Efficiency Leads to Improved Staffing

Worker overtime – typically as much as 80 hours a week – was eliminated after the product switch. Some staff even finished before their scheduled hours, which allowed them to devote more time to detail cleaning and project work.

"They'd come to me after only four hours and say they were done, and when you went to check their work everything looked great. So they went home early, saving me labor costs," said Sherman.

The accumulation of those savings allowed Matrix to hire another employee for this facility after just six months. Matrix then could deliver more specialty work and maintained full coverage during sick leave or vacations. He also attributed the new flexibility in hours with helping reduce typical employee turnover during the summer months.

"When someone can leave a little earlier to start their weekend, or can save two hours of childcare costs by leaving sooner, they are more satisfied and less likely to shop for a new job," said Sherman.

Employee moral also improved as the equipment made tasks easier to complete. Joslyn reported that workers were less fatigued due to using a lighter mop and more ergonomic bucket.

"We had two workers who had medical conditions that would have restricted them from mopping – one who had a hernia – and both were able to continue their full mopping tasks during 'light duty' because the new equipment required less strain," said Joslyn.

A comparative analysis: The Unger difference

Mop-head consumption dropped from 12 per week to an average replacement ratio of one every seven weeks. Estimated three-year savings is more than $5,600, despite new cost of laundering mop heads on a regular basis.

	Conventional method	Unger method
Purchasing cost per week	$38.40	$3.45
Laundering cost per week	N/A	$0.70
Total mop cost per week *Initial investment, plus average cost of replacements over course of one year, broken into weekly cost	$38.40	$4.15

Chemical usage was cut in half for a savings of more than $1,600.

	Conventional method	Unger method
Buckets used per day	28	14
Gallons of solution used per day	112	56

Productivity increased by 18 percent.

	Conventional method	Unger method
Square feet per hour	1,800	2,200
Total hours to clean area	13.89	11.36

Overall savings (based on 7 systems):

Total savings (annual)	$19,022 **
Equipment lifespan	3 years
Total savings during lifespan	$57,067
Initial investment and replacements over lifespan	$1,463
Three-year return on investment	$55,604

Financial Benefits

Matrix efficiencies increased to a point where Peduto calculated that he could save $15,500 in the first year. His estimated three-year return on investment with the new equipment in this labor-intensive, three-shift account was $55,604. In fact, his calculations revealed that the new efficiencies took only three weeks to recover the cost of seven mopping systems.

"This is the perfect example of the difference between price and cost," said Peduto. "Initially, the price seems high. However, the system's use cost is very low. So you quickly recover the cost of each system, plus subsequent savings are dramatic, making this a worthy investment."

Other benefits of the Unger mopping system included an increased lifespan of the mop heads and decreased use of chemicals. The durability of the microfiber allowed Matrix to reuse mop heads that otherwise would have been thrown away after heavy soiling. Chemical use also was cut by 50 percent due to less solution in the smaller clean-water sides of the buckets and reduced bucket changes. The resulting 24-percent supply reduction not only saved Matrix almost $3,500 annually, but also left more space in supply closets. The shape and size of the new buckets also fit better into custodial closets, adding to the space availability, said Sherman.

Another benefit specific to the Unger system was the color coding it involved. Sherman's staff was able to restrict equipment to various parts of the facility to reduce cross contamination. Red mops and buckets were reserved for medical areas and restrooms, while green equipment was used in offices and plant areas.

"We were happy with the color coding because it fit right in with the color coding of the chemicals we already were using, so the employees understood right away," Sherman said. ■

*for a copy of the EPA study, contact unger@ungerglobal.com

**for more detailed savings information, contact Matrix at jim.peduto@cleanforhealth.com

All reported testing was done independently by Matrix Integrated Facility Management, Johnson City, NY, during the course of routine product testing and prior to commission of the case summary by Unger Enterprises Inc., Bridgeport, Conn. Case summary compiled by ClarityPoint LLC, Milwaukee, Wis.

UNGER
Quality Tools for Smart Cleaning

Clean-cut Difference

Companies reap dramatic rewards with mopping system

The loop or cut-end cotton mop head, (often called the Kentucky mop) combined with a single-compartment solution bucket has been the standard equipment for mopping procedures in the U.S. for more than six decades. During this time, attempts to increase this task's efficiency mainly involved procedural changes which rapidly reached a point of diminishing returns. Without updates in the actual mop or bucket, a level of inefficiency consistently remained. However, the recently introduced dual-compartment bucket and microfiber flat mop have produced improvements that have long eluded U.S. cleaning operations. Case study participants have reported benefits in: worker ergonomics, task efficiency, cost reduction, and improved sanitation.

Mop & Bucket Revolution

The availability of a dual-compartment bucket now allows workers to separate clean solution from rinse water, reducing mop head re-soiling. The result of maintaining cleaner solution is a longer usage time between bucket changes and cleaner surfaces when finished.

Combining the dual bucket with a microfiber flat mop not only provides less re-soiling but also removes more original soil from the surface. This is due to the special fibers in the mop head which are densely constructed polyester and polyamide (nylon) strands, less than $^{1}/_{100th}$ the width of traditional cloth fibers.

Their small size allows these fibers to further penetrate porous surfaces where conventional fibers cannot reach. The typical square size of the mop head also reaches corners and other areas where a conventional mop head typically cannot fit.

Microfibers also are positively charged to attract dust (which has a negative charge), in effect, pulling soil to them. Further, the density of the material enables it to hold six times its weight in water, making it more absorbent than a conventional cotton fiber, according to reports by the U.S. Environmental Protection Agency.*

Case study participants also have reported:

- Product savings due to longer lifespan of microfiber mops
- Product savings due to less solution changes
- Increased ergonomic affect on workers due to the lighter mop head weight (wet and dry)
- Less worker fatigue as less pressure is needed to remove soil
- Reduction in labor costs due to more mopping in less time

In addition, a recent report from Brigham Young University's facility management department says that three cleaning operations studied experienced a dramatic drop in workplace incidents and

Combining the dual bucket with a microfiber flat mop not only provides less re-soiling but also removes more original soil from the surface.

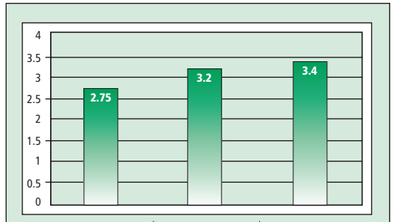
injuries after switching from conventional mopping equipment to lighter, ergonomically designed microfiber flat mops with telescoping handles and dual-compartment buckets. The result has been lower worker's compensation costs and more consistent productivity.

Case Study: Quantifying Clean

Despite the reported benefits of dual bucket and microfiber mop head use, the lack of a measuring system still left many people hard-pressed to quantify the new level of cleanliness they achieved. One U.S. building service contractor used a measurement common within in the food service industry.

Specifically, Jim Peduto, CBSE, owner of Matrix Integrated Facility Management, New York, used the system to measure the differences between conventional mopping systems and the Unger microfiber mop and dual-bucket system.

Peduto used a luminometer to measure the amount of bio-residue on a given surface. He frequently tests surfaces his associates clean to verify the efficacy of their cleaning procedures and confirm that they are cleaning for health. In addition, his product evaluation committee uses the luminometer to determine if new tools or solutions are more effective at removing soil than existing items used.



Luminometers measure the presence of bio-residue on surfaces. The lower the number, the cleaner the surface. Testing revealed that, following cleaning with the flat microfiber mop head, surfaces were 14 to 16 percent cleaner than those that were serviced with conventional methods.

To evaluate the Unger mopping system, Peduto tested 30 restroom or office areas, all having the same ceramic tile with cement-based grout. Half were done with a conventional single-compartment bucket and a fresh loop mop head, and half were cleaned with a fresh cut-end mop head. Each floor was divided into two sections – one section was cleaned with one of the conventional mops and single bucket and the other with the microfiber mop and dual bucket.

The results showed that, on average, the Unger mop head removed up to 14 percent more soil than a looped mop head and 16 percent more than a cut-end mop head.

Increased cleaning efficiencies allowed Matrix to eliminate a weekly 10-hour overtime shift plus expand services to provide more detail work for the client.

Switching Systems

Consistent soil removal increases shown in meter tests, combined with empirical and anecdotal evidence from a month-long trial in multiple facilities, prompted Matrix product evaluators to replace their conventional mopping equipment with the new mopping system. Testing was done in commercial office, medical, nursing home, clean room, distribution and industrial plant facilities.

At first, Peduto admits he was concerned about what he considered to be a large investment – $1,200 – necessary to purchase the first three systems he tested. But he quickly saw substantial productivity increases that made his investment worthwhile.

After installing the Unger mopping system for just six months in one, labor-intensive, three-shift, heavy-industrial facility housing 25,000 square feet of office, medical and restroom hard floors, as much as 1-2 hours a shift were saved because of increased efficiency. Staff then used that time to address detail projects such as face plates, windows and window sills they previously did not have time to clean regularly. They also used the mops to clean walls and doors on a more regular basis. These added services, plus the ability to spend more time addressing facility "hot spots" resulted in better service. In fact, the regular inspections Matrix supervisors conducted each shift revealed an increase in the average quality of cleaning, said first-shift supervisor, Woodey Joslyn.

"We were able to raise our inspection results by 5 percent, on average, and consistently continued to meet that expectation," he said.

Heavy Soil Success Story

Robert Sherman, Matrix site manager at the industrial facility, was skeptical of the new equipment, but he quickly became a believer after seeing the following improvements within the first few weeks of use:

- Increased productivity
- Reduced chemical usage
- Less physical strain on workers
- Increased savings due to purchasing fewer mop heads
- Increased worker morale
- Increased customer satisfaction

Using conventional methods, the floors required more aggressive scrubbing to remove as much as a quarter-inch of industrial grease during each of three shifts. An extra 10-hour shift a week often was spent detailing corners and edges of floors where mops had not been able to remove dirt during routine cleaning.

Within six months, the operation realized substantial productivity increases due to:

- Microfibers regularly capturing more dirt
- Mop heads not needing to be "broken in" as with conventional versions that typically require multiple laundering before they stop shedding or leaving a film during use
- Less dirt accumulating in the corners and edges where conventional mops couldn't reach and splashing of mop water onto baseboards was eliminated
- Faster drying times occurring due to less water being used and less solution left behind on surfaces
- Less force and time needed to cut through the reduced amount of dirt on surfaces
- Bucket refill reduction due to the dual system
- Eliminating dull spotting and streaking caused from dirty mop water

Key benefit: Telescoping mop handles reduce strain on employees.

Practice makes perfect: Front-line staff quickly see benefits of new system

When implementing a dual bucket and microfiber mop system, understand that it initially is very foreign to employees, and many are compelled to reject it. Common concerns that employees might have about the new technology:

- A smaller mop head will not work as well or cover as much surface area.
- The fibers, being different, will not stand up to frequent use.
- The taller mop bucket may be harder to empty or heavier for workers to lift.

To address these concerns and overcome resistance, managers must explain the benefits of the system in relation to the employee, not the company. Employees then should test the equipment in a typical area, mopping half with the old method and half with the new. Matrix supervisor Robert Sherman assures even the most reluctant employee will realize the benefits after seeing the comparison.

In fact, some product testing can quickly reveal large result variations. Within just a short period of time using the Unger system in her areas, Matrix supervisor Kim Tennant discovered that grout in a high-profile restroom was actually teal instead of black.

"I was mopping one day and suddenly the black came off and the grout was a light color," she said. "The more I mopped the more I realized how well the fibers could get into grooves the other mops couldn't."

Both Sherman and Tennant recommend having someone who has been a former cleaner explain the benefits of the system to employees.

"Having been a cleaner, I knew which benefits would mean the most to them," said Tennant.

Often, workers find the change in mopping motion – from a figure 8 to more of an S motion – awkward, but quickly realize that it is more comfortable over the course of a shift and picks up more dirt.

"Some people got frustrated with the feel of the new movement and had to go back over it a few times to make sure they got it right," said Sherman.

Changing the mop heads also may take some practice.

"Switching out the mop heads didn't require the muscle necessary with other types," said Tennant. "It just was a matter of timing to learn how to twist and bang the mop head down. While it was different for us, it took about 10 to 15 minutes for everyone to get used to it."

Workers also need to acquaint themselves with having two compartments to place the mop, making sure to use the rinse side instead of putting a dirty mop into clean solution. To help release the dirt from the mop, Matrix employees place cleaning solution in both compartments.

Tennant also discovered that the Unger bucket was easier to push through buildings because of the upright handle on the wringer that locks onto the bucket. Previous buckets required even the shortest employee to bend over and pull the bucket or awkwardly push the bucket with the handle of an inserted mop.

"This helped us move from place to place much faster, and with less strain on our backs," she said. "Wringing out mops also was easier because of the ease of motion and the elimination of bending to reach the wringer."