



## FREQUENTLY ASKED QUESTIONS:

### What is microfiber?

A: Microfiber is defined as a manmade synthetic fiber measuring less than 1 denier but larger than 0.3 denier. The micro denier fibers used in all PerfectCLEAN products are actually much smaller than a “microfiber.” These small fibers result from the splitting of a conjugated synthetic filament, typically made of polyester and polyamide (generic name for Nylon), into many very small “microfibers” (0.2 denier = 4-5 microns).

### Q: How is the PerfectClean microfiber made?

A: Polyester and polyamide are extruded simultaneously (conjugated) to form a bicomponent filament. The polyamide forms a central “hub & spoke” shaped core and the polyester fills in the spaces resulting in eight triangular shapes surrounding the core. Many of these filaments are spun together to form a yarn, approximately 130+ denier in size, that is knitted or woven into material. The more filaments spun together the heavier the cloth (Flat Mop versus Wiper). The finished material then goes through a ‘splitting process’ that involves increasing the pH and temperature. As the melting point of the polyamide core is approached, (polyamide has a lower melting point than polyester) it shrinks, or pulls away, releasing the eight polyester triangular shaped micro-denier fibers.

### Q: What determines performance?

A: The key to performance is the size, shape and how much “microfiber” is actually in the product– the quantity of microfiber varies greatly from one product to another (link to Quality pic). The smaller the fiber, the better the performance, also, a triangular shaped microfiber will out perform a larger round or ribbon/rectangular shaped microfiber. Also, the percentage of microfiber actually used in the material and the percentage that is actually ‘split’ is critical to maximizing performance and total “surface area” of the product. Many manufacturers continue to copy each others marketing materials perpetuating their ignorance and lack of understanding of how “microfiber” actually works. One company promotes their “microfiber” as [having HOOKS](#) on every fiber when in fact there are no hooks and it is not even possible to make microfiber with hooks on the ends. Many companies promote images of “microfiber” rotating like a Ferris wheel sucking up dirt particles – technically, these diagrams are NOT microfibers at all but large sized filaments capable of being “microfibers” (must split all 9 components - 1 hub & spokes + 8 triangles - completely away from each other).

**Perspective:** Assume that this line is a human hair (----- ). The actual size of the “microfiber” filament before splitting is a fraction of the size of the “hair” above. It is important to note that the filament MUST be completely split apart otherwise there are NO microfibers. So, apply some common sense to the question and ask yourself: How can this filament rotate and suck up dirt particles if it is so small? Answer: It can’t – it doesn’t – and coincidentally, many so called “microfiber” products contain no split microfiber at all. The fact is: once the filament is split the resulting “microfibers” are too small to see by the human eye (the human eye can only see to 5 microns). Maintaining a consistently high percentage of split fiber (>90%) is a key component of the Quality Assurance process maintained for all PerfectClean products.

### Q: Is all microfiber the same?

A: No, microfiber can be compared to electrical wire. There are different sizes and shapes. Quality varies dramatically. In fact, there are 100’s of variables involved including which manufacturer made the plastic pellets: GE (USA) or Sinopec (China) and “were the pellets dried properly” before they were used to make fiber? These examples, and dozens more, result in multiple grades of fiber, many of which are of very poor



quality. UMF Corporation is the only company which designs and manufacturers the micro-denier fiber used exclusively in all PerfectClean products.

**Q: What is the fiber content (% of microfiber) in PerfectClean?**

A. PerfectClean flat mops contain the highest percent of ‘split microfiber’ exceeding 74% (wipers are >90%) achieving 250 thousand plus micro denier loops per square inch. PerfectClean products are shrink resistant (less than 3%) and manufactured to ensure the highest durability. All PerfectClean materials have been tested (in comparison to leading competitive products) and determined to have the highest absorption rating tested. PerfectClean wipers absorption rates are 8+ times and flat mops are 6.8 times. Furthermore, a critical component of the quality assurance process, which is tied directly to product performance, is ensuring that the “fiber split rate” is as high as possible. All PerfectClean textiles exceed 90%.

**Q: What determines quality?**

A: The key to quality is the type of fiber and machine used and the actual time required to knit a meter of material. Two simple tests: 1. does the material stretch in one or both directions. 2. Can the pile be pulled out easily, if at all? If the answer is yes to one or both of these questions then the material you have is of a lower quality. Independent laboratory studies confirm that PerfectClean products have the most durable edges, the highest absorption rate, the lowest snag rate, and the lowest particulate release of any product on the market.

**Q: Why does PerfectClean clean so well?**

A: PerfectClean products have the highest percentage of micro-denier fiber available in each and every product. These microscopic sized triangular fibers get down into the invisible crevices in a surface to “trap & remove” particles, bacteria and contaminants that other fibers simply can’t reach.

**Q: How long will PerfectClean last?**

A: PerfectClean is very durable. The number of uses is dependant upon how the product is used. Lighter duty uses such as walls, sinks, bathtubs, etc., you can expect anywhere from six to twelve months of use. Heavy duty applications such as industrial machinery and food service equipment will reduce the expected life of the product.

**Q: Can I use cleaners and sanitizers with PerfectClean?**

A: Absolutely. PerfectClean was designed to work hand-in-hand with any cleaning solution. In fact, PerfectClean significantly enhances the performance of any cleaner, ensures that no residue is left behind and reduces the concentration and the amount of cleaner required. Keep in mind that the numerous independent laboratory tests conducted used the “universal solvent” as the control - water.

**Q: Are PerfectClean products ISO rated?**

A: Yes. Most of the microfiber textile components are manufactured to ISO 9002 standards.

**Q: What is the best way to care for PerfectClean?**

A: The best way is to wash PerfectClean products separately in hot water (up to 95 C or 200F) with a neutral detergent and then tumble-dry with heat until dry.



**Q: Can I use bleach in the wash when cleaning PerfectClean?**

A: Yes, all textile components used in the PerfectClean were developed to meet the Center for Disease Control (CDC) recommendation for Blood Borne Pathogens and to withstand commercial laundry processes. Bleach can be used in reasonable amounts – follow the manufacturers instructions on the bleach product. PerfectCLEAN products use: 1. chlorine stable solution dyed thread; 2. chlorine stable absorptive middle layer (no foam is used as it breaks down rapidly when exposed to chlorine and other chemicals) 3. Chlorine stable dyes used in all materials; 4. the backing material (PermaLOOP) of the hook & loop attachment system is chlorine stable, made of monofilament loops and is also lint free, withstands normal (processes) washing and drying temperatures (competitive products break down quickly and will then not attach to the frame-many have restrictive washing instructions) in the commercial laundry and does not break down over time (withstands 1,000 pulls off the frame without any damage to the loops). However, excessive concentrations of bleach will breakdown any material with frequent use.

**Q: Can PerfectClean be used in Clean Room applications?**

A: Yes, a number of PerfectClean products have been tested and processed using ASTM test criteria and qualify for Clean Room certification. Contact UMF or your representative for additional information.

**Q: What is the difference between cleaning and disinfecting?**

A. Cleaning and disinfecting is not the same thing. In most cases, cleaning with soap and water is adequate. It removes dirt and most of the germs. However, in other situations disinfecting provides an extra margin of safety.

You should disinfect areas where there are both high concentrations of dangerous germs and a possibility that they will be spread to others. That is because disinfectants, including solutions of household bleach, have ingredients that destroy bacteria and other germs. While surfaces may look clean, many infectious germs may be lurking around. Given the right conditions many germs can live on surfaces for hours and even for days and weeks.

**Q: Are products guaranteed for a number of washings?**

A. All PerfectCLEAN hardware is guaranteed, that is “you break it - we replace it” (hardware has been designed to be repairable. spare parts are supplied or units replaced at UMF’s discretion). Flat mops and wipers come with a 90 day warranty against workmanship and manufacturing defect. Due to the nature of the product and how it is used we do not guarantee the product for any number of washes. However, the durability is such that the user can expect to use and launder the product for up to 6 months to 12 months (approximately 10 – 12 times the life of traditional mops, wipers and sponges).