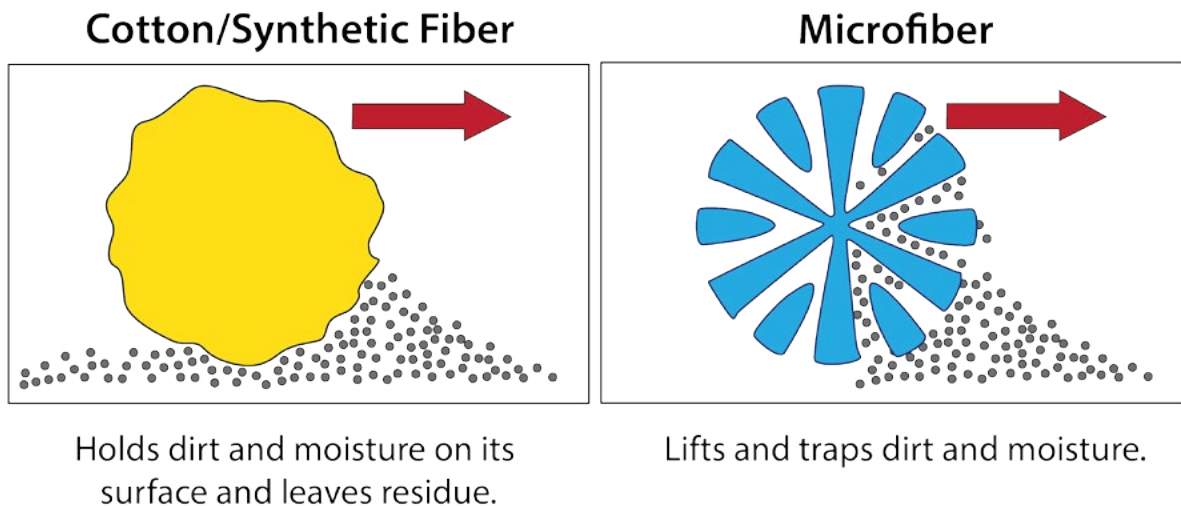
For hundreds of years, humans cleaned in the same way—using a cotton mop and a bucket of water. The last few decades, however, brought about a cleaning revolution. Microfiber forever changed how janitors do their job. This high-tech product makes cleaning faster, easier, and greener. Learn the ins and outs of this game-changing material.

Microfiber 101

Microfiber is made from two synthetic polymers (polyester and polyamides/nylon) that are mechanically extruded and then processed into incredibly thin filaments. The resulting thread, which is up to 100 times thinner than a human hair, is knitted or woven into cleaning cloths and mops.

Microfiber vs. Cotton or Synthetic Fiber

Microfiber has a greater ability to lift and hold dirt and moisture than any other cleaning fabric.



For cleaning, the most effective microfiber uses split fibers. If you could look at a cross-section of a single split microfiber under heavy magnification, it would look like an asterisk (instead of a circle as with regular microfiber).

The microscopic crevices in the asterisk expand the surface area, giving the microfiber cloth greater contact with the surface it's cleaning. The shape also creates millions of tiny pockets to grab and hang onto particles to trap and remove the from the

surface. The ultra-small filaments are also able to trap and hold microscopic particles like bacteria, not just dirt.

Microfiber also has a special kind of magic, known as van der Waals forces. This intramolecular attraction between the chemicals in the fibers and particles in the environment effectively creates static electricity that “pulls” dirt out of crevices and into the cloth.

Cotton, on the other hand, has large, round fibers that sweep over tiny particles, leaving many behind on the surface.

History Lesson

Microfiber may be the most significant advance in cleaning technology since disinfectants, but it took time before it was properly appreciated.

When manufacturers created microfiber cleaning products in the 1970s, many janitors viewed them with suspicion. Accustomed to basic, inexpensive cotton mops and rags, some users were turned off by synthetic microfiber with its bright colors and steep price tag. The products became incredibly popular in Europe, but remained a specialty item in the US.

That all changed, however, once the healthcare sector realized the power of microfiber for reducing cross-contamination. About a decade ago, studies found microfiber can reduce the levels of bacteria on surfaces by as much as 99 percent (compared to 30 percent with traditional cotton). Results like that were impossible to ignore, and the popularity of microfiber grew.

Today, the push towards environmentally friendly cleaning has further increased the appeal of microfiber. Facilities seeking LEED certifications, or BSCs charged with cleaning those buildings, rely on microfiber to help them meet strict green guidelines.

Put it to Use

Generally, microfiber can be used anywhere you’d normally use a cloth or mop. Microfiber products come in a wide range of shapes, sizes, weaves, and textures, each suited to a particular cleaning context.

Mopping: A flat microfiber dust mop removes dust, mold spores, and other allergens from floors when dry. A looped or cut microfiber mop head that mimics the traditional design of a cotton mop, or a flat mop used damp, can tackle wet mopping tasks.

Dusting: Microfiber dusting cloths make quick work of windowsills, desks, and other dust-prone areas. Long-handled, telescopic dusters can be shaped to dust ceiling fans, blinds, and other out-of-the-way spaces. A dusting mitt is perfect for gently cleaning an office plant without damaging the leaves.

Surface cleaning: Many of the same microfiber tools that work well as dusters when dry can be used slightly damp to wipe down work surfaces, tables, and desks.

Window cleaning: Lint-free, absorbent microfiber squeegees and cloths can get windows crystal clear and streak-free with only water.

Scrubbers: Microfiber is typically very soft, but there are mops, pads, and even automatic high-speed scrubbing systems with textures to scrub away tough dirt from smooth or rough surfaces.

Buying Tips

Microfiber is no longer a newcomer on the market, and there's a dizzying array of products available today. Selecting the best tools depends largely on the needs of your cleaning crew or facility, but here are a few important points to keep in mind.

Not all microfiber is made equal: Microfiber is measured in deniers, a system for classifying the thinness of fibers. The thinner the fiber, the more effective it will be. Microfiber must be less than 1.0 denier, but most high-quality cleaning products have counts of .5 or less. The very best microfiber measures just .13 denier. In addition to looking for a small denier number, choose products with split fibers. Unsplit monofilament fibers are ineffective in trapping and carrying away soil and germs.

Disposable vs reusable: Reusable microfiber must be laundered after every use and can last as long as 1,000 washings. They are often preferred by facilities with in-house laundry services that hope to maximize their budget. Disposable items come pre-saturated with cleaning solution and are designed to be thrown away after one use. They are often preferred by BSCs who want to reduce training issues and by facilities concerned about improper laundering (which can lead to damaged cloths and cross-contamination issues).

Color-Coded: By designating microfiber cloths and mops of specific colors to specific areas and tasks, you can reduce the risk of cross-contamination and infection, identify tools between tasks and department, streamline your training process, and overcome language barriers when communicating which items are to be used for which jobs. There's no universal standard in the US, but a common designation includes:

- Red for high-risk surfaces, such as restroom floors and toilets.
- Yellow for lower-risk areas of a restroom, such as sinks or mirrors.
- Green for food-prep areas.
- Blue for common areas and low-risk surfaces, such as windows.

Dollars and Sense

The fact is, switching to microfiber tools often represents a sizable upfront investment. Convincing decision makers they should switch from affordable cotton can be a hard sell. The good news is microfiber mops are proven to save a substantial amount of money over time.

A report by the Environmental Protection Agency, which looked at the use of microfiber mops in a healthcare facility, includes an impressive breakdown of these cost savings.

Longer lifespan: While a microfiber mop may cost three times more than its cotton equivalent, it will typically last much more than three times as long. The average cotton mop will survive 50 to 70 detergent laundering cycles, while a microfiber mop will often withstand 500. The EPA said this translated into a 65 percent lifetime cost savings with microfiber mops.

Improved efficiency: Lightweight microfiber makes cleaning faster and easier, allowing for more tasks in less time. Pre-charged microfiber mop heads do not need to be wrung at all, reducing strain, and there's no need to haul heavy buckets of water around the facility. The EPA report showed a 20 percent savings in labor costs per day with microfiber. The tools may also reduce worker's compensation claims for even more financial gain.

Reduced water/chemical use: In the EPA's case study, the facility saw a 95 percent reduction in chemical and water costs with the use of microfiber mops.

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