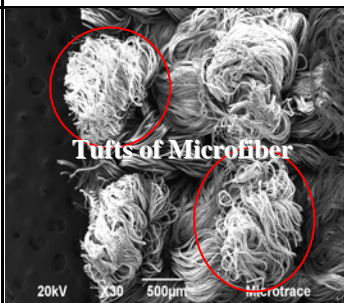
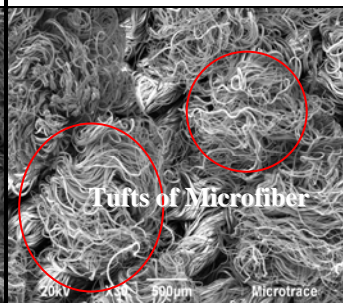
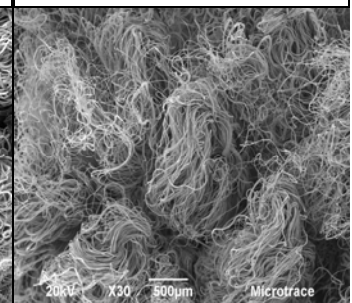


ALL “Microfiber” products are **NOT** Created Equal

According to studies published in the Journal of Hospital Infection, G. Moore and C. Griffith<sup>1</sup> (conducted at the School of Applied Sciences, University of Wales Institute) concluded that: “When used wet on a dry surface, the cleaning ability of six different microfibre cloths was variable, and in most cases, not significantly better than paper towel or conventional cloth. One type of microfiber cloth did perform significantly better than others. **CONCLUSION:** *Different makes of microfiber cloths have different characteristics, and the name “microfiber” should NOT imply superior cleaning efficacy.*

	3M	RUBBERMAID	PERFECTCLEAN
Knitting Type ( <i>wiper</i> )	High Speed Circular	High Speed Circular	Proprietary Warp
Fiber Size ( <i>MICRONS = Δ-fiber</i> ) <sup>2</sup>	7.5 μ	6.86 μ	6.32 μ
High Density Double Sewn & Taped Edges for Durability ( <i>wiper</i> )	NO	NO	YES
Develops & Manufacturers Micro-denier fibers	NO	NO	YES
WASH & DRY HOT	NO	NO	YES
CHLORINE BLEACH <sup>8</sup> ( <i>AS RECOMMENDED BY CDC</i> )	YES	NO	YES
Antimicrobial <sup>4</sup> ( <i>built-in patented protection</i> )	NO	NO	YES
Bicomponent Fiber (mop) <sup>2</sup>	0%	48% - 50%	78%
Bicomponent Fiber ( <i>wiper</i> ) <sup>2</sup>	LOW	MODERATE	HIGH
Bicomponent Fiber - % Fiber Split <sup>3</sup> ( <i>wiper</i> )	61%	79%	85%
Absorption Capacity ( <i>wiper</i> ) <sup>3</sup> ( <i>Ability to Trap &amp; Remove Germs</i> ) <sup>4</sup>	69.0%	74.5%	97.9%

<p><b>SEM Wiper Analysis</b></p> <ul style="list-style-type: none"> <li>• PerfectClean has 2-3X's more micro-denier fiber than Rubbermaid</li> <li>• PerfectClean has 4-5 X's more micro-denier fiber than 3M</li> <li>• Rubbermaid &amp; 3M buy products from 3<sup>rd</sup> Party OEM suppliers (Woong Gin &amp; Silver Star).</li> <li>• PC's “base fiber” is heavier weight and more durable than RM and 3M</li> </ul>	 <p>Tufts of Microfiber</p>	 <p>Tufts of Microfiber</p>	
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The second study by M.W. Wren, M.S. Rollins, et al.<sup>5</sup> at the Department of Microbiology, University College Hospitals NHS Foundation Trust, in London showed “that ultra-microfiber cloths consistently outperformed conventional cloths in their decontamination ability, across all surfaces...” Rutala found that “microfiber” flat mops outperformed string mops and disinfectant.<sup>6</sup>

And lastly, a study conducted by B. Eckstein, D. Adams, et al.<sup>7</sup>, at the Louis Stokes Cleveland Veterans Affairs Medical Center, Cleveland, OH, determined that – “...simple educational interventions directed at housekeeping staff can result in improved decontamination of environmental surfaces.” **CONCLUSION:** The right level of education (training) and using the right product will *significantly enhance any infection prevention program and mitigate the risk and costs associated with Hospital Acquired Infections.*



ALL “Microfiber” products are **NOT** Created Equal

## The New Reality

Annual cost of hospital-acquired infections ranges from \$35.7 - \$45B (in 2007)

*The Institute of Medicine*

65% of Infection Prevention staffs in US hospitals consist of 1 or fewer FTEs. Half [of these hospitals] saw reductions in overall budgets for infection prevention ... nearly 40 % had layoffs or reduced hours, and 33% experienced hiring freezes.

*APIC 2009 Survey*

Pathogens such as C. diff, VRE, MRSA, norovirus, influenza ... can survive in the healthcare environment for extended periods," the report says. "Infections are well adapted to survive in dust and on floors, bedrails, phones, call buttons, curtains and other surfaces. We can demand and audit hand-washing all we want, but without a clean environment, hands will quickly become re-contaminated.

*Better cleaning key to infection control: union study  
The Hamilton Spectator, March 2009*

1. A laboratory evaluation of the decontamination properties of microfibre cloths; [G Moore, C Griffith](#) The Journal of hospital infection. 01/01/2007; 64(4):379-85.
2. Microtrace Forensic Laboratory, Elgin, IL. Studies available under NDA
3. FITI Textile Testing & Research Institute: Test Report – 01-30-2009.
4. ATS Laboratories; Numerous Studies on Removal of Vegetative Bacteria & Spores; Available upon Request
5. Comparative Study of Microfiber Wipers vs Cotton; M.W. Wren, M.S. Rollins, et al.; Department of Microbiology, University College Hospitals NHS Foundation Trust
6. Microbiologic evaluation of microfiber mops for surface disinfection; William A. Rutala PhD, MPH Maria F. Gergen MT and David J. Weber MD, MPH; Department of Hospital Epidemiology, University of North Carolina Health Care System, Chapel Hill, NC.
7. Training Benefits to reduced HAI; B. Eckstein, D. Adams, et al., Louis Stokes Cleveland Veterans Affairs Medical Center, Cleveland, OH,
8. CDC Recommendations: Laundry Operations-If using hot water washing, water temperature  $\geq 71^{\circ}\text{C}$  ( $\geq 160^{\circ}\text{F}$ ) is needed Chlorine bleach (50 – 150 ppm) is effective



Cleaning up the Environment One Room at a Time