What are the design requirements for exit routes? You must ensure that each workplace meets each of the following requirements:

1. Each exit is a permanent part of the workplace.
2. Two exit routes, remote from one another, are available to provide alternate means for employees to safely leave the workplace during an emergency.
   
   a. A single exit route is permitted where the number of employees, the size of the building, its occupancy, or the arrangement of the workplace indicate that a single exit will allow all employees to exit safely during an emergency. Other means of escape, such as fire exits or accessible windows, should be available where fewer than two exit routes are provided.
   
   b. More than two exit routes are available to allow employees to safely leave the workplace during an emergency where the number of employees, the size of the building, its occupancy, or the arrangement of the workplace reasonably suggest that reliance on two exit routes could endanger employees.
3. An exit has only those openings necessary to permit access to, or exit from, occupied areas of the workplace. An opening into an exit is protected by a self-closing fire door that remains closed. Each fire door, its frame, and hardware are listed or approved by a nationally recognized testing laboratory.
4. Construction materials used to separate an exit have a 1-hour fire resistance rating if the exit connects three or fewer stories. Construction materials used to separate an exit have a 2-hour fire resistance rating if the exit connects 4 or more stories.
5. Free and unobstructed access to each exit route is provided to ensure safe exit during an emergency.
   
   a. The exit route is free of material or equipment.
   
   b. Employees are not required to travel through a room that can be locked, such as a bathroom, or toward a dead end to reach an exit.
   
   c. Stairs or a ramp are used if the exit route is not substantially level.
6. An exit leads directly outside or to a street, walkway, refuge area, or to an open space with access to the outside.
   
   a. The street, walkway, refuge area, or open space to which an exit leads is large enough to accommodate all building occupants likely to use that exit.
   
   b. A refuge area is:
      
      i. A space along an exit route protected from the effects of fire either by separation from other spaces within the building or by its location; or
      
      ii. A floor with at least two spaces separated by smoke-resistant partitions, in a building where each floor is protected by an automatic sprinkler system. An automatic sprinkler system complies with NFPA No. 13, Automatic Sprinkler Systems.
6. Exit stairs that continue beyond the floor of exit discharge are interrupted by doors, partitions, or other effective means.
7. Where a doorway or corner of a building is located near a railroad or trolley track so that an employee is liable to walk upon the track in front of an approaching engine or cars, a standard safeguard must be installed with a warning sign.
8. An exit door can be readily opened from the inside without keys, tools, or special knowledge. A device, such as a panic bar, that locks only from the outside is permitted. An exit door is free of any
device or alarm that, if it fails, can restrict emergency use of an exit.

Note: An exit door may be locked or blocked from the inside in a mental, penal, or correctional institution, if supervisory personnel are continually on duty and a plan exists to remove occupants during an emergency.

(9) The opening device on all doors of walk-in refrigerated or freezer rooms must be the type, when locked from the outside with a lock, can be opened from inside.

(10) A side-hinged exit door is used to connect any room to an exit route. A door that connects any room to an exit route swings out if the room may be occupied by more than 50 persons or highly flammable or explosive materials may be used inside.

(11) Each exit route supports the maximum-permitted occupant load for each floor served by the exit route. The capacity of an exit does not decrease with the direction of exit travel.

(12) Minimum height and width requirements:
(a) Make sure the exit route has a minimum ceiling height of 7 feet 6 inches and that no projection from the ceiling is less than 6 feet 8 inches from the floor.
(b) Objects that stick out into the exit route, such as fans hanging from the ceilings or cabinets on walls, must not reduce the minimum height of the exit route to less than 6 feet 8 inches from the floor.
(c) The width of an exit route is at least 28 inches wide at all points between handrails. An exit route is wider than 28 inches if necessary to accommodate the expected occupant load.
(d) Objects that project into the exit route do not reduce the minimum height and width of an exit route.

(13) An outdoor exit route is permitted if it meets the requirements for an indoor exit route and the following additional requirements.
(a) The exit has guardrails to protect exposed sides.
(b) The exit route is covered if accumulation of snow or ice is likely and is not removed regularly.
(c) The exit route is reasonably straight with smooth, solid, substantially level floors.
(d) The exit route has no dead ends longer than 20 feet.