



A well-built shelter will protect the golfers and their equipment.

Lightning and Shelters

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Quick developing thunderstorms send golfers and spectators scampering for shelter. About 1,800 thunderstorms strike around the world every day and lightning literally may strike at any time in certain areas of the United States.

Much can be done for the safety of the golfer as well as for course maintenance personnel. The following safety rules listed by the Environmental Science Service Administration emphasize the importance of shelters on a golf course. They could help save your life when lightning threatens:

1. Stay indoors and don't venture outside unless absolutely necessary.
2. Stay away from open doors and windows, fireplaces, radiators, stoves, metal pipes, sinks, and plug-in electrical appliances.
3. Don't use plug-in electrical equipment during a storm.
4. Don't use telephones during a storm

—lightning may strike telephone lines outside.

5. Don't work on fences, telephones or power lines, pipelines or structural steel fabrication.
6. Don't use metal objects such as fishing rods and golf clubs. Golfers wearing cleated shoes are particularly good lightning rods.
7. Don't handle flammable materials in open containers.
8. Stop tractor work, especially when the tractor is pulling metal equipment, and dismount. Tractors and other implements in metallic contact with the ground are often struck by lightning.
9. Get out of the water and off small boats.
10. Stay in your automobile if you are traveling. Automobiles offer excellent lightning protection.

11. Seek shelter in buildings. If no buildings are available, your best protection is a cave, ditch, canyon, or under head-high clumps of trees in open forest glades.
12. When there is no shelter, avoid the highest object in the area. If only isolated trees are nearby, your best protection is to crouch in the open keeping twice as far away from isolated trees as the trees are high.
13. Avoid hill tops, open space, wire fences, metal clothes lines, exposed sheds, and any electrically conductive elevated objects.
14. When you feel the electrical charge—if your hair stands on end or your skin tingles—lightning may be about to strike you. Drop to the ground immediately.

One theory of the cause of lightning is the buildup of positive and negative charges during a thunderstorm. The ground charge follows the storm as a shadow growing stronger as the cloud charge increases. The attraction of positive and negative charges makes the ground current flow up trees, buildings, and other elevated objects in an effort to establish a flow of current. Air is a poor conductor of electricity and prevents a flow of current until large electrical charges build up and overcome the resistance of the insulating air and force a conductive path for current to flow between the two charges. The potential in these cases can be as much as 100 million volts. Lightning strokes present a flow of current from negative to positive in most cases, and may proceed from cloud to cloud, cloud to ground, or when high structures are involved, from ground to cloud.

Thunder is caused by explosive expansion of air heated by the stroke of lightning.

LIGHTNING RODS

The once-used lightning rod on homes is suggested for the shelter station and should be properly grounded. More are being installed on new as well as old shelters but in hopes that they will never be used. Large trees should be cabled and rods placed in the top of the tree. This cable conducts the charge into the earth with possibly less damage to the tree. If large single trees are near a shelter, they should be grounded the same as the shelter for further protection.

SHELTER LOCATION

The best location for a shelter is in a group

of trees, not by a single tree. Combination shelters and rest rooms are best. If rest rooms are not provided, most golfers will not use them as shelters from a storm and they will lose their usefulness. Furthermore, both golfer and employee will appreciate conveniently located rest rooms.

CONSTRUCTION

Construction of shelters varies from elaborate brick veneer to metal buildings. Metal is not completely acceptable due to electrical attraction and thunderstorms! Wooden construction can be very attractive and is widely used, but the danger of fire from vandalism cannot be overlooked. Concrete block buildings may not be as good looking, but they are more vandal-proof.

The trend now is to build for more shelter as well as for greater golfer comfort. The golf car has necessitated an increase in size, and some shelters will serve as many as 20 golfers and their cars. You may find almost anything installed in today's shelter. A recently-installed telephone saved a man's life as an ambulance was summoned immediately during his heart attack. Phones as well as radios are used for arranging meals and coordinating movement of golfers from shelters to the clubhouse during a prolonged storm.

One major mistake in shelter construction is the installation of block concrete or tile floors in rest rooms. The contractor should rough the concrete at time of construction or cover it with an all weather nonslippery material. Tiles may be covered with an attractive nonslip pad. Tile is especially attractive as it gives reflected light and a clean appearance. It is easily scrubbed with a hose and detergent.

VANDALISM

Vandalism will always be a problem, but there are ways and means to reduce it. Newly constructed pre-stressed concrete tops on a comfort station at La Gorce Country Club in Miami Beach are not only vandal-proof but hurricane-proof as well. Concrete blocks for walls and barred windows make stations and "half-way houses" less subject to vandalism. Interior fixtures are now available that are vandal-proof.

Vandalism may also be reduced by the location of the building. If it is open to view from the clubhouse or another building, vandalism is usually reduced.

So head for the shelter in a storm. It can be a safe home-away-from-home on the golf course.