

Underground Utilities (Electric)



Equipment Description

Underground electrical provides power supply to outbuildings, wells, swimming pools, standard voltage and low voltage security and landscape lighting. Maintenance of this electrical wiring is generally the responsibility of the homeowner. For exterior lighting and low voltage applications, the wiring is usually direct buried cable. Power supplies to outbuildings and other remote applications are usually installed in conduit.

Most underground power wiring installations fall under the National Electrical Code as well as various state and local building codes. These codes almost always specify the type and size of wire required for the anticipated load; any mandatory ground fault circuit interrupter (GFCI) systems; conduit size and type required; the minimum bury depth required; and other regulations and restrictions on the choice of and

installation of the wiring. These codes also usually require underground electrical power wiring work to be formally overseen and performed by licensed professionals, and require inspection of the completed installation prior to use. It is the homeowner's responsibility to comply with applicable codes or requirements.

Loss Scenario

The primary cause of underground wiring failure is inadvertent damage sustained during excavation for construction, landscaping or other activities. Inadvertently cutting into or severing underground wiring that is energized presents danger to those digging and causes damage to the wiring. Wiring that is not rated for underground use should not be used, as it is susceptible to water intrusion which can lead to grounding or shorting of the electrical supply and damage to the electrical circuit.

Maintenance Tip

- Underground wiring of the proper type that is properly installed and properly protected (see Loss Prevention Tips) has an almost unlimited service life and requires virtually no routine maintenance.

Loss Prevention Tips

- Homeowners must comply with all applicable codes and standards for materials and the installation of circuits.
- Use only wiring that is properly sized and that is rated for underground use.
- Properly install all required ground fault circuit interrupter (GFCI) systems for all outdoor power circuits.
- Protect underground wiring with conduit of the appropriate size and type.
- Maintain a scaled drawing of the location of all underground power wiring to help prevent inadvertent damage during excavation for construction, landscaping or other purposes.
- Always call the "Call Before You Dig" hotline at 811 to have the locations of existing utility owned underground wiring marked out prior to starting any excavation work on your property.