

1ST PERSON



Ray Ellis, hospitality's legendary icon.

An Interview with Ray Ellis

By Robert Elliott

Ray Ellis, professor of Hilton's School of Hospitality, University of Houston, Texas found a home in hospitality Risk Management, Engineering and Loss Prevention, and the industry has and will be forever grateful.

To give this article some perspective I think it is important to establish a timeline to the career of our featured 1st Person, Ray Ellis, and to mention his peers as well as his accomplishments in the industry.

Ever hear someone say, you were still in diapers when I was ...?" Well, I was born in March, 1955 and around three months later Ray Ellis first became involved with the hospitality Industry as a "pro bono" safety, security and fire protection consultant and paid author of a bulletin service for the then, American Hotel Association. So, yes I was in diapers when Ray was setting policy and influencing our industry in ways that still affect our lives today. As a matter of fact, forty-two years later (1997) I became the American

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Plumbing Is Hotel Engineering and a Whole Lot More

By Todd Isbell

Director of Engineering, Hilton Clearwater Beach Resort

One of the many aspects of hotel engineering is plumbing... the pipes and fixtures that we all take for granted bringing hot and cold running water to us every day. Sometimes trouble free, other times not. In some older structures, there are leaks, blockages, dampness, mildew... all associated with old or dilapidated pipes, possibly condensation.

As an engineer responsible for plumbing projects, you first need to know what and where your leaks are and where they could possibly show up. This means poking your



heads into access panels, noticing damp ceiling tiles or drywall, buckled wood flooring, wet or damp carpet and knowing the difference between a leak and condensation.

Condensation occurs when warm moist air comes in contact with cooler air on a condensing surface such as metal pipes that are a cooler temperature than the moist air itself. Air contains varying, but certain amounts of water vapor. Warmer air holds more moisture than cooler air so its capacity or humidity is directly affected by temperature. When warm

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- 1 PLUMBING IS HOTEL ENGINEERING AND A WHOLE LOT MORE** By Todd Isbell. One of the many aspects of hotel engineering is plumbing...the pipes and fixtures that we all take for granted bringing hot and cold running water to our properties every day, sometimes trouble free, other times not. Todd is writing for Lodging Engineer for the first time and applies his knowledge and many years of on-the-job experience to plumbing projects he has encountered.
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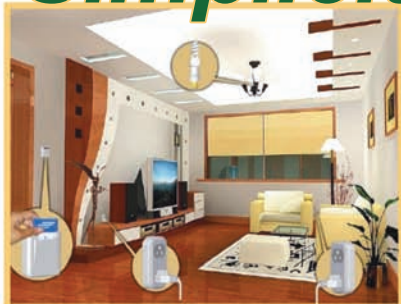
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CONTACT

P.O. Box 30844 • Alexandria, VA 22310 • Tel. (703) 863-7515 • website: www.nahle.org

Editor-in-Chief

Robert Elliott (robertelliott@nahle.org)

Art Director

Debbie Shaw (debbie.shaw@gmail.com)

Contributing Writers

Manny Higazzi • August Craanen • Art Attaway • Tim Arwood • Fred Hueston • Dennis Trost • Todd Isbell
(Address all correspondence to articles@nahle.org)

Administrative Issues

admin@nahle.org (all submissions, editorial matter, artwork, subscriptions, address changes)

Advertisements

See www.nahle.org or call (703) 863-7515

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INTERVIEW WITH RAY ELLIS

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Hotel & Lodging Association's Director of Regulatory Affairs and took over the duties and responsibilities of my predecessors.

Quite a few heavy-weights in the industry preceded me in my position in addition to Ray. Many of you may remember John Salmen of Universal Design Consultants and his contributions in ADA or Kevin Maher, AH&LA staff, for his work with the Fire Safety Act of 1990 (some pretty big shoes to fill by anyone's standards). One of Ray's counterparts on the for-profit side of hotels is Sonny Scarf of Marriott. I once went to a dinner sponsored by the American National Standards Institute (ANSI) honoring Mr. Scarf and his contributions to hotel fire safety. Imagine my disappointment when Sonny could not make the dinner and my surprise, when Bill Marriott accepted the award on his behalf. To this day, it still stands out as one of my most memorable evenings as I got to meet another icon of the industry, Mr. Marriott.

Continuing with Ray's career, he became



This life size photo was a composite of two photos and presented to Ray on his birthday at an AH&LA Loss Prevention Committee Meeting circa 1999.

directly involved with hotel organizations and served as Administrator of the Hotel Safety Group for the New York City and New York State Associations. From 1967 to 1977, he also administered the Howard Johnson Motor Lodge Safety Group covering all insurance: property, casualty, liability and workers compensation. As a child, I was fascinated by our nation's highways and always looked forward to any stop that involved our car and one of the big orange



From 1967 to 1977, Ray administered the Howard Johnson Motor Lodge Safety Group covering all insurance.

roofs beside the road.

Ray joined the staff of the American Hotel & Motel Association where for 17 years he served as Director of Risk Management and Operations, Secretary and Project Director of the Hospitality, Lodging and Travel Research Foundation, Executive Vice President and Secretary of the AH&MA General Agency and Secretary of the Hotel Association Group Trust. Upon retirement in July 1994, Ray joined the faculty at the University of Houston's Conrad N. Hilton College of Hotel and Restaurant Management and remains closely affiliated with the hospitality industry, the American Hotel & Lodging Association and AH&LA's Executive Engineer's Committee.

I find Ray an endless treasure of knowledge, insight and wisdom and in my opinion Ray stands tall among his peers. It is for these and other reasons that we have selected Ray as this issue's 1st Person.

Ray, as AH&LA's former staff liaison to the Executive Engineers Committee I can remember the controversy surrounding the name change from AH&MA to AH&LA. Can you give our readers a little history on the association and the role of engineers?

At the annual meeting in Seattle in 1963, the American Hotel Association (AHA) added the "M" for Motor Lodge (AH&MA) in recognition of the growing segment of motels and motor lodges in the lodging industry. The engineers in the industry were not the powerful group that would develop in the next several years. Essentially, the engineer was the community "handy man" or janitor. This was to change as oil-rich

nations in the Middle East began to "flex their muscles." The "Six Day War" in June, 1967 brought an "oil embargo" and the nation was confronted with an economic challenge as motorists decided against travel that would involve need for quantities of gasoline and motor oil.

How and when did hotel engineers become established nationally and can you tell us about some of the founding fathers, both individually and as hotel chains or corporations?

The Nation rebounded; but again encountered a Middle East oil embargo from October, 1973 through March, 1974. This introduced a concerted effort on the part of the lodging industry to develop energy management controls that would better equip the industry and Nation to control the overwhelming demand for petroleum and petroleum products. At the national level AH&MA established an Executive Engineers Committee. Industry leaders in this program included Carlson Companies (Radisson), Choice Hotels (Quality Inns), Hilton, Holiday Inns, Howard Johnson Motor Lodges, Marriott, and Sheraton. The engineer became recognized, not only nationally; but at the local level where an executive engineer was a member of the property's executive committee. They became the source and implementer of energy management and loss prevention programs, films, and publications through the Educational Institute. Professional consultants, Bob Aulbach, Al Stewart, and Jack Wolfe became members of the lodging industry team and were to be with the association for the next two decades.

It appears that the establishment of the Executive Engineers Committee was quite timely as OSHA soon followed in the early 70s. Can you speak to OSHA and the role the Executive Engineers Committee had in bringing worker's job safety and the 'right to know' as mainstay in hotel engineering and maintenance?

Having established a commanding role in the operation of lodging establishments, the Executive Engineers Committee was in the forefront when the Williams-Steiger Occupational Safety and Health Act of 1970 (OSHA) was promulgated. Suddenly, the role of safety and health in the operation of a hotel or motel was the LAW! There were significant recording and reporting requirements, but the challenge to the engineers was almost overwhelming.

Rules covered:

- Walking and Working Surfaces
- Means of Egress
- Powered Platforms, Man-lifts, and Vehicle-Mounted Work Platforms
- Ventilation and Occupational Noise Exposure
- Hazardous Materials
- Personal Protective Equipment
- Sanitation and Signage
- Permit-Required Confined Spaces
- The Control of Hazardous Energy (Lock-out/Tagout)
- Medical and First Aid
- Fire Protection
- Compressed Gas & Air Equipment
- Materials Handling and Storage
- Machinery and Machine Guarding
- Hand and Portable Powered Tools Welding, Cutting and Brazing
- Bakery Equipment
- Laundry Machinery and Operations
- Electrical
- Toxic and Hazardous Substances
- Bloodborne Pathogens
- Hazard Communications (HAZCOM)
- Workplace Violence

So, after OSHA there seemed to be this explosion of national standards representing consensus among safety professionals, engineering associations and product manufacturers. How did

this affect hotels and the role of the property engineer?

Suddenly, the engineer grew far beyond a "handy man" or janitor. Engineers from major corporations began to represent the lodging industry on standards committees of the American National Standards Institute (ANSI), the American Society of Safety Engineers (ASSE), the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), the American Society of Industrial Security (ASIS), the National Fire Protection Association (NFPA), the National Safety Council (NSC), and the National Spa and Pool Institute (NSPI).

One of the most recognized accomplishments of the AH&LA is the Hotel-

"The engineers in the industry were not the powerful group that would develop in the next several years."

Motel Fire Safety Act. Can you tell us what impact this legislation had on the industry?

During the decade of the 1980's, the loss of life in hotel fires reached a peak on December 31, 1986 when 96 lives were lost at the Hotel DuPont Plaza in San Juan, Puerto Rico. The lodging industry and its engineers were critically involved in the development of the Hotel-Motel Fire Safety Act of 1990. This was an unusual "carrot and stick" legislative initiative. It was directed at the traveling Federal employee. If the employee did not stay at a registered and approved lodging property, the lodging expense would not be paid by the government. All properties, regardless of height, must have a hard-wired, single-station smoke detector and all properties four floors and above must have a full fire extinguishment system (sprinklers) installed or retro-fitted. Needless to say, meeting planners, travel agencies and corporate travel offices adopted the same listings to avoid the placing of a client or traveling employee "in danger." The industry responded with the expenditure of billions of dollars in retrofits and new construction with a most

unusual result.

Ray, you mention "a most unusual result." Didn't the National Fire Protection Association (NFPA) publicly recognize the tremendous industry wide effort to eliminate fire fatalities in lodging properties soon after the Hotel-Motel Fire Safety Act became law?

Yes, in November, 1994 at the annual meeting of the AH&MA Board of Directors at the Waldorf Astoria in New York City, senior officers of the National Fire Protection Association recognized the efforts of the lodging industry through the presentation of a plaque. More important, they announced the NFPA annual fire and life lost statistics under "residential categories" would no longer include a line for hotels

and motels. Fires and deaths due to such fires were so low, the statistical instrument would end up charging the lodging industry for fires and deaths which had not occurred. In the event of a catastrophic loss in any given year, the entry would be with an asterisk.

My last question: What do you foresee as the greatest challenge facing hotel engineers today and looking forward with all your experience from years past, how do we get there from here?

As the lodging industry faces the challenges of "greening" the industry, the executive engineer again is in the forefront. The American Hotel & Lodging Association (a third name change, now to AH&LA) has integrated the activities and role of the Executive Engineers Committee and the Environmental Committee to the Executive Engineer and Environmental Committee. As the executive hospitality engineer once again assumes a critical leadership role, it is important it do so under its own leadership in conjunction with AH&LA as the National Association of Hotel & Lodging Engineers (NAHLE). ☞

PLUMBING

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moist air comes into contact with either colder air or a colder surface, such as your plumbing pipes or AC evaporator drain lines, the air releases the moisture onto the surrounding cooler surface and forms condensation. This condensation or newly formed water droplets can then run down your pipes onto the surface of your ceiling or walls causing some to think they have a leak. Controlling condensation is not always simple, especially in humid climates, however, insulation is key to keeping those droplets at bay. Pipe insulation that wraps around the pipes, even heat tape is a way to go to warm the surface. Blocking off outside air temperature variances will also help stop the condensation problems.

Condensate drain lines that come from AC units on roof tops, or ice machine drains up on the floors sometimes drain into cast iron pipes that run down the risers of your buildings. The cold water causing condensation on the outside of the pipe which forms spots on ceilings or walls can be taken care of by adding more PVC lines on the roof to make a longer run to the drain, and painted black to warm the water with solar heat before it goes into the drain. Also insulating the pipes will help.

For leaks, we cut holes in sheetrock and delve in only to find either condensation from summertime humid-invasive outside air or a true leak showing calcium and lime build up on pipe joints, wet insulation, mildew, or other signs. Small pin holes have been witnessed spraying onto a rafter, running down and dripping some 20 feet away. The ambient temperatures in the crawl space in some instances is enough to evaporate some of the run off before reaching its final destination, which is your ceiling or wall; meaning the leak has been there a while. This as you know wreaks havoc in trying to locate the source of the leak. So we make yet another hole and get to work. There are several ways to make repairs; from total renovation of plumbing, which is costly and usually means water must be shut off to the building for an undetermined amount of time inconveniencing everyone including our paying guests, to changing from copper pipe to PVC or (CPVC if it is hot water), or cutting and replacing the old pipe with a new section and soldering or gluing it into place.



“It is always easier to be in control when you make repairs, versus having to make emergency repairs in the middle of the night.”

No matter how you look at it, leaking pipes are not what we signed up for. To repair an old leaking building, we must first put a plan into place which requires a daily walk through looking for wet, damp or dark spots on walls and ceilings, maybe even buckled up wood flooring, all the while making a list of worse locations and eye sores. Also, we sometimes see calcium build up on pipes, but no leak as of yet. This can be interpreted as a good thing, because we now can get a step ahead of a leak, plan when we are going to repair it with the least inconvenience to our guests and staff, and move forward with the “drying out” of our structure; being pro-active,

rather than being re-active.

Once the leak is repaired, there is still the task of drying the surrounding area and repairing any ceilings, walls or flooring that may have been damaged by the intrusion. Dry up as much as possible with wet vacs and then graduate to cloth or sponges, making sure the surface areas have not been compromised. Remember, the area should be opened up so as to dry completely and allow for good air flow. Also, use dehumidifiers and fans whenever possible. Drywall will usually need to be replaced unless you can get it thoroughly dried with no abnormalities on the

surface. Uneven surface areas or waves will indicate the material will need to be replaced, otherwise you risk mold or mildew encroachment, and the work will become much more costly and time consuming. Remember it is always better to do the job right the first time.

Don't feel overwhelmed with a larger building; take it one step at a time. Budget for repairs a little each month, and then prioritize and utilize the list you've created, beginning with choosing a section and then moving forward, inspecting everywhere, not only the water pipes, but where drain lines are ran as well. Make it easy on yourself by installing access panels where the risers are situated, and where problem areas may occur. It is always easier to be in control when you make repairs, versus having to make emergency repairs in the middle of the night. Daily walk-throughs of our properties, looking for leaks and repairing them before they become nuisances not only keeps added work such as having to replace wet drywall or ceiling tiles at bay, but saves an exorbitant amount of money per year as well, not to mention dissatisfied guests. All this said, make your list, decide which section to start and stick to the list. Moving forward even with small steps is still moving forward.

Remember one drop of water per second dripped unintentionally produces roughly 32 liters a day. This is around 981 liters of water per month wasted. This is just one drip per second; add say 100 rooms with leaking toilet flappers or dripping sinks or faucets, and maybe a kitchen sink or two dripping, and you've got a water bill that most don't ever want to see, and owners asking why.

Help with this problem is in your hands. Keep an eye on your water bill; if the cost begins to rise, look for the obvious reasons such as occupancy levels, outside ambient temperatures, etc. as well as hidden factors. Make sure your housekeepers are listening when they clean a room for toilets that begin filling without being flushed. Tubs or sinks with water droplets around the drain, but has been a while since used. You can set up incentives for the most reported leaks every month. Use your imagination, to not only save water, but have fun doing it.

Your local water utility service can help you save water with low flow spray nozzles for your kitchen sinks and dish machines. There are as well water saving showerheads and faucet aerators and low flow toilets that also reduce the use of water. Remain vigilant in your walk throughs and

make timely repairs to help save one of the earth's most valuable resources as well as your building and budget. 



Todd Isbell, Director of Engineering, Hilton Clearwater Beach Resort, Florida

Todd was brought up on hard work and dedication to family and friends, and understands the meaning of being hospitable and making others comfortable around him. He is a graduate of Lanier Technical Institute, and has 17+ years in the hospitality engineering field. Learning and understanding the "how and why" things work have always intrigued Todd. Taking something that has a problem, taking it apart and making it work, or figuring out better ways for something to be more efficient have led him to where he is today. Attitude and a willingness to succeed drive him to be the best he can be. Todd is proud to be the Director of Engineering at a property of one of the largest hotel chains in the world.

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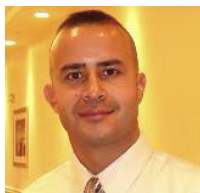
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WHAT'S IN THE POUCH?

Many times the work that we do requires only the basic tools, so there is no need to carry "Mr. Big Pouch" and risk hurting yourself.

By Manny Higazzi



Hi there everyone, I need your undivided attention and honesty. Are you one of those guys that walks around with a tool pouch the size of a

box lunch? You know, the guys that think a big tool pouch makes you look like Mr. Fix It all on the spot? Stop and think for a minute and be honest. Are you happy with the load? I think it's a load of waste that is not even necessary for the work that we do. I have been to other properties and, yes I have witnessed engineers walking around with these big tool pouches.

I think we need to take a closer look and evaluate what's In the POUCH. I don't recommend having all that weight with you and having to drag it around the course of the day. I worked at another hotel nearby for part-time work just to supplement my income. There were at least 2 engineers that I often noticed carrying this big tool pouch strapped around their shoulder. The pouches looked around maybe 10-15 pounds of weight or even more. They carried it like a lady carrying their purse—wherever they went it came along.

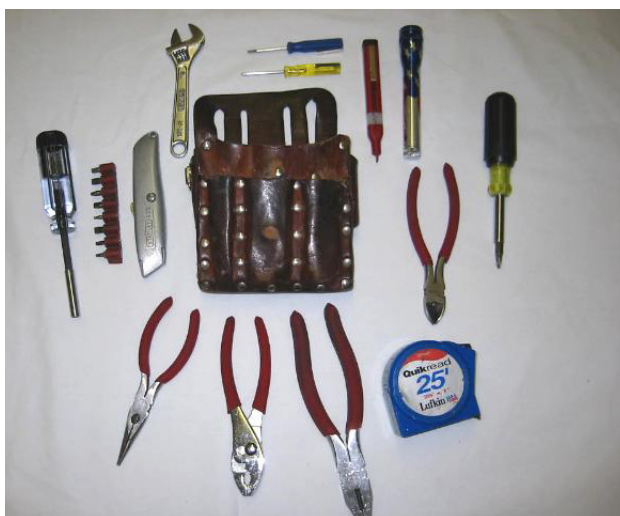
I think that many like the attention of looking technical. This article is just a message for the ones that want to stay in good health and the ones that want to know what should be in the pouch. The extra weight puts a strain on your back and shoulders. Don't forget about the guy that likes to where it on his waist, supported by his belt. Waist supported tool pouches, in my opinion, are a big health risk too. I will explain.

No matter what size of tool pouch you carry around you waist, it is NOT GOOD. Ear-

lier in my career when I started in this field as an engineer I decided to wear a tool pouch on one side of my waist. It was not big or bulky. I was using the pouch pictured below. If you are familiar with this type of tool pouch, you know that the weight pulls down on one side of your waist causing a little pressure on the other side. Now that you have this understanding, I found years of wearing this pouch led to me pinching a nerve without realizing it, until I had side effects.

nerve and veins passing down around the hip area. It took me that long to realize the danger. I also found out that you can get a hernia from lugging around a tool pouch that is too heavy. Try bending over to fix something with a tool pouch on your waist. That's the pressure that you are applying to your body that pinches the nerve.

Many times the work that we do requires only the basic tools, so there is no need to carry Mr. big pouch. Most of the time guestroom repairs require that you go back



“By having a basic tool pouch, you have enough power to evaluate a complaint if not fix it.”

After finding out about this circulation problem on my hip, I never went back to wearing the pouch. I am sure many of you know or should know that you have a lot of

to the shop to pick up a part. By having a basic tool pouch, if you need an extra tool go pick it up while getting the repair parts needed. I will give you a scenario. My

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pouch versus Mr. Big Pouch and we are both responding to the same call.

Scene 1: Front desk to engineering; guest in room 401 complained that there is no power in the bathroom. We both respond, my pouch and Mr. Big Pouch to the scene. When we get there we find out we only need a bulb. You carried all that weight just

for that. And you thought that you would have to rewire the whole building.

As an engineer I do recommend a tool pouch because of the demand to go here and there for repairs. For most of the calls, the basic pouch will save you time and keep your nerves flowing. Look at the image of my basic tool pouch that saves the

day by weight and what I have inside. My tool pouch weighs about 5 ½ pounds. It has enough power to evaluate a complaint if not fix it. Remember, I recommend you carry your tool pouch. Even with my little tool pouch I feel like a big man that is ready for big jobs. 

Here is a summary of what one property is doing in 2010 to make their property green...

Ten Green Things...

By Art Attaway



Some of these items are specifically engineering issues while others cross-over to other operating departments within the hotel. However, to be truly effective and efficient in their efforts, each property has to come together as a team to accomplish the overall goals of sustainability and help each other along the way.

1. Recycle – all batteries, aerosol cans, amenity bottles, glass and plastic, printer toner cartridges, cardboard, and paper.
2. Eliminate – all unneeded paper use. Use online menus and billing in catering. Use two sided in-house copies. Use electronic rooming list and banquet orders. Event planning can be electronic as well as room layouts and schedules. Eliminate Styrofoam use. Use tables that need no linens for coffee breaks and food displays. Use eco-friendly to-go cutlery instead of silverware.
3. Change – all paper products to 20/30% recycled paper, including flip charts, toilet paper, guest stationary, and office paper.
4. Engage – the guest by putting recycle containers in guest and meeting rooms and public areas. Offer incentive programs to guests for eliminating or decreasing use of water,

energy, and chemicals by voluntarily eliminating daily room cleaning or specific room cleaning services.

5. Use – only energy efficient products including TV's and appliances, light bulbs, and light fixtures.
 6. Conserve - water and energy use by watering landscaping at night, using window film, and installing water flow control devices.
 7. Manage – dumpster removal by need rather than pre-planned schedule. Reduce carbon footprints by opening a shipping office on the property.
 8. Convert – landscape waste into compost and cooking oil into bio-diesel fuel.
 9. Clean – with only eco-friendly cleaning products, including laundry. All products should be bio-degradable, non-toxic, and phosphate free.
 10. Breathe – easier by using low VOC paints and adhesives, carpet cleaners, and organic and biodegradable pesticides.
- These are easy steps that require no large capital expenses and will help little by little in the greening of your property and collectively for the industry.

THE WRONG EXTENSION CORD CAN DAMAGE YOUR POWER TOOLS

August H. Craanen

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Every year, motors in thousands of power tools burn out for one simple reason: the tool was plugged into an extension cord not suited for the job. To help you keep your power tools run-

ning properly, here's some information from the Leviton Institute about choosing extension cords.

Whether you're using a very long outdoor extension cord to run an electric lawn mower, or a short cord to power up a tool for an in-house project, the wrong extension cord can damage, and eventually ruin the motor in your tools. The reason is simple: If the extension cord isn't delivering enough power to the motor, the motor will begin to overheat. In the worst case, the motor will completely burn out from the excessive heat.

Think of that extension cord as though it were a garden hose carrying water. A large diameter hose can carry more water than a smaller diameter hose. The same is true with extension cords. Larger diameter wires can carry more power than wires with smaller diameters. And the bigger the motor in your power tool, the more power it needs.

How do you determine the size of the wire in an extension cord? The easiest way is to check the markings on the outer jacket of the extension cord. You'll be looking for a number followed by the letters AWG printed right on the cord. The typical outdoor extension cords you'll find in a hard-

ware store or home center are 16 AWG, 14 AWG, or 12 AWG.

But there's a twist to wire numbers: The smaller the number, the bigger the wire size. The 12 AWG wire can carry much more power than a 16 AWG wire. That's why you would use a 12 AWG extension cord to run the big motor on a table saw, for example.

A second factor in your choice of an extension cord is its length, because this too affects the amount of power getting to the tool. Here's why. As electricity travels down the extension cord and farther from the outlet, its energy diminishes. So if you need to use a long extension cord for garden chores, choose one that has larger-diameter wires, such as 14 AWG. It's also a good idea to uncoil a long extension cord before you use it to prevent heat from building up in the cord itself.

Manufacturers of power tools and electric garden tools also specify the proper type of extension cord to use with their equipment. This information is typically included in the equipment's owner's manual.

While choosing the right size extension cord will protect your tools, the Leviton Institute also recommends using an extension cord with a built-in GFCI (Ground



See How to Match Extension Cords to
Electrical Tools Reference Chart on page 12

Fault Circuit Interrupter) receptacle to protect yourself from potential electric shock.

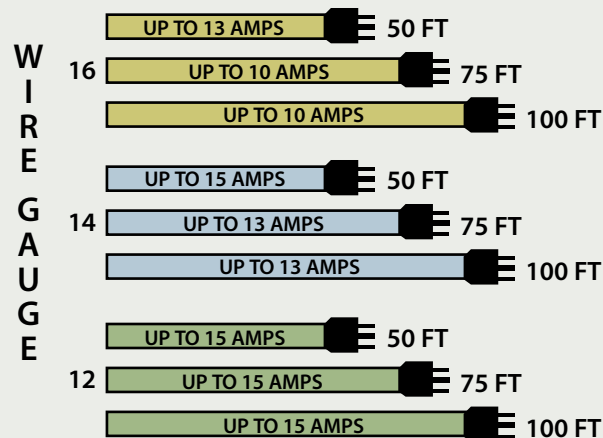
These inexpensive GFCI-protected extension cords have been on the market for about 10 years and are available at home centers and hardware stores. They have very short cord lengths and are meant to be plugged into an electrical outlet. Then the longer extension cord is plugged into the GFCI-protected cord. 

How to Match Extension Cords to Electrical Tools:

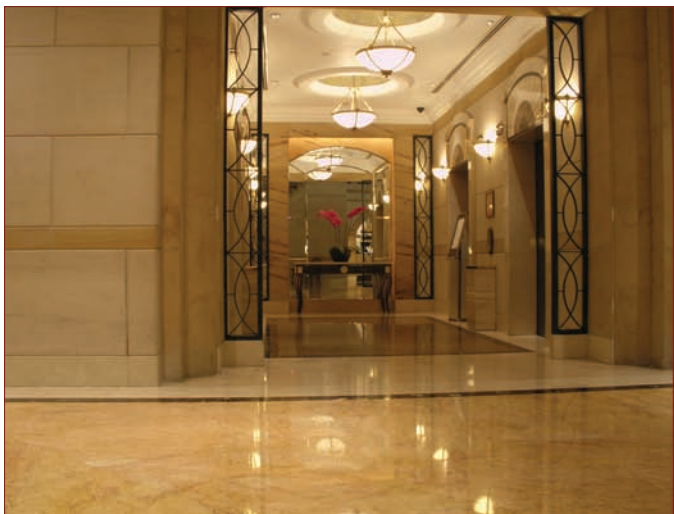
Step 1. Find out the amperage rating of the tool which you'll find on the tool and in the owner's manual. Here are the most common motor ratings for some typical outdoor electric tools.

Lawn Mower	Leaf Blower	Hedge Trimmer
6-12 Amps	6-12 Amps	2-3 Amps
Weed Trimmer	Circular Saw	Drill
2-4 Amps	12-15 Amps	3-7 Amps

Step 2. Use the table below to match the tool to the proper gauge and length cord having 2 current carrying conductors and using a standard plug rated 15 Amps (two flat blades plus ground pin).*



* Using the same extension cord to power two tools at the same time is not recommended.



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Are You Drowning Trying To Keep Your Pool Or Water Features Clean?

By Frederick M. Hueston, PhD



Over the years I have evaluated numerous stone and tile failures on pools, spas, fountains and other water features. Failures such as tiles coming loose, grout missing, discoloration and build up of mineral deposits etc.

In most cases all of these failures can be contributed to improper maintenance such as using the wrong chemicals for cleaning to unbalanced water chemistry. The following is a simple guide of what to do and what not to do when it comes to cleaning your pool or water feature.

Getting rid of the crud

One of the most common problems with swimming pools and water features is a buildup of mineral deposits. These deposits often appear as a white film deposited on the surface of the tile. These deposits can often develop into heavy crusts. Most of the time the only way to clean these deposits off is to break out the muriatic acid and go out with a scrub brush. The problem with most acids is that will attack the grout as well as the tile. I have seen cases where there was so much acid used in a pool that all the grout turned to powder and was washed away. If there is any marble in the fountain the acid will etch and dull the marble. Most of these failures are the result of misuse of muriatic acid. So what is the proper way to clean these deposits off the fountain? The following is the proper procedure:

Procedure for cleaning mineral deposits off tile

Step 1. Preparation. Before using any acid make sure to wear the proper protective equipment. For muriatic acid this includes chemical resistant gloves, respira-

tory mask and goggles.

Step 2. Protect all adjacent surfaces that might be affected by the splash.

Step 3. Mix one part muriatic acid to two parts water. Make sure to pour the acid into the water. DO NOT Pour the acid in first and then the water. This could cause the acid to splash up. Do not pour the acid into the water from any height, a few inches is appropriate.

Step 4. Apply the acid solution with a sponge or rag. Do not use spray or pour it

on. Agitate with a nylon scrub brush until all the deposits are removed.

Step 5. Rinse the tile with a solution of water with one cup of odorless ammonia added to one gallon of water. One cup of baking soda to one gallon of water will also work. This step is important since it will neutralize the acid.

Step 6. Rinse entire surface down with clean water.

The above procedure should reduce the amount of damage done. There are al-



ternative non-acid cleaning methods using bead blasting, but this is not a do it yourself technique and will require a professional contractor.

Proper Water Chemistry

Another major problem with pools and water features is improperly balanced water chemistry. The most common mistakes made are as follows:

- Not monitoring water chemistry frequently. You should be checking the pH, total hardness, bromine and chlorine at least twice per week. By monitoring these levels more often only minor adjustments will be necessary.
- Do not allow the pH to get above 8.0. When the pH increases, the activity of

“A properly maintained pool or water feature can go years without a major overhaul or restoration.”

chlorine is dependent on the pH levels. For example, when the pH is 8.5 the chlorine is only about 10 % active but at 7.5 the chlorine is about 50-60% active. Keeping the pH in check will prevent you from over chlorinating the water and will also save you money on chlorine.

Total Dissolved Hardness (TDS) and calcium hardness are also important for water balance and can affect the precipitation of mineral deposits. These

should be checked at least once per month. If the TDS is above 1500 ppm (parts per million) the water will need to be drained and replaced. This cannot be corrected with chemicals. This is a major cause of mineral deposits and staining on tile and stone in pools and water features.

Alkalinity should be 80 to 140 ppm. Lower or higher alkalinity will affect the effectiveness of chlorine or bromine levels. This should be monitored monthly as well.

- If you have a salt-water pool the cells should be cleaned often. Corroded or calcified cells will reduce the amount of chlorine generated.
- If you pool's filter system is a sand or DE (diatomaceous earth) filter try to avoid backwashing too often. Most systems will only require backwashing when the gauge rises from 8-10 psi from clean.
- Clean the filter baskets often. If these are clogged this reduces the amount of water flow and can cause not only poor circulation but build up of deposits, scum algae etc.
- If you use liquid chlorine add it in the evening, not during the day.
- Brush the walls and tile both above and below the surface with a soft nylon brush. This will keep the deposits, algae and scum from adhering.
- Check for damaged tile and pipes. You should be checking the pool on monthly bases for cracked tile and grout, broken pipes, etc. These should be repaired immediately.

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A properly maintained pool or water feature can go years without a major overhaul or restoration. Of course, you must start with the proper water balance and a sound water-tight system. If you run into problems or issues that are causing failures make sure to consult an expert to prevent further deterioration. 

A Call in the Midnight Hour

By Tim Arwood, CEOE

Director of Engineering, Sonesta Hotel Downtown Orlando

Managed by Gemstone Resorts



If you are a Chief Engineer, then you have experienced that sound of the phone in the middle of the night. Oh, it could be a fire in a kitchen exhaust vent, a broken water main, the

third shift front-desk clerk saw a drop of condensation fall from an air duct, or your third shift guy can't find his paintbrush. Over the years these calls will run the gambit and the most important thing is making sure that you make the right call. We all have our war stories about those early AM runs to the property and how we were calling plumbers, electricians, or locksmith on the way to the event. Yes, there are those times we go in and find that we really weren't needed to resolve a problem and there are those times that you wish you were three people. Know whether it is a situation that warrants you coming in the middle of the night or is it something that someone on duty can handle with a little instruction. This decision is critical and there's no way you can sugar coat this, but keep in mind your future with the property could be determined by your choice.

My advice to you is always error on the side of caution. First, have an emergency list of your vendors at home, by the front desk, and posted on the wall of your shop. You probably have this emergency contact list in your cell phone and if you do,

have your info on your Sim Card backed up. Make sure on your hard copy of those emergency contacts you make a column to explain what each vendor would respond to in the event of an emergency. And, have a back-up emergency vendor for each category, because many times their nighttime on-call technician may not answer the phone or try to get out of coming out. It is not bad idea if it is a company that you deal with on a regular basis to become familiar with higher-ranking supervisors or company officials. You would be surprised how quickly an on-call tech, who tells you that he can't get equipment or parts until his shop opens in the morning will change his tune when you tell him you have the owners cell phone number and you will give him a call and ask him to meet the tech to open the shop. Nine times out of ten he is already grabbing his keys by then.

As for the war stories I mentioned, we all have them or know of them. And, of course, there are stories behind the stories. We all have a personal life and caring for families may sometimes put a strain or an occasional restriction on our being able to respond, so try to have a well trained designated person on-call at all times, when those times arise that you are totally indisposed. In all honesty, you know what is expected of you and you did sign on for this job and know the responsibilities that it entails. One Chief out west got the 1:30 AM call in the night that there was water in the lower level of the parking garage. Well, that always happens when they have an occasional rain and

the sump pumps will clear out that two or three inches of water in a short time. Also, that night the Chief's spouse, who was tired of everyone crying wolf at night for trivial things, insisted that he need to get his rest and can't just wait until morning. How did it go? The food and beverage director was called after the chief didn't show up to deal with the four feet of sewage in the garage. Oh, by the way, the corporate CFO had parked his \$75k car down there before flying to Europe for business. The next week the new chief engineer walked the area with the F & B Director and was briefed on the sewer pipe that had burst that night. Remember sometimes even if we put on the cape and fly to the emergency we can't always resolve things that the city, county, or utility company may ultimately have to correct, but responding and knowing what to do, and who to call is all it takes to fulfill your obligations as the "Chief Engineer."

I would like at this time to say that a Chief's best friend is knowledge and education. There are many beneficial certifications and designations out there that will aid you in having the tools you need to be successful. A HVAC certification is a must! Do you have your CPO (Certified Pool Operator)? Have ever attended a seminar on laundry or kitchen equipment repairs? In the months to come Lodging Engineer and NAHLE will be helping to put you in contact with those who can help you prosper and grow along your career path. 



HVAC Coil Cleaning Maintenance

Dennis M. Trost

VP Sales/Marketing, Kapa Technologies, Inc.



Anyone who has the responsibility of maintaining a hospitality facility knows how crucially important a comprehensive "Coil Cleaning Program" is

for their property. This is especially true when looking to conserve energy in today's ever increasing eco-friendly world, not to mention that it is often mandated for maintaining a GREEN certification status. The routine cleaning of your HVAC coils will remove contaminants, some even containing mold and fungus. This, according to utility companies, will increase the efficiency of your AC units with savings of up to 21% off your total utility bill. Having clean coils could yield up to six thousand dollars in ENERGY SAVINGS annually for a hotel of just 100 rooms! It is also a good idea to check with your local utilities because some companies offer up

to a 50% rebate on your 1st cleaning.

With reductions in operating budgets as a result of revenue short falls, it is an unfortunate that many facility managers using PTAC units practice "In-House" spot cleaning and let their PTAC units run until they "freeze-up." PTAC units use a washable screen as a filter, this being the least protection for your coils. Once a PTAC unit goes down, it is removed and staged for repair & cleaning, then stored for the next swap-out. Waiting for units to be "swapped-out" means they have been running on blocked coils a large percentage of their use. These "In-House" cleaning procedures of repairing, cleaning, & swapping-out of units can all be very costly. And, this more than eats up the time/labor saved by foregoing a reliable coil cleaning preventive-maintenance schedule.

Here's a tip: Many of my clients attach



The routine cleaning of your HVAC coils will remove contaminants, some even containing mold and fungus.

¼" poly media over PTAC coils by using Velcro for better filtration. Poly media is inexpensive, easy to work with and disposable. Talk about a labor saver! 

See KAPA's ad on page 17



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- **Links** - to websites including commonly used standards and regulations such as OSHA Lockout / Tagout safety or Department of Justice' ADA checklist, Material Safety Data Sheets and other trade associations promulgating standards of mutual interest.
- **Forum** - web-based forum to exchange ideas and information among your peers with threaded discussions (be the first to post...its brand new),
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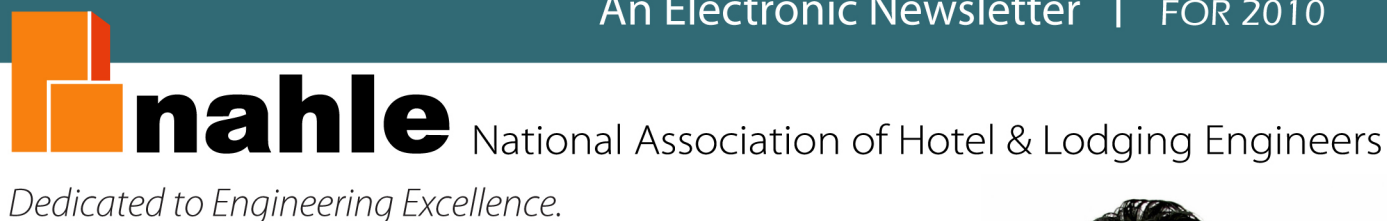
As NAHLE is now approaching our third year, I want to thank each and every one of you for your support and hard work. I must admit it has been both challenging and a lot of fun and we have made a lot of progress, but we still have a long way to go. However, I need your support, both financially and as contributors of ideas, leadership and articles for Lodging Engineer. So if you like what we are trying to do here, make a differ-

ence! Join NAHLE, refer a vendor to NAHLE, write an article on a maintenance procedure so that your peers can benefit from your experience, contact NAHLE if you would like to be interviewed as our next 1st Person, post a job, or send us a picture of your staff or your hotel's maintenance shop or whatever you want and we just might put it on our website's home page or in Lodging Engineer.

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