

## Holiday Lighting Tips By Sally Hanrahan

With the holidays fast approaching, it's not too early to start planning your outdoor decorations. Whether you hang the lights yourself or have a holiday lighting service do it for you, here are several important tips or a safe and trouble-free light display:

- Purchase lights that are UL approved for outdoor use. Though commercial grade products are more expensive, they will perform better and last longer.
- Use only UL approved extension cords rated for outdoor use.
- Use UL approved outdoor timers – ideally, digital with battery backup.
- Chart the location of electrical outlets and make sure each has power.
- Determine the maximum electrical capacity per circuit which is dependent upon the number of amps the circuit is rated. A typical home usually has 15 or 20 amp circuits. As you design your lighting plan, a good rule of thumb is to use only 80% of a circuit's capacity (12 and 16 amps, respectively).
  - C7/C9 bulbs (large, old fashion bulbs used to outline houses or commercial buildings and decorate Christmas trees) draw approximately 1 amp for every 17 bulbs. A strand of 100 C7 or C9 bulbs will draw 5.8 amps. This means you can install no more than 204 C7/C9 bulbs on a 15 amp circuit or 272 bulbs on 20 amp circuit. In both cases it is less than 3 strands of 100 C7 or C9 bulbs.
  - A typical strand of 100 incandescent mini-lights will draw approximately .33 amps. This means you can install roughly 36 strands of 100 mini-lights on a 15 amp circuit or 48 strands of 100 mini-lights on a 20 amp circuit.
  - LED mini-lights utilize 1/10th the power of conventional incandescent mini-lights, thus 1,000 LED lights will use approximately .33 amps. This means you can install 363 strands of 100 LED mini-lights on a 15 amp circuit or 484 strands of 100 LED mini-lights on a 20 amp circuit.
- Once you know your electrical limits, determine what type of lights to use, where they will be installed and which outlets they will be plugged into.
- Next, take into account how the amperage drop affects the brightness of your lights. When electricity travels through electrical cords and lights, the amperage decreases as it gets further away from the power source. When this happens the light bulbs furthest from the power source will be noticeably dimmer than the ones closest to the source. Even if the circuit has appropriate amperage, you should not connect too many light strings together consecutively. For best results, follow these guidelines:
  - Incandescent C7/C9's – no more than 125 bulbs per run

- Incandescent mini-lights - no more than 600 mini-lights per run
- LED mini-lights – no more than 2000 lights per run
  - Cover all connections with electrical tape to prevent moisture from shorting out the lights and tripping GFIs.
  - If extension cords need to run across a driveway, cover them with a protective strip.
  - When decorating trees, carefully wrap light strands around branches so they will not blow in the wind or break branches. Lights left up year round need to be checked annually to insure that they do not strangle the tree.
  - Follow proper ladder safety rules to avoid injury.

**When choosing a holiday lighting service, the following information should be assessed:**

- Is installer licensed and bonded – this will protect you if there is damage done to your home or property.
- Be sure to compare apples to apples when getting bids – not all lights are created equal and not all installers use UL approved, commercial grade outdoor timers, cords and lights.
- If purchase of the product and storage fees are part of the service, make sure the company has a good customer service track record and will be around next year.
- Is the product well made and designed so it won't blow off your home or business? Is there a product warranty?
- How will your energy bill be affected by the type of lights that are installed? Regular C7/9's are the least energy efficient; incandescent mini-lights are significantly more efficient and LED's of any type are the most energy efficient and the most expensive.
- How are lights installed in trees and shrubs? They can easily be damaged by careless installers.

Local lighting services range from simply putting up your existing lights to those that offer design, product, installation, take-down, maintenance, storage and a product warranty.

Products range from regular & LED C7/9's, a variety of mini-lights both LED and incandescent, animated and stationary displays, to patented 'Linkables' -- a 44" aluminum rod with LED lights in several different colors & designs -- snowflakes, candy canes, stockings, icicles, bow & garland, peppermint sticks, swags and more. They "link" together to form a seamless line of lights that can be hung from eaves, gutters, porch railings and fences or placed onto stakes in the ground to line a sidewalk or driveway. Other products available include artificial garland & wreathes with lights in a variety of colors, starbursts which hang from recessed light fixtures, trellises or in trees, and new this year, patented raindrops.

To see examples of many of the most current offerings in holiday lighting, drive by any of the three Moana Nursery garden centers or the Moana Landscape & Design Center (1190 Moana Lane) – all are now decorated for Christmas.