



**CHARLOTTE FIRE DEPARTMENT
FIRE MARSHAL'S OFFICE
500 DALTON AVE
CHARLOTTE, NC 28206**



Temporary Structure Guidelines and Permitting

The guidelines established herein are based on provisions of the North Carolina Fire Code. Any proposed alternative measures to the requirements below shall provide an equal level of safety and shall require prior approval from the fire official. Tent and membrane structures must comply with all sections of the North Carolina Fire Code.

Permits:

- The erection of any tent or canopy (or multiple tents without a 12-foot fire break) in ***excess of 800 square feet*** requires prior approval and an operational permit issued by the Charlotte Fire Department, Fire Prevention Bureau Office.

Exceptions:

- Tents or canopies not exceeding 1,800 square feet that are open on all sides without sidewalls, drops or other physical obstructions on 75 percent or more of the perimeter.
- Tents or canopies used exclusively for camping or funeral services.
- Temporary stage canopies not exceeding 400 square feet.
- The erection of a membrane structure, inflatables in ***excess of 400 square feet*** requires prior approval and an operation permit issued by the Charlotte Fire Department, Fire Prevention Bureau Office.
- Temporary Stage Canopies, Viewing Platforms ***in excess of 400 square feet*** requires approval, a permit from the fire code official and Mecklenburg County Code Enforcement.
- Before a permit is granted, a certificate must be submitted to the fire official certifying the structure is composed of materials meeting the flame propagation performance criteria of Test Method 1 or Test Method 2 of NFPA 701.
- Any tent with an occupant load of 50 or more persons shall require the submittal of a detailed site plan, indicating seating and table arrangements, location of any stage and other interior structures, exit arrangements and location and type of heating and electrical equipment.



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Access, Location and Parking:

- Fire apparatus access roads shall be a minimum of 20 feet, and roads shall not be obstructed in any manner, including the parking of vehicles.
- Tents shall not be located within 20 feet of lot lines, buildings, other tents or membrane structures, and internal combustion engines, with the following exceptions:
 - Separation distances between tents and membrane structures NOT used for cooking is not required when aggregate floor area of the tents do not exceed 15,000 square feet;
 - Tents need not be separated from buildings when ALL the following conditions are met:
 1. The aggregate floor area of the tent or membrane structure shall not exceed 10,000 square feet.
 2. The aggregate area of the tent AND building shall not exceed the allowable floor area as indicated in the International Building Code.
 3. Required exiting is maintained for both the tent and building, including travel distances.
 4. Fire apparatus access roads are maintained.
- Tents with an area of 15,000 square feet or more shall not be located closer than 50 feet from any building or other tent, except with connecting corridors between multiple tents.
- Connecting corridors are allowed provided that an approved exit is located at each end of such corridor.
- A fire break or access of not less than 12 feet shall be maintained on all sides of tents, unless otherwise approved by the fire official.
- Tents shall be properly roped, braced and anchored to withstand the elements of weather and to guard against collapsing.



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Means of Egress:

- Exits shall be spaced at equal intervals as can be best accomplished.
- Any area of the tent shall be located within 100 feet of an exit.
- The required number and minimum width of exits shall be in accordance with the following:
 - Occupant load (OL) 10 to 199: Minimum 2 exits, minimum 72 inches/exit.
 - OL 200 to 499: Minimum 3 exits, 72 inches/exit.
 - OL 500 to 999: Minimum 4 exits, 96 inches/exit.
 - OL 1,000 to 1,999: Minimum 5 exits, 120 inches/exit; or 7 exits, 96 inches/exit.
 - OL 2,000 to 2,999: Minimum 6 exits, 120 inches/exit; or 8 exits, 96 inches/exit.
 - Over 3,000: Minimum 7 exits, 120 inches/exit; or 9 exits, 96 inches/exit. Note: For occupant loads exceeding 3,000, minimum exits shall be based on the total occupant load multiplied by 0.2 inches/person.
- Curtains over exit openings shall be of a color or colors that contrast the adjoining tent color, and curtains shall be on sliding metal supports, located a minimum of 80 inches above the floor surface. Curtains may be taped along edges with colored tape to achieve the contrast requirements stated above, if approved by the fire official.
- Exit doors, if required, shall open in the direction of travel.
- Proper aisle widths shall be maintained for theater-style seating. Consult with your fireins code official for approval.
- Seats in theater-style seating arrangements with more than 200 chairs must be fastened together in groups of not less than three to create seat stability.
- Exit signs shall be clearly posted at each exit for tents serving an OL of 50 persons or more.
- Exit signs shall be either listed and labeled in accordance with UL 924 as the “internally illuminated” type, or externally illuminated in accordance with the following:



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- For OL of 300 or less, two separate circuits, one of which is separate from all other circuits.
- For OL of more than 300, two sources of power, one of which is an “emergency system” supplied by batteries or on-site generators, for a minimum of 90 minutes.
- Means of egress shall be illuminated at floor level during all times the tent is occupied. In most cases, the general lighting already available will satisfy this requirement.

Fire Protection Equipment:

- Portable dry chemical fire extinguishers with a minimum 2A-10BC rating shall be provided so that travel distance does not exceed 75 from any point to an extinguisher.
- Extinguishers shall have updated inspection tags (inspected annually) and shall be mounted on approved hangers. The hanging of extinguishers utilizing zip ties etc. is not acceptable.
- Certain use conditions (fireworks sales, etc.) may require pressurized water extinguishers in addition to the dry chemical type.

Cooking Tents:

- All cooking tents shall be provided with a Class K fire extinguisher.
- Heating or warming of food utilizing solid fuel burning materials (i.e. Sterno fuel cans) shall be approved provided such use is not within 10 feet of an exit or combustible materials.
- Cooking tents shall be separated from all other tents by a minimum of 20 feet.

Heating of Tents:

- Heating of tents shall be accomplished by forced air, with the heating equipment located outside.
- LP gas containers for heating shall be located as follows:
 - Containers with a capacity of 500 gallons or less shall be located a minimum of 10 feet from the tent.



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- Containers with a capacity of greater than 500 gallons shall be located a minimum of 25 feet from the tent.
- All hoses for LP tanks shall be protected from physical damage, and LP gas tank valves shall be fully accessible and closed when not in use.

General:

- Generators and other internal combustion power sources shall be located a minimum of 20 feet from tents, and protected from public contact by fencing, barricades, etc.
- Combustible decorative material is strictly prohibited. Floor surface and area surrounding the exterior of the tent up to 30 feet shall be free of combustible material that may present a fire hazard.
- Crowd managers shall be required at a ratio of one per 250 occupants.
- CFD stand-by personnel will be required for tents with an occupant load of 300 persons or more.

Temporary Stage Canopies

Temporary stage canopies are temporary ground supported membrane-covered frame structures used to cover stage areas and support equipment in the production of outdoor entertainment events.

- Temporary stage canopies must comply with the requirements of Section 3105 of the NC Fire Code and ANSI E1.21.
- Those utilizing a temporary stage canopy shall obtain a permit from the fire code official and Mecklenburg County Code Enforcement. Below are useful links to assist with obtaining a permit through Mecklenburg County Code Enforcement:
 - Visitors Guide:
<https://www.mecknc.gov/LUESA/CodeEnforcement/Documents/Visitor%20Guide%20to%20Special%20Events.pdf>



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- Mecklenburg County Code Enforcement Special Events Application:
<https://www.mecknc.gov/LUESA/CodeEnforcement/Documents/Special%20Events%20Application%20-%20ALL%20EVENTS%20-%20FINAL.pdf>
 - Mecklenburg County Code Enforcement Special Events web page:
<https://www.mecknc.gov/LUESA/CodeEnforcement/Inspections/Pages/SpecialEvents.aspx>
 - Submittal of the permit application shall be accompanied by the following documents:
 - Construction documents from the design engineer including:
 1. A summary sheet showing the building code used, design criteria, loads and support reactions
 2. Detailed construction and installation documents
 3. Design Calculations
 4. Operating limits of the structure explicitly outlined by the registered design professional including environmental conditions and physical forces. (High Wind Plan)
 5. Effects of additive elements such as video walls, supported scenery, audio equipment, vertical and horizontal coverings
 6. Means for adequate stability including specific requirements for guying and cross-bracing, ground anchors or ballast for different ground conditions
 - The designation of a responsible party on site with sufficient knowledge of the construction documents, manufacturer's recommendations and operations plan to make judgments regarding the structure's safety.
 - An operations plan, reflecting manufacturer's operational guidelines, procedures for environmental monitoring and actions to be taken under specified conditions consistent with the construction documents.
 - Before the use of a temporary stage canopy can be granted, the owner of the canopy shall employ a qualified, independent approved agency or individual to inspect the installation and



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provide an inspection report to the fire code official indicating it was inspected and was or was not installed in accordance with the approved construction documents.

- Discrepancies shall be brought to the immediate attention of the installer for correction. Where any discrepancy is not corrected, it shall be brought to the attention of the fire code official and the designated responsible party.
- The following are requirements from *Mecklenburg County Code Enforcement*:
 - Stages in excess of 120 square feet and are intended to be used by 10 or more persons, shall not be erected, operated, or maintained for any purpose without obtaining a permit from Mecklenburg County Code Enforcement.
 - Portable platforms that come in sections and on wheels shall not be considered a stage.
 - Fold out stages regulated by the Department of Transportation shall be considered stages and shall not be erected, operated, or maintained for any reason without obtaining a permit from the Fire Code Official and Mecklenburg County Code Enforcement.
 - Grandstands shall not be erected without obtaining a permit from Mecklenburg County code enforcement.
- Temporary Viewing Platforms must submit engineered drawing for approval by the Fire Code Official before use.

Membrane Structure

Membrane structures are an air inflated, air supported, cable or frame covered structure as defined by the International Building Code and not otherwise defined as a tent.

- Membrane structures must meet section 3103 and 3104 of the NC Fire Code
- An air-inflated structure uses air-pressurized membrane beams, arches or other elements to enclose space. Occupants of such a structure do not occupy the pressurized areas used to support the structure.



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- An air supported structure is a structure wherein the shape of the structure is attained by air pressure, and occupants of the structure are within the elevated pressure area. Air supported structures are of two basic types:
 - Double skin: similar to single skin, but with an attached liner that is separated from the outer skin and provides an airspace which serves for an insulation, acoustic, aesthetic or similar purpose.
 - Single skin: where there is only the single outer skin, and the air pressure is directly against that skin.
 - This section includes but is not Limited to Bouncy Houses.