



Older homes

Older homes have a sense of character and charm that can be difficult to replicate in newer, modern homes. However, older homes tend to require higher levels of maintenance due to aging electrical, plumbing and HVAC systems. If you currently own or are thinking about purchasing an older home, it is important to give careful consideration to the following areas.

Electrical

Electrical systems in older homes can pose significant problems and should be examined carefully. Electricity began showing up in residential applications in the late 1800s and was widely available in the urban areas of the U.S. after World War I. Unfortunately, it is common to find homes that were built during this era that have not been fully updated. Many reasons are often cited for the lack of electrical system updates, including budget constraints, not wanting to disturb the original plaster walls or the misconception that updates are not necessary. Older electrical systems were not designed to handle the demands of modern lighting, appliances, HVAC systems and electronics.

Let's explore a few components of electrical systems often found in older homes:

Knob and tube wiring

This type of wiring was commonly installed from the late 1880s to the 1940s. It is easily identified by the porcelain knobs that anchor the wiring and the tubes that allow the wiring to pass through joists or studs in the wall. The positive and neutral wires are completely separate, usually found approximately six to 12 inches apart, and this wiring is not grounded. This type of wiring was installed when homes had little more than a coffee pot, a clothes iron and a small refrigerator to power.

When this type of wiring is used to supply electricity to high-demand modern components, overheating can easily occur. Overheating and age can deteriorate the insulation, expose the wiring and increase the chances of electric shock or fire.

Aluminum wiring

Aluminum wiring was used for a period of time from the mid 1960s to the late 1970s due in part to a spike in copper prices. The use of aluminum wiring was discontinued due to problems that developed with the product. Aluminum wiring is not as flexible as copper and has a greater thermal expansion and contraction, which can create problems at connection points. As the wire heats and cools time and time again, connections can become loose and create a gap between the wire and the connector. The gap causes the electricity to arc, creating sparks and can easily lead to a fire.

Another common problem with aluminum wiring is overheating. Overheating can result from corrosion that occurs where steel connectors or copper wire is connected to the aluminum wire. The corrosion is a result of the two different types of metal being in contact with one another. Aluminum wiring also has a higher resistance to electrical current than copper wiring. If the physical size of the wire is too small for the application, this too can easily cause overheating.

Fuses

Fuses are a common component of older electrical systems in homes and were widely used until the late 1960s in residential applications. Fuse panels can be problematic due to the ease of overloading the circuits. Overloading is often found when a fuse repeatedly blows due to a large demand placed on the circuit, and a larger

amperage fuse is used in its place. Also, fuse panels often have fewer circuits, which can encourage improper modification to add more outlets or lighting fixtures in a home. These actions can lead to a myriad of problems, including overheating the wires and thermal breakdown of the wires insulation, easily leading to a fire.

If any of these components are found or suspected in your home, the electrical system should be thoroughly inspected by a licensed professional.

Plumbing

Plumbing systems in homes built in the 1960s or earlier commonly contain galvanized steel plumbing pipes. If galvanized pipes are found anywhere in the plumbing system of a home, they are certainly at the end of their useful life and should be replaced. Over time, galvanized pipes corrode from the inside out due to the level of oxygen and minerals in the water, promoting rust and deterioration. It is common for these pipes to fail, leak and cause extensive damage to homes.

It is common for older homes to have partial updates to the plumbing system where sections of the galvanized pipes have been removed and replaced with copper. If these updates are not properly completed, they can be just as problematic as no updates at all. Any time copper and galvanized pipes are joined, a dielectric union is required to stop the corrosion that is caused by the two types of metal touching. Without the proper union, the pipes will corrode, and failure may occur.

Aging sewer lines are also a common source of problems in older homes. In the past, sewer lines have been made from cast iron, clay and even a form of wood fiber. These lines are all subject to their respective problems, including root intrusion and corrosion.

Any home with an aging plumbing system should be carefully inspected by a licensed professional plumber, and full replacement is recommended.

HVAC

A common type of heating in older homes is hot water radiant heat. This type of heating system is tied into the plumbing system and uses many of the same materials. Aging hot water heat systems should be given the same careful consideration as the plumbing system.

The level of corrosion associated with galvanized steel pipes found in hot water radiant heating systems is not typically as significant as what is found on the potable water side of the system. This is due, in part, to the heating portion being a closed loop system, absent of the continual introduction of fresh water. Another factor that reduces the corrosion is the ability to treat the system with chemicals specially designed to reduce corrosion.

When examining the system, check for any galvanized steel pipes, and look carefully at any updates that have been made. If partial updates are found, check for the appropriate dielectric fittings between any copper and galvanized pipes.

Annual maintenance performed by a licensed HVAC professional is an important routine for hot water heating systems. The professional will inspect the system, complete maintenance and cleaning and suggest repairs that will allow your system to continue running at optimal performance.

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