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Green Machines

By Mike Schaffer — posted 04/10/2008

About 15 years ago, one of the largest construction- and mining-equipment manufacturers in the United States hired a PR firm to promote the company's new quality-control standards. The PR firm spent a week with the company, interviewing dozens of employees.

Believing that quality starts at the top and flows downward, the PR firm first met with the company president and top executives to ask them what they were doing to promote quality. The firm then worked its way down through middle management staff to workers on the factory floor, asking everybody what steps they were incorporating to ensure that every product produced met high-quality standards.

Finally, on the last day of the interview process, one of the PR professionals noticed the cleaning crew coming in for the evening shift. Although it was not on his list of interviews and even though he believed it would accomplish very little, the PR person approached one of the custodians and asked if he thought his job contributed to the quality of the company's products.

To the interviewer's surprise, the custodian said that not only did his work and the work of the other cleaning professionals contribute to improving quality, but that quality actually starts with cleaning. "We set the mood for this whole building," the custodian said. "If the facility is in a dirty, unsanitary, and cluttered condition, everything we do and everything we make is going to reflect that. Quality starts with us and our efforts to keep this building in tip-top condition."

If that's true, then it's also very likely true that the type and quality of cleaning equipment provided to cleaning professionals can greatly

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influence the work they do, the quality of service they provide, and, ultimately, the overall success of the company whose building is being cleaned. Who would doubt, for instance, that a machine that performs poorly and mars indoor air quality (IAQ) and the environment as well as worker health will have a negative impact on worker performance? This is why, when marketing vacuum cleaners and floor machines, distributors should educate and encourage their clients to select machines that are not only top performers, but “green” as well.

Vacuums

Not only can a vacuum cleaner that performs poorly and pollutes the air negatively impact a cleaning worker’s health and performance, but ineffective vacuum cleaners can cause more harm than good overall. They may appear to have cleaned, but in reality they may have done little to remove the soils, dirt, and dust that have become lodged in carpet fibers. And vacuums that release contaminants into the air potentially harm the health not only of cleaning workers, but of building occupants.

This problem can be rectified by transferring from conventional vacuum cleaners, such as those made five or more years ago, to greener machines that help protect health and IAQ, perform well, operate quietly, and achieve ergonomic design.

A good working definition for a green vacuum cleaner includes far more than just its filtration capabilities, which is often the definition used. Instead, a green vacuum is one that meets or exceeds the highest performance standards currently available for collecting and retaining soils and does it quietly with minimal physical impact on the cleaning worker.

We are seeing more professional vacuum cleaners meet these criteria, especially some of the latest backpack machines now being introduced. A closer look at some of the following considerations can help distributors and their clients better understand their importance:

Filtration: People can inhale airborne particulates 10 microns and smaller. Mold and bacteria in the air are about 1 to 12 microns in size, meaning that many of these contaminants can be inhaled and potentially cause a variety of respiratory ailments. A HEPA filtration system effectively captures and traps these particulates.

But even with HEPA, the bar has been raised. To be a true HEPA machine now, a vacuum must have its entire casing sealed. HEPA machines of this sort are extremely effective at containing hazardous airborne materials.

Quiet operation: Once day cleaning became popular, noise became a serious vacuum cleaner issue. But now, we also know that vacuum

cleaner noise can have a major impact on a cleaning worker's performance and health. Studies at the University of Houston have found that vacuums produce an average of 85 decibels (dB) of noise, or "unwanted sound," which can result in such physical effects as fatigue, frustration, and irritability. A green vacuum cleaner brings the noise level down 10 dB or more.

Ergonomics: An ergonomic vacuum cleaner is designed to maximize productivity by reducing operator fatigue and discomfort, which also helps to diminish injuries. An ergonomically designed upright is light, with some new machines weighing as little as eight pounds. They also have comfortable fitting handles and easy-to-reach-and-operate controls.

Some of the biggest advances in vacuum ergonomics, however, have occurred in backpacks. New backpacks are much lighter than the original machines; plus, they feature body-conforming back supports and harnesses, making them more comfortable to use.

Floor Equipment

A green floor machine will also be ergonomically designed to improve worker productivity and minimize injuries and fatigue. However, when analyzing these products, we must separate those used primarily to polish and burnish from those used for stripping and scrubbing.

Burnishing equipment should include passive/active attachments, such as a deck shroud, that capture dust during burnishing. Some machines even have dual-filtering systems for clean-air filtration. Like sanding a piece of wood, burnishing generates a considerable amount of dust. Capturing this dust protects IAQ and the health of the cleaning worker and building occupants. But it also helps improve overall cleaning productivity and appearance because it reduces the amount of dust that settles on desks and other surfaces.

Green scrubbers minimize the amount of water and chemical used in the scrubbing/stripping process, and they improve water recovery via more effective squeegee designs. On many conventional rotary machines, this has been accomplished by using microfiber pads along with foam chemicals. However, newer technologies, such as cylindrical brushes, appear to be even more effective at reducing water and chemical use. Instead of pads, these machines have counter-rotating brushes that penetrate into floor pores and grout areas. Essentially, the machine does more of the work, requiring less water and chemicals.

Trends & Directions

Just a few years ago, some experts predicted that green cleaning would involve about 20 percent of the janitor market, with the rest of the industry using conventional products similar to those used for

years. Additionally, when green cleaning was discussed, it invariably referred to cleaning chemicals. Vacuum cleaners, floor machines, and other tools were often not even considered.

Today, the acceptance level of green cleaning is just about the opposite, with some predicting that 80 percent or more of the industry will transfer to environmentally preferable cleaning systems. Additionally, almost all cleaning products, including vacuum cleaners and floor equipment, are being re-engineered and designed with green in mind.

There are a variety of reasons why all this is happening. One is that we now know there are proven benefits to going green. Another is that most green cleaning products and equipment are now comparably priced to conventional products, and the benefits in reduced absenteeism, enhanced worker productivity, and an overall safer work environment far offset any possible added costs. Also, most green cleaning products are just as effective as conventional cleaning tools and equipment.

But what may prove to be an even greater factor when it comes to vacuum cleaners and floor equipment is that cleaning professionals now view green cleaning as a system that requires that all products used—from chemicals to vacuums and floor machines—contribute to a healthier indoor environment.

Because of this view, we can expect a greater number of manufacturers of vacuum cleaners and floor equipment to introduce greener and healthier machines in the coming years.



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