

Introduction

This paper describes the manufacturing process used in the production of the Ultimate Cloth®. At the core of this process is the patented technology called MiraFiber®. After outlining this technology, it is then compared and contrasted to the prevalent technology in use today, that of microfiber.

About MiraFiber®

The MiraFiber® patented technology cannot be reproduced! Not only has it won international acclaim for its 'extreme' green cleaning abilities; but, it has also won international awards for its patented eco-friendly manufacturing process. The Ultimate Cloth®; made with the revolutionary MiraFiber®, is the advanced, high-end cleaning technology for the 21st century. It offers the following.

Extreme Green Cleaning

- No chemicals are in the cloth. No chemicals are used from the manufacturing of the fabric through to the finished product
- The SAME cloth is appropriate for all surfaces
- Eliminates chemical use in homes & businesses - Only WATER is used in cleaning – no chemicals or soaps are needed to cut dirt, grease & grime
- Eliminates 90% of paper towel usage - One step cleaning process of wiping the surface and walking away – NO paper towels needed
- High absorption capacity
- Will not scratch, mar or blur delicate surfaces in homes, businesses or on vehicles
- Cuts cleaning time in half due to its unique attributes of efficiently grabbing dirt & grime from surfaces and trapping them in the cloth
- Does not lose it's strength or shape after 100's of washings
- Long Lasting / Not disposable
- Guaranteed safe for a baby's skin
- Can be recycled
- Will not release emissions or halogeneous substances when incinerated or placed in landfills

Eco-Friendly Manufacturing

- ISO 14001 certified
- No solvents or binders used during manufacturing
- PVC Free
- Granted the Oeko-Tex 100 class 1 certificate, which guarantees there are no harmful substances for the contact with baby skin
- Dramatically minimizes the use of raw materials
- Being a continuous process, (from the raw material to the fabric) the technology achieves in several minutes what the traditional textile industry takes several weeks to do. This reduces valuable manufacturing resources.
- The water used to split and entangle the filaments is recycled internally. It is re-used in a closed loop producing huge water savings.
- The fabric produced is durable and can be washed and re-washed. This reduces the impact of waste products on the environment.
- * The cloths in the Ultimate Cloth® product line have no chemical solvents, binders or additives from the original manufacturing process.

Time Frame of Technological Advancements

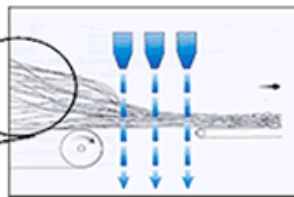
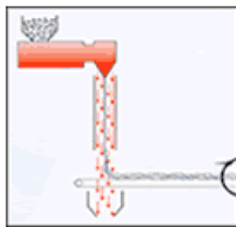
The time frames and the advances in technology for audio players run parallel to the progression of the Microfiber and MiraFiber® technologies. In the 80's, vinyl records were still being used, but cassette tapes were considered advanced, high-end technology. Today, current, high-end technology would be CD's and MP3 players. Could we still listen to our records and tapes today? Sure, but why would we when the new technology is more convenient, more economical, has better sound quality and is more durable.

Microfiber has been around since the early 80's and was considered a high-end technological advancement regarding the unique attributes that it offered to the cleaning industry at that time. Today, the advanced, patented MiraFiber® technology not only improves on these attributes, but also adds benefits not previously found in the old microfibers.

Can you still use old microfiber technologies to clean with? Sure, but why would you when the technology has significantly advanced through a unique, worldwide, patented process to produce a cleaning cloth that is more simple, effective and durable than it's predecessors? MiraFiber's exclusive, patented manufacturing process produces the most effective eco-friendly cleaning product available on the market today making microfiber products obsolete in most cleaning applications.

The MiraFiber® Manufacturing Process

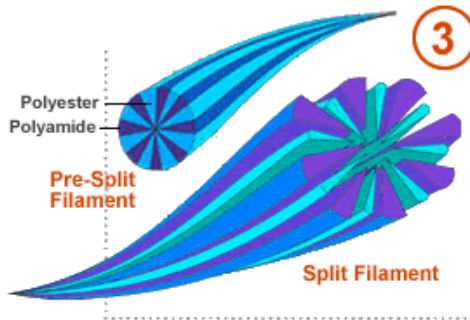
1 Polyester and Polyamide chips are spun together into endless filaments - then uniformly laid on a belt



2

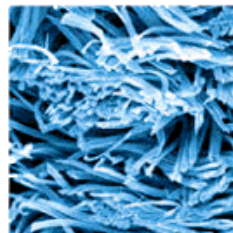
Here, through high pressured water jets and an exclusive patented process, these filaments are:

Split to a diameter of .15 denier - less than 1/200th the diameter of a human hair, AND



3

Are entangled and consolidated to produce the most effective cleaning cloth on the market today!



4

MiraFiber® Technology has open spaces between fibers that act as millions of tiny 'scoops' that pull dust, dirt, oil & other contaminants into the cloth and hold them until washed away with mild soap or detergent.

Water simply acts as a 'lubricant' which helps emulsify dirt & oil making it easier for the MiraFiber® technology to pick the dirt, grease & grime from your surfaces. Results are spotless, streak free surfaces.

The spaces also allow large amounts of moisture to be collected into the cloths making them very absorbent and able to quickly pick up spills. It also allows for quicker drying time eliminating much of the bacterial growth found in slow drying cloths.

The Competition

They would fall into three categories:

- **Those who sell 'seconds'** of the technology and don't tell you they're selling seconds. You will never know if the cloths you receive from these sellers will be thick, thin, or fragile in the long run. These sellers also cannot say their product is patented.
- **'Look-a-likes'** These come mainly from China and can look very similar. When you use them you'll know they are not the same technology.
- **Microfiber products** Absolutely no competition. There is some confusion among consumers thinking that MiraFiber® is the same as the microfibers on the market today. Because of this, we feel it's important to address this issue in some detail below.

How is MiraFiber® different from Microfiber cleaning products?

The term 'microfiber' is a broad, loose term; it simply implies that it is a thin fiber, which is anything under 1 denier in thickness. In essence, MiraFiber® is not a microfiber. The only attribute these two technologies have in common is that the fibers or filaments that comprise their individual composition are split thinner than any other man-made or natural fiber. Even with this similarity, MiraFiber's filaments are split 5 - 10 times thinner than the fibers in a microfiber product or technology.

COMPARISON CHART OF TECHNOLOGICAL DIFFERENCES - MIRAFIBER® VS MICROFIBER

	MiraFiber®	Microfiber
Type of Fibers	Endless Filaments	Staple (short) Fibers
Fiber Length	ENDLESS	38 - 90 mm (1.5" - 3.55")
Bonding	Hydro-entanglement (Water Jets) NO CHEMICALS	CHEMICAL bonding
Fineness of Fibers	0.10 - 0.15 dtex (8 - 10 x finer!)	0.80 - 1 dtex

The continuous filaments used in the MiraFiber® technology do NOT have to be cut. Through the patented manufacturing process, MiraFiber® technology is produced by 'hydro-entangling' these virtually endless filaments through high pressured water jets.

The long continuous filaments used to make microfibers could not be adequately or uniformly blended as they were too long and difficult to handle and could not produce a consistent fabric. Therefore, they had to be cut into short fibers approximately 1.5" – 3.5" in length and CHEMICALLY bonded to form what is called staple fibers.

Other variables in the manufacture of microfiber include:

- What synthetic fibers make up a particular fabric? - i.e. are they polyester, rayon, nylon, etc.?

- What percentage of specific fibers make up the fabric? - i.e. are they 10% polyester/90% polyamide; or 30% polyester / 70% polyamide; and then, again, maybe 10% nylon/90% polyester? AND...
- How are they put together? Sewn, woven, spun, etc.
- What are they treated or 'finished' with to create everything from greater absorption to actual water resistance?

These variables also produce an abundance of product types. Different microfibers are sold to consumers depending on the surface they are cleaning: one for delicate surfaces; a different type for stainless steel; and then another for your mirrors, windows, and windshields, etc. Many are sold to work with an additional chemical cleaner. The consumer is left with making multiple choices and decisions. There are differences in quality, consistency, longevity and effectiveness of each microfiber. It's hard for the average consumer to differentiate between a 'good microfiber' and a 'poor grade' one.

In contrast, the Ultimate Cloth® with MiraFiber® technology is always made from the same fibers, in the same percentages, in the same process to provide the same consistent exceptional results. As you can see, comparing the two technologies is like comparing the technology we had available to listen to music in the early 80's to the technology we have available today.

COMPARISON CHART OF PRODUCT CHARACTERISTICS - MIRAFIBER® VS MICROFIBER

	MiraFiber®	Microfiber
Versatility	The same cloth safe & effective on all surfaces	Various microfiber products needed for different surfaces
Strength	High tear resistance	Low tear resistance
Linting	None	Low linting
Drying Time	Fast	Slow
Drying Method	Air or machine dry	Air dry only!
Absorbency	Up to 4x its weight	Up to 2x its weight
Durability / Longevity	Extreme Guaranteed up to 5 years	Low
Grit / Scratch Factor	Clean cloth guaranteed SAFE for delicate surfaces - non fraying edges require NO stitching!	Varies by microfiber & stitching content
Disinfection of Cloth	Bleachable - with no harm to cloth	Not bleachable

What the MiraFiber® Technology Means for the User

At first glance, the differences may not seem like much, but the reality is that the MiraFiber® technology produces a more effective cleaning product than any microfiber on the market.

- It is the longest wearing cleaning cloth on the market
- With water only – Ultimate Cloth® cloths easily and efficiently lift and entrap dust, dirt, grease, grime, liquids and other contaminants - no chemicals needed

- The minimal amount of moisture left behind evaporates immediately creating a ONE STEP cleaning process. You never have to go back in a second step to dry or re-wipe the surface as with microfibers. Surfaces are left immaculate; streak free, spot free, dust free.
- Non-linting. Will not leave lint or fiber particles behind.
- The same cloth safely cleans delicate surfaces such as flat panel computer monitors, eyeglasses & plasma TV screens but is also effective on the toughest jobs such as removing tar and break dust on vehicles.
- No stitching or harsh fibers to scratch!
- No chemicals in the cloth to mar or blur the surface.
- Strong and light-weight.
- The extremely fine filaments, once entangled, create millions of little 'scoops' which provides for greater absorption and wickability of surfaces.
- The cloth can be bleached to disinfect it from time to time without damaging the cloth or decreasing its longevity.
- Independent lab tests have proven that when the Ultimate Cloth® is used properly, it can pull up to up to 96% of bacteria off surfaces.

Ultimate Cloths® have outstanding performance records in household cleaning and demanding industrial environments. They are safe and effective on any surface in homes, businesses, vehicles, motorcycles, boats, & RVs... including, but not limited to glass, mirrors, windshields, countertops, appliances, floors, electronics, stainless steel, ceramic floors, black and glass top appliances, Corian, marble, granite, all hardwoods, laminates, ceramic tile floors, leather, any painted surface, chrome, Lexan, Eisenglass, eyeglasses, plasma TV screens, computer monitors, camera lenses, I Pods... and more.

Care of Your Ultimate Cloth®

- Machine wash with laundry detergent or hand wash with dish soap in warm water. Rinse thoroughly.
- Can use bleach!
- Do not use fabric softener as it will leave a film on the cloth.
- When machine washing - wash with other non-linting fabrics. If washed with items such as towels the cloths will pick up lint and transfer back to your surfaces.
- Unlike microfibers, this cloth can be dried in a dryer; however, due to possible lint that may be left behind from previous loads, air drying is best when possible.