

# Protecting Homes From Lightning

## WHAT TO DO BEFORE LIGHTNING STRIKES

**Three protective measures will help safeguard your home from lightning: a lightning-rod and ground system, a grounded TV antenna and grounded appliances. These devices are particularly important if you live in an area subject to frequent or severe thunderstorms. Unless you have the expertise, have only licensed electrical contractors install these systems.**

### LIGHTNING-ROD SYSTEMS

Lightning-rod and ground systems, if properly installed, are believed to be at least 90 percent effective in preventing damage should a lightning strike occur. They were more common years ago, when they were sold door to door with high pressure tactics. Today, fewer homes have such systems, perhaps because people feel the \$1,500-plus cost outweighs the risk. Just what is the risk? One estimate says a Wisconsin home is likely to be struck by lightning once every 350 years.

A good lightning protection system has five components:

- ◆ The lightning rod or air terminal intended to intercept the strike. Some metal roofs can be used as air terminals.
- ◆ A cable capable of conducting the electrical charge safely to the ground.
- ◆ The ground connector, which provides contact with the earth so that the lightning can be safely dissipated.
- ◆ The bonding between the first three components so that no side flash occurs at the joints because of a poor connection.
- ◆ The lightning arrester or surge protector. Arresters guard against damage that may occur from lightning that strikes a nearby power line, phone line or other wire entering the house.

Quality components and proper installation are both important. If you are purchasing a system be sure it has been approved by the Lightning Protection Institute or Underwriters Laboratory. Also be sure that the contractor is listed or certified by one or both of these groups.

### GROUNDING TV ANTENNAS

Even if you have a lightning rod system, outdoor television antennas should be grounded. The “core of protection” created by a grounded high point probably extends downward at a 45-degree angle all around the high point. A grounded antenna is no substitute for a lightning-rod system, however.

If you have a lightning-rod and ground system, the TV can be grounded by connecting the mast to the rod system. The ribbon lead-in should run through the arrester; the arrester should be grounded to one of the lightning-rod grounds. The arrester should be located at a lower level (closer to the earth) than the TV set.

## GROUNDING APPLIANCES

Appliances are more frequently burned out by electrical surges from nearby lightning strikes than from direct lightning. Lightning does not have to strike the distribution line to cause such a surge. To protect appliances, have a “secondary lightning arrester” installed in the service wires at the point where they drop to the house. Your electric power supplier can tell you where to purchase these secondary arresters and what kinds would be best for your electrical system.

## SURGE PROTECTORS

A relatively inexpensive way to protect electronic equipment from power surges is through use of surge protectors. These devices are typically attached between the appliance and the wall outlet. They protect delicate electronic components in appliances such as microwave ovens, computers and VCRs from power surges caused by lightning or other sources. You can purchase surge protectors at computer and office-equipment stores.

### **Additional resources:**

Your county Extension office, your electric power supplier, licensed electrical contractors, the Lightning Protection Institute