FIRST LEED-CERTIFIED HOTEL IN TENNESSEE BOASTS 'GREEN' LAUNDRY THAT SAVES $12K ANNUALLY

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As the first LEED-certified hotel in Tennessee, the Hilton Garden Inn, in Gatlinburg, required careful planning and collaboration by its executive staff, contractor, supporting vendors and LEED-accredited architect. In the end, the 118-room hotel came together as a well-integrated "green" facility. Every system was examined in order to heighten hotel sustainability, even the in-house laundry, which comes complete with an ozone system, soft-mount, high-speed washer-extractors and high-efficiency dryers. In five years, the laundry alone is expected to save the hotel $60,196.

Hotel Operational Costs Less

General Manager Kris Reagan maintains the hotel's building costs were around seven percent more than a non-LEED hotel, but operating expenses are considerably lower. "It won't be long before those LEED additions pay for themselves," she says. "The hotel is located in Smoky Mountain National Park. So, making this a LEED-certified property was the right thing to do," she adds. "We've already blown away our pro-forma," Reagan attests after only three months of operation.

Developing a 'Green' Laundry

Jeff Large of Laundry Systems of Tennessee worked closely with the Hilton Garden Inn to design the on-premise laundry. "The total cost of the laundry with the ozone system was $48,000," he says. "The laundry will pay for itself in 48 months. Right now, everyone wants to save. With ozone and highly efficient laundry equipment, there is nothing but savings. There's a better end result," he maintains.

The LEED Standard

In the United States, LEED certification is a recognized standard for measuring building sustainability. The Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the U.S. Green Building Council (USGBC), offers four certification levels for new construction—Certified, Silver, Gold and Platinum. Each level corresponds to the number of credits accrued in five green design areas—sustainable sites, water efficiency, energy and atmosphere, materials and resources and indoor environmental quality. The Hilton Garden Inn received a Silver LEED certification.

In the long run, the Hilton Garden Inn will cost less to operate. "An upfront investment of two percent in green building design, on average, results in life cycle savings of 20 percent of the total construction costs—more than 10 times the initial investment," according to the USGBC Web site.

Of top concern during the hotel's development was maintaining the consistency of the Hilton Garden Inn brand, according to Reagan. "We wanted the hotel to 'feel' the same to the customer," she says. So, any changes made in pursuit of LEED certification needed to correspond with the company's image.

"The landscape uses less water and pesticides; the pavers in the parking lot are porous to improve drainage; and the hotel features recycled wallpaper, granite counter tops and a chemical-free saltwater pool and hot tub, as well as in-room recycling," says Reagan. The property also boasts low-flow showerheads and faucets, and the option of high- or low-flow toilet flushing, as well as a super efficient laundry that requires less water, natural gas, chemicals and electricity.

Equipping the Laundry

The laundry is outfitted with two Continental 55-pound capacity soft-mount washer-extractors, each with a TNozone system, and three Continental 75-pound capacity high-efficiency drying tumblers.

The soft-mount washers were selected over traditional machines for a number of reasons, including efficiency, laundry productivity, ease-of-use and ease of installation.

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The freestanding design of the washers eliminates the requirement of bolting the machines onto a re-bar reinforced concrete foundation. "The suspension systems are designed to absorb up to 95 percent of the vibration during extract," explains Large. "Because there's less stress on machine components, soft-mount washers typically outlast hard-mount models," he says. "They also operate very quietly."

Reagan agrees. "We can have guest rooms next to the laundry area because the washers don't produce the noise of hard-mount washers," she says.

Continental Washers Deliver High-speed Extract

But the soft-mount washers also play a critical role when it comes to conserving water, energy and natural gas. When compared with hard-mount washers, which reach extract speeds of 75-200 G-force, the Continental soft-mount machines achieve 380 G-force extract speeds, and thus, remove considerably more water per load. As a result, dry-time is decreased by 30-50 percent, according to Large. Not only is laundry productivity improved, gas consumption and dryer wear-and-tear are dramatically reduced.

Adding Ozone to the Laundry

By combining the high-efficiency washers with ozone technology, utility savings and productivity catapult further. Altogether, the ozone-equipped laundry will save an estimated 205,860 gallons of water and 3,886 ($6,413) therms of natural gas per year, according to Large. Ozone adds a big punch to bottom-line savings and hotel sustainability.

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The Particulars of Ozone

In the wash, ozone breaks down organic materials using only cold water, which can dramatically reduce a laundry's hot water usage, and in doing so, the natural gas used to heat that water. It also reduces a laundry's overall water and chemical needs—another boon to the environment. Ozone works by passing energy through oxygen (O^2) to create ozone gas (O^3). The third oxygen atom in ozone produces a cleaning agent that can be added to wash. Because ozone effectively loosens material from linen fibers, it can eliminate the need for a pre-wash cycle, according to Large. Therefore, the washers consume less water and complete cycles faster.

"Using a soft-mount washer in combination with ozone, a load of high-quality cotton towels will dry in about 26 minutes. Using a hard-mount washer without ozone, the load will dry in 40-45 minutes," says Large. By using ozone with a high-speed washer, dryers run less often, productivity increases, labor decreases and bottlenecks at the dryer are eliminated."

To simplify things further, the washers at the Hilton Garden Inn are programmed to automatically adjust water levels, cycle times, number of baths, water temperature and chemical injection according to linen type. That way, towels, duvets, sheets, rags and shower liners, which each have separate programs, are washed properly and consistently every time. Attendants simply input a program number and press start.

Linens also last longer, says Reagan, thanks to less dryer wear-and-tear, shorter wash cycles and the use of fewer chemicals. "I haven't had to order any replacement duvets in the three months the hotel has been open," says Reagan. "That's unusual."

The on-premise laundry significantly contributes to the hotel's Silver LEED certification by reducing water, natural gas and chemical usage, according to Reagan. Simultaneously, the laundry is more productive—completing more laundry in less time, using less labor.

Find out more about the Hilton Garden Inn in Gatlinburg at www.gatlinburg.hgi.com and LEED at www.usgbc.org.

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