

SPECIAL AMUSEMENT BUILDINGS

June 2010

CODE REVIEW

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Special Amusement Buildings

References:

North Carolina Building Code, 2009 Edition, page 47, Section 411

International Building Code and Commentary Volume 1, 2006 Edition, pages 4-63 – 4-85

Brief History of the Special Amusement Building Provisions:

On the 11th of May 1984 in Jackson Township, New Jersey, a fire in the “Haunted Castle” at Six Flags Great Adventure Park claimed the lives of eight visitors. The visitors were unable to immediately exit the structure. It has been determined that the major factors contributing to the loss of life in this fire were:

- Failure to detect and extinguish the fire in its incipient stage by means of fixed fire detection and suppression systems.
- Ignition of synthetic foam material and subsequent fire and smoke spread involving combustible interior finishes and contents.
- Difficulty of escape by the occupants based on fire conditions in the haunted-house type of environment.

Definition: A special amusement building is any temporary or permanent building or portion thereof that is occupied for amusement, entertainment or educational purposes and that contains a device or system that conveys passengers or provides a walkway along, around or over a course in any direction so arranged that the means of egress path is not readily apparent due to visual or audio distractions or is intentionally confounded or is not readily available because of the nature of the attraction or mode of conveyance through the building or structure.

1. A few examples of special amusement buildings would be: Haunted Houses, Laser-tag arenas, Mazes and a House of Mirrors.
2. Amusement buildings with occupant loads of 50 or more shall comply with the appropriate Group A occupancy and Section 411. Amusement buildings with occupant loads less than 50 shall comply with the requirements for a Group B occupancy and section 411.
3. All special amusement buildings shall be equipped with an automatic fire detection system regardless of the presence of staff. The automatic fire detection system shall be installed in accordance with Section 907.
4. All special amusement buildings shall be equipped throughout with an automatic sprinkler system installed in accordance with section 903.3.1.1.
 - In the case of temporary special amusement buildings the automatic sprinkler system is not required provided that the special amusement building does not exceed 1,000 square feet and the travel distance from any point to an exit is less than 50 feet. Where the temporary special amusement building is required to be equipped throughout with an automatic sprinkler system the water supply is allowed to be provided by an approved temporary means.

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5. The actuation of a single automatic fire detection device such as a smoke detector or the automatic sprinkler system shall immediately sound an alarm at a constantly attended location in the building from which the staff are expected to be capable of initiating the following emergency actions:
 - a. Activating the required egress illumination
 - b. Stopping the confusing or conflicting sounds and distractions, and
 - c. Activating the required exit marking.
 - The staff is also expected to be capable of preventing other persons from entering the special amusement building.
6. The actuation of two or more smoke detectors, a smoke detector with alarm verification, the automatic sprinkler system or other approved fire detection devices shall automatically initiate items a, b and c above. The staff is required to prevent other persons from entering the special amusement building.
7. An emergency voice/alarm communications system shall be provided throughout the special amusement building. This system may also be used as a public address system and shall be audible throughout the entire special amusement building. The emergency voice/alarm communication system shall automatically sound an alert tone followed by a pre recorded voice message instructing patrons to proceed to the nearest exit. The alert tones, alarms and prerecorded voice messages shall be distinct from sounds used during normal operation.
 - There shall be a manual override for the emergency voice/alarm communication system provided on a selective and all-call basis for paging all zones
 - The system shall be capable of broadcasting live voice messages through paging zones on a selective and all-call basis.
8. All required exit or exit access doorways of special amusement buildings shall have exit signs installed. In addition to the required exit signs approved direction exit markings shall also be provided. In situations where the path of egress travel is not apparent approved low-level exit signs and directional path markings shall be provided and located not more than 8 inches above the walking surface and on or near the path of egress travel. IN the event of an emergency these markings shall become visible. The automatic fire detection system and the automatic sprinkler system shall activate the direction exit marking.
9. Only Class A interior finishes tested in accordance with ASTM E 84 shall be installed in special amusement buildings.
 - Class A: Flame spread 0 - 25; smoke developed 0 - 450.