

Comfortable LIVING

Spring 2017

**SERVICE
DETECTIVES**



Service Detectives is a recognized service leader in Southern Illinois. Our goal is to make you a customer for life. That's why we put so much effort into making sure your service experience is unlike any you've had before!

Why Wiring Material Matters

Electrical wiring has gone through many phases of development from the first bare wire installed in the 1800s to the present variety of cable sizes and thickness. Without it, modern life would not exist as we know it.

Copper is by far the most common wiring material. It has high electrical conductivity, second only to pure silver, but costs much less. It also dissipates heat easily, preventing it from overheating. It's chemically stable and when it rusts it forms copper oxide, which also conducts electricity.

Copper can be shaped and is also ductile, making it easily formed into wires. It can be welded, soldered and brazed as needed for ease of installation. Copper's strength allows it to resist breakage and damage so connections stay intact longer with reduced risk of fire.

Aluminum was popular in North America in the 1960s and 1970s due to the increase in copper price. Its ability to conduct electricity is less than copper's so wiring must be thicker for the same amount of electricity.

One very important thing to note is that aluminum can overheat and cause a fire. Houses built or renovated in the 60s and 70s will likely contain

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Electrician Jokes:

What kind of car does an electrician drive?

A Volts-wagon

What is an electrician's favorite ice cream flavor?

Shock-o-lot



certified professional and repaired if necessary. Special connectors are available to mitigate against these risks and keep you safe.

Why Wiring Material Matters

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aluminum wiring. What makes aluminum so prone to overheating?

One reason is its tendency to creep. Creep refers to a material's slow movement over time due to external forces or stresses acting on it. Aluminum's movement creates problems at the connection points, which leads to overheating.

Another risk is created when the aluminum rusts to form aluminum oxide. This oxide can't conduct electricity so less wiring is available for electricity to flow through, causing it to overheat.

Some insurance companies won't insure a home wired with aluminum while others want the joints inspected by a

Silver is a better conductor than copper but not as abundant and cost effective. It's used for highly specialized applications so you won't find any hiding in your walls.

Wiring isn't just about the metal conductor. Insulation around wires is vital for safety and efficiency of the system. They protect the wire from damage and prevent bare wires from touching and short-circuiting. A jacket is placed around insulation that offers further protection to the wiring.

Besides having low electrical conductivity, insulators must be flexible, stable and corrosion resistant. Plastics like polyvinyl chloride (PVC) and polyethylene, rubbers, fiberglass and silicone are among the most commonly used insulation materials.

Wiring Safety

If you're concerned about the wiring in your house, give Service Detectives a call. We can make sure everything is safe for you and your family.





14 Spring Activities

These fun suggestions are great for all ages!

1. Sightsee at the zoo
2. Go fly a kite
3. Make a decorative bird feeder
4. Explore a Farmers Market
5. Picnic in the park
6. Go to your local library
7. Enjoy an evening walk
8. Spring clean your home
9. Plant a garden or flowers
10. Set up an outdoor scavenger hunt
11. Reread your favorite book
12. Play miniature golf
13. Take a morning hike
14. Attend a major/minor league baseball game



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6 Home Features that Cut Heating and Cooling Loads

The move toward passive heating and cooling is growing. It saves money and reduces greenhouse gases. Here are some ways to cut down on heat gains and losses from your home.

Insulation

Insulation slows down heat flow. In winter this means less heat escapes and in summer, it keeps your air conditioner from working overtime. Upgrading insulation is a sure-fire way to cut your energy use.

Proper sealing

If air leaks in around windows and doors, you undo everything your insulation does. Known as infiltration, this air carries moisture in summer and low temperatures in winter, taxing your equipment and wasting energy.

Window locations

In the northern hemisphere, the sun in winter sun shines from the south. The opposite is true for the southern hemisphere. Having large windows face the winter sun allows for sunlight to heat up those rooms, reducing your heating load. The downside is that more heat is lost through these windows at night and on cloudy days.

Window treatments

Curtains and blinds can reduce heat gain and loss depending on their insulation value. Blocking out the sun in summer keeps the

space cool even if you have no shading from outside. Heavy curtains keep the heat in on cold winter nights, reducing losses from large windows.

Overhangs

Strategically placed overhangs can prevent your large windows from creating large problems in the summer. During this season, the sun is high in the sky. Overhangs that block windows from direct sunlight reduce the heating effect of the sun and keep your cooling bill down.

Type of glass

Glass performance has two main characteristics: heat transfer coefficient and shading coefficient. The heat transfer coefficient indicates how well the glass prevents heat from flowing through. The shading coefficient affects the sunlight entering the space. A higher shading coefficient keeps more sun out. Glass thickness, the number of panes and coating type all impact these numbers and vary between manufacturers.

You still need well-maintained equipment. Even with minimal heat gains and losses, your HVAC equipment needs to run efficiently. Give us a call to assess ways you can reduce your energy usage and keep your equipment in top shape.



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**Coupon
Corner**

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SAVE \$25

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Bacon Wrapped Sea Scallops with a Chardonnay Reduction, Butter Cream Sauce

For a surprisingly easy, gourmet meal, whip up these bacon wrapped scallops. Serve with creamed spinach for a delicious duo.

Ingredients:

Around 10 large sea scallops or bundle smaller ones together	1 stick of butter
10 strips of bacon	Half a cup of Chardonnay
	¼ cup of heavy cream

Directions:

Add half the butter to a pan on medium high heat, reserving the remainder. When the butter is melted, add the wine and stir until mixed. Keep stirring until a slight boil. Reduce heat to medium low and continue to stir, while preparing the scallops. When the scallops are cooking, reduce heat to low and add the cream. Mix well and continue to stir occasionally.

Wrap the scallops with bacon and use one or more toothpicks to hold them together. Melt the remaining butter. Liberally brush the butter on the scallops and place the butter side down on a pan heated to medium. Pan fry each side for approx. 5 minutes, then liberally brush the top and flip the scallops. If the scallops are not cooked through (they should be a little brown on the top), repeat the process of brushing with butter and flipping them, cooking each side for 1 to 2 minutes. When the scallops are done, top with the sauce.

