New Jersey Uniform Fire Code

CHAPTER
TENTS, CANOPIES, AND OTHER MEMBRANE STRUCTURES

TYPE 1 PERMIT: Tent remaining in place 180 days or less

FEE:

Name: 
Address: 
Telephone: 

Location of Event/Business: 

Date of Event: _______ to _______ 
Set-up Date & Time: 

Permit applied for: 
After fee is paid and inspection is made by this office, a permit will be issued.

I hereby acknowledge that I have read the attached requirements, and all information given is correct, and I agree to abide by the requirements.

Signature: ______________________________ Date: ____________________
CHAPTER 31
TENTS AND OTHER MEMBRANE STRUCTURES

SECTION 3101
GENERAL

3101.1 Scope. Tents, temporary stage canopies and mem-
brane structures shall comply with this chapter. The provi-
sions of Section 3103 are applicable only to temporary tents
and membrane structures. The provisions of Section 3104 are
applicable to temporary and permanent tents and membrane
structures. Other temporary structures shall comply with the
building subcode of the Uniform Construction Code.

SECTION 3102
DEFINITIONS

3102.1 Definitions. The following terms are defined in Chap-
ter 2:

AIR-INFLATED STRUCTURE.
AIR-SUPPORTED STRUCTURE.
MEMBRANE STRUCTURE.
TEMPORARY STAGE CANOPY.
TENT.

SECTION 3103
TEMPORARY TENTS AND MEMBRANE
STRUCTURES

3103.1 General. Tents and membrane structures used for
temporary periods shall comply with this section. Other tem-
porary structures erected for a period of 180 days or less shall
comply with the building subcode of the Uniform Construc-
tion Code.

3103.2 Approval required. Tents, tensioned membrane
structures, and canopies meeting the following criteria shall
be subject to the permitting requirements of N.J.A.C. 5:70-
2.7. Tents and tensioned membrane structures that do not
meet these criteria in Items 1 through 5 require a construction
permit pursuant to the Uniform Construction Code.

1. The tent, tensioned membrane structure, or canopy is
less than 140 feet in any dimension and less than
16,800 square feet in area whether it is one unit or is
composed of multiple units. For the purposes of apply-
ing this, tents that are more than 5 feet apart, regardless
of whether they are connected by a walkway, shall be
counted as separate tents. If tents are closer than 5 feet,
the tents shall be counted as the same tent;

2. The tent, tensioned membrane structure, or canopy
remains in place or will remain in place for fewer than
180 days;

3. The tent, tensioned membrane structure, or canopy is
used or occupied only between April 1 and November
30;

4. The tent, tensioned membrane structure, or canopy
does not have a permanent anchoring system or founda-
tion. A construction permit shall be required for the
original installation of a permanent anchoring system
foundation. In addition, a construction permit shall be
required each time a tent is erected on a portable
anchoring system; and

5. The tent, tensioned membrane structure, or canopy
does not contain platforms or bleachers greater than 11
feet in height.

3103.3 Place of assembly. Deleted.
3103.4 Permits. Deleted.
3103.5 Use period. Deleted.
3103.6 Construction documents. A detailed site and floor
plan for tents or membrane structures with an occupant load
of 50 or more shall be provided with each application for
approval. The tent or membrane structure floor plan shall
indicate details of the means of egress facilities, seating
capacity, arrangement of the seating and location and type of
heating and electrical equipment. A construction permit shall
be obtained for heating, ventilation, or electrical equipment
that requires a construction permit pursuant to the Uniform
Construction Code.

3103.7 Inspections. The entire tent, air-supported, air-
inflated or tensioned membrane structure system shall be
inspected at regular intervals, but not less than two times per
permit use period, by the permittee, owner or agent to deter-
mine that the installation is maintained in accordance with
this chapter.

Exception: Permit use periods of less than 30 days.

3103.7.1 Inspection report. Where required by the fire
code official, an inspection report shall be provided and
shall consist of maintenance, anchors and fabric inspec-
tions.

3103.8 Access, location and parking. Access, location and
parking for temporary tents and membrane structures shall be
in accordance with this section.

3103.8.1 Access. Fire apparatus access roads shall be pro-
vided in accordance with Section 503.

3103.8.2 Location. Tents or membrane structures shall
not be located within 5 feet of lot lines, buildings, other
tents or membrane structures, parked vehicles or internal
combustion engines.

Exceptions:
1. Separation distance between membrane struc-
tures and tents not used for cooking is not
required where the aggregate floor area does not
exceed 16,800 square feet.

3103.8.3 Location of structures in excess of 15,000
square feet in area. Deleted.
TENTS AND OTHER MEMBRANE STRUCTURES

3103.8.4 Membrane structures on buildings. Membrane structures that are erected on buildings, balconies, decks or other structures shall be regulated as permanent membrane structures in accordance with the building subcode of the Uniform Construction Code.

3103.8.5 Connecting corridors. Tents or membrane structures are allowed to be joined together by means of corridors. Exit doors shall be provided at each end of such corridor. Corridors connecting tents that are at least 5 feet in length or greater shall have openings on each side of the corridor that are opposite each other and that are equal in width of the required means of egress.

3103.8.6 Fire break. Deleted.

3103.9 Anchorage required. Tents or membrane structures and their appurtenances shall be adequately roped, braced and anchored to withstand the elements of weather and prevent against collapsing. Documentation of structural stability shall be furnished to the fire code official on request.

3103.9.1 Tents and membrane structures exceeding one story. Tents and membrane structures exceeding one story shall be designed and constructed to comply with the building subcode of the Uniform Construction Code.

3103.10 Temporary air-supported and air-inflated membrane structures. Deleted.

3103.10.1 Door operation. Deleted.

3103.10.2 Fabric envelope design and construction. Deleted.

3103.10.3 Blowers. Deleted.

3103.10.4 Auxiliary inflation systems. Deleted.

3103.11 Seating arrangements. Seating in tents or membrane structures shall be in accordance with Chapter 10.

3103.12 Means of egress. Means of egress for temporary tents and membrane structures shall be in accordance with Sections 3103.12.1 through 3103.12.8.

3103.12.1 Distribution. Exits shall be spaced at approximately equal intervals around the perimeter of the tent or membrane structure, and shall be located such that all points are 100 feet (30 480 mm) or less from an exit.

3103.12.2 Number. Tents, or membrane structures or a usable portion thereof shall have not less than one exit and not less than the number of exits required by Table 3103.12.2. The total width of means of egress in inches (mm) shall be not less than the total occupant load served by a means of egress multiplied by 0.2 inches (5 mm) per person.

3103.12.3 Exit openings from tents. Exit openings from tents shall remain open unless covered by a flame-resistant curtain. The curtain shall comply with the following requirements:

1. Curtains shall be free sliding on a metal support. The support shall be not less than 80 inches (2032 mm) above the floor level at the exit. The curtains shall be so arranged that, when open, no part of the curtain obstructs the exit.

2. Curtains shall be of a color, or colors, that contrasts with the color of the tent.

3103.12.4 Doors. Exit doors shall swing in the direction of exit travel. To avoid hazardous air and pressure loss in air-supported membrane structures, such doors shall be automatic closing against operating pressures. Opening force at the door edge shall not exceed 15 pounds (66 N).

3103.12.5 Aisle. The width of aisles without fixed seating shall be in accordance with the following:

1. In areas serving employees only, the minimum aisle width shall be 24 inches (610 mm) but not less than the width required by the number of employees served.

2. In public areas, smooth-surfaced, unobstructed aisles having a minimum width of not less than 44 inches (1118 mm) shall be provided from seating areas, and aisles shall be progressively increased in width to provide, at all points, not less than 1 foot (305 mm) of aisle width for each 50 persons served by such aisle at that point.

3103.12.5.1 Arrangement and maintenance. The arrangement of aisles shall be subject to approval by the fire code official and shall be maintained clear at all times during occupancy.

**TABLE 3103.12.2**

<table>
<thead>
<tr>
<th>OCCUPANT LOAD</th>
<th>MINIMUM NUMBER OF MEANS OF EGRESS</th>
<th>MINIMUM WIDTH OF EACH MEANS OF EGRESS (INCHES)</th>
<th>MINIMUM WIDTH OF EACH MEANS OF EGRESS (INCHES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tent</td>
<td>Membrane Structure</td>
</tr>
<tr>
<td>10 to 199</td>
<td>2</td>
<td>72</td>
<td>36</td>
</tr>
<tr>
<td>200 to 499</td>
<td>3</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>500 to 999</td>
<td>4</td>
<td>96</td>
<td>72</td>
</tr>
<tr>
<td>1,000 to 1,999</td>
<td>5</td>
<td>120</td>
<td>96</td>
</tr>
<tr>
<td>2,000 to 2,999</td>
<td>6</td>
<td>120</td>
<td>96</td>
</tr>
<tr>
<td>Over 3,000</td>
<td>7</td>
<td>120</td>
<td>96</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm.
3103.12.6 Exit signs. Exit signs shall be clearly marked. Exit signs shall be installed at required exit doorways and where otherwise necessary to indicate clearly the direction of egress where the exit serves an occupant load of 50 or more.

3103.12.6.1 Exit sign illumination. Exit signs shall be either listed and labeled in accordance with UL 924 as the internally illuminated type and used in accordance with the listing or shall be externally illuminated by luminaires supplied in either of the following manners:

1. Two separate circuits, one of which shall be separate from all other circuits, for occupant loads of 300 or less.

2. Two separate sources of power, one of which shall be an approved emergency system, shall be provided where the occupant load exceeds 300. Emergency systems shall be supplied from storage batteries or from the on-site generator set, and the system shall be installed in accordance with the electrical subcode of the Uniform Construction Code. The emergency system provided shall have a minimum duration of 90 minutes when operated at full design demand.

3103.12.7 Means of egress illumination. Means of egress shall be illuminated with light having an intensity of not less than 1 footcandle (11 lux) at floor level while the structure is occupied. Fixtures required for means of egress illumination shall be supplied from a separate circuit or source of power.

3103.12.8 Maintenance of means of egress. The required width of exits, aisles and passageways shall be maintained at all times to a public way. Guy wires, guy ropes and other support members shall not cross a means of egress at a height of less than 7 feet. The surface of means of egress shall be maintained in an approved manner.

SECTION 3104
TEMPORARY AND PERMANENT TENTS AND MEMBRANE STRUCTURES

3104.1 General. Tents and membrane structures, both temporary and permanent, shall be in accordance with this section. Permanent tents and membrane structures shall also comply with the building subcode of the Uniform Construction Code.

3104.2 Flame propagation performance treatment. Before a permit is granted, the owner or agent shall file with the fire code official a certificate executed by an approved testing laboratory certifying that the tents and membrane structures and their appurtenances; sidewalls, drops and tarpaulins; floor coverings, bunting and combustible decorative materials and effects, including sawdust where used on floors or passageways, are composed of material meeting the flame propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 or shall be treated with a flame retardant in an approved manner and meet the flame propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701, and that such flame propagation performance criteria are effective for the period specified by the permit.

3104.3 Label. Membrane structures or tents shall have a permanently affixed label bearing the identification of size and fabric or material type.

3104.4 Certification. An affidavit or affirmation shall be submitted to the fire code official and a copy retained on the premises on which the tent or air-supported structure is located. The affidavit shall attest to all of the following information relative to the flame propagation performance criteria of the fabric:

1. Names and address of the owners of the tent or air-supported structure.

2. Date the fabric was last treated with flame-retardant solution.

3. Trade name or kind of chemical used in treatment.

4. Name of person or firm treating the material.

5. Name of testing agency and test standard by which the fabric was tested.

3104.4.1. For a vinyl tent, a certificate of flame resistance from the manufacturer, indicating that the fabric meets the applicable flame propagation performance criteria of NFPA 701, shall be accepted as meeting the requirements of Items 2 through 5 above.

3104.5 Combustible materials. Hay, straw, shavings or similar combustible materials shall not be located within any tent or membrane structure containing an assembly occupancy, except the materials necessary for the daily feeding and care of animals. Sawdust and shavings utilized for a public performance or exhibit shall not be prohibited provided the sawdust and shavings are kept damp. Combustible materials shall not be permitted under stands or seats at any time.

3104.6 Smoking. Smoking shall not be permitted in tents or membrane structures. Approved "No Smoking" signs shall be conspicuously posted in accordance with Section 310.

3104.7 Open or exposed flame. Open flame or other devices emitting flame, fire or heat or any flammable or combustible liquids, gas, charcoal or other cooking device or any other unapproved devices shall not be permitted inside or located within 20 feet (6096 mm) of the tent or membrane structures while open to the public unless approved by the fire code official.

Exception: Cooking tents as per Section 3104.15.

3104.8 Fireworks. Fireworks shall not be used within 100 feet (30 480 mm) of tents or membrane structures.

3104.9 Spot lighting. Spot or effect lighting shall only be by electricity, and all combustible construction located within 6 feet (1829 mm) of such equipment shall be protected with approved noncombustible insulation not less than 9¹⁄₄ inches (235 mm) thick.

3104.10 Safety film. Motion pictures shall not be displayed in tents or membrane structures unless the motion picture film is safety film.

3104.11 Clearance. Deleted.
3104.12 Portable fire extinguishers. Portable fire extinguishers shall be provided as required by Section 906.

3104.13 Fire protection equipment. Fire hose lines, water supplies and other auxiliary fire equipment shall be maintained at the site in such numbers and sizes as required by the fire code official.

3104.14 Occupant load factors. The occupant load allowed in an assembly structure, or portion thereof, shall be determined in accordance with Chapter 10.

3104.15 Heating and cooking equipment. Heating and cooking equipment shall be in accordance with Sections 3104.15.1 through 3104.15.7.

3104.15.1 Installation. Heating or cooking equipment, tanks, piping, hoses, fittings, valves, tubing and other related components shall be installed as specified in the mechanical subcode of the Uniform Construction Code and the fuel gas subcode of the Uniform Construction Code, and shall be approved by the fire code official.

3104.15.2 Venting. Gas, liquid and solid fuel-burning equipment designed to be vented shall be vented to the outside air as specified in the fuel gas subcode of the Uniform Construction Code and the mechanical subcode of the Uniform Construction Code. Such vents shall be equipped with approved spark arresters where required. Where vents or flues are used, all portions of the tent or membrane structure shall be not less than 12 inches (305 mm) from the flue or vent.

3104.15.3 Location. Suitable barricades shall be provided to maintain a distance of 5 feet between the heat-producing appliances and the public.

3104.15.4 Operations. Operations such as warming of foods, cooking demonstrations and similar operations that use solid flammables, butane or other similar devices that do not pose an ignition hazard, shall be approved.

3104.15.5 Cooking tents. Tents with sidewalls or drops where cooking is performed shall be separated from other tents or membrane structures by not less than 5 feet.

Exceptions:
1. Cooking tents are not required to be separated from other cooking tents.
2. Cooking tents shall be separated from other tents having more than 25 percent of the tent perimeter enclosed with sidewalls or drops or membrane structures with an occupant load of 50 or greater by a minimum of 20 feet (6096 mm).

3104.15.6 Outdoor cooking. Deleted.

3104.15.7 Electrical heating and cooking equipment. Electrical cooking and heating equipment shall comply with the electrical subcode of the Uniform Construction Code.

3104.16 LP-gas. The storage, handling and use of LP-gas and LP-gas equipment shall be in accordance with Sections 3104.16.1 through 3104.16.3.

3104.16.1 General. LP-gas equipment such as tanks, piping, hoses, fittings, valves, tubing and other related components shall be approved and in accordance with Chapter 61 and with the fuel gas subcode of the Uniform Construction Code.

3104.16.2 Location of containers. LP-gas containers shall be located outside or on the exterior perimeter of a canopy. Safety release valves shall be pointed away from the tent or membrane structure.

3104.16.2.1 Containers. LP-gas containers shall be located a minimum of 5 feet from any heat-producing appliance.

3104.16.2.2 Containers more than 500 gallons. Deleted.

3104.16.3 Protection and security. Portable LP-gas containers, piping, valves and fittings that are located outside and are being used to fuel equipment inside a tent or membrane structure shall be adequately protected to prevent tampering, damage by vehicles or other hazards and shall be located in an approved location. Portable LP-gas containers shall be securely fastened in place to prevent unauthorized movement.

3104.17 Flammable and combustible liquids. The storage of flammable and combustible liquids and the use of flammable-liquid-fueled equipment shall be in accordance with Sections 3104.17.1 through 3104.17.3.

3104.17.1 Use. Flammable-liquid-fueled equipment shall not be used in tents or membrane structures.

3104.17.2 Flammable and combustible liquid storage. Flammable and combustible liquids shall be stored outside in an approved manner not less than 50 feet (15240 mm) from tents or membrane structures. Storage shall be in accordance with Chapter 57.

3104.17.3 Refueling. Refueling shall be performed in an approved location not less than 20 feet (6096 mm) from tents or membrane structures.

3104.18 Display of motor vehicles. Liquid- and gas-fueled vehicles and equipment used for display within tents or membrane structures shall be in accordance with Sections 3104.18.1 through 3104.18.5.3.

3104.18.1 Batteries. Deleted.

3104.18.2 Fuel. Vehicles or equipment shall not be fueled or defueled within the tent or membrane structure.

3104.18.2.1 Quantity limit. Fuel in the fuel tank shall not exceed one-quarter of the tank capacity or 5 gallons (19 L), whichever is less.

3104.18.2.2 Inspection. Fuel systems shall be inspected for leaks.

3104.18.2.3 Closure. Fuel tank openings shall be locked and sealed to prevent the escape of vapors.

3104.18.3 Location. The location of vehicles or equipment shall not obstruct means of egress.
3104.18.4 Places of assembly. When a compressed natural gas (CNG) or liquefied petroleum gas (LP-gas) powered vehicle is parked inside a place of assembly, all the following conditions shall be met:

1. The quarter-turn shutoff valve or other shutoff valve on the outlet of the CNG or LP-gas container shall be closed and the engine shall be operated until it stops. Valves shall remain closed while the vehicle is indoors.

2. Dual-fuel vehicles equipped to operate on gasoline and CNG or LP-gas shall comply with this section and Sections 3104.18.1 through 3104.18.5.3 for gasoline-powered vehicles.

3104.18.5 Competitions and demonstrations. Liquid and gas-fueled vehicles and equipment used for competition or demonstration within a tent or membrane structure shall comply with Sections 3104.18.5.1 through 3104.18.5.3.

3104.18.5.1 Fuel storage. Fuel for vehicles or equipment shall be stored in approved containers in an approved location outside of the structure in accordance with Section 3104.17.2.

3104.18.5.2 Fueling. Refueling shall be performed outside of the structure in accordance with Section 3104.17.3.

3104.18.5.3 Spills. Fuel spills shall be cleaned up immediately.

3104.19 Separation of generators. Generators and other internal combustion power sources shall be separated from tents or membrane structures by not less than 20 feet (6096 mm) and shall be isolated from contact with the public by fencing, enclosure or other approved means.

3104.20 Standby personnel. Where, in the opinion of the fire code official, it is essential for public safety in a tent or membrane structure used as a place of assembly or any other use where people congregate, because of the number of persons, or the nature of the performance, exhibition, display, contest or activity, the owner, agent or lessee shall employ one or more qualified persons, as required and approved, to remain on duty during the times such places are open to the public, or when such activity is being conducted.

3104.20.1 Duties. Before each performance or the start of such activity, standby personnel shall keep diligent watch for fires during the time such place is open to the public or such activity is being conducted and take prompt measures for extinguishment of fires that occur and assist in the evacuation of the public from the structure.

3104.20.2 Crowd managers. There shall be trained crowd managers or crowd manager/supervisors at a ratio of one crowd manager/supervisor for every 250 occupants, as approved.

3104.21 Combustible vegetation. Combustible vegetation that could create a fire hazard shall be removed from the area occupied by a tent or membrane structure, and from areas within 20 feet of such structures.

3104.22 Combustible waste material. The floor surface inside tents or membrane structures and the grounds outside and within a 20-foot perimeter shall be kept free of combustible waste and other combustible materials that could create a fire hazard. Such waste shall be stored in approved containers and removed from the premises not less than once a day during the period the structure is occupied by the public.

SECTION 3105
TEMPORARY STAGE CANOPIES

3105.1 General. Temporary stage canopies shall comply with Section 3104, Sections 3105.2 through 3105.8 and ANSI E1.21.

3105.2 Approval. Temporary stage canopies shall be approved as required by Section 3103.1.

3105.3 Permits. Deleted.

3105.4 Use period. Deleted.

3105.5 Required documents. The following documents shall be submitted to the fire code official and the building official for review before a permit is approved:

1. Construction documents: Construction documents shall be prepared in accordance with the Uniform Construction Code by a registered design professional. Construction documents shall include:
   1.1. A summary sheet showing the building code used, design criteria, loads and support reactions.
   1.2. Detailed construction and installation drawings.
   1.3. Design calculations.
   1.4. Operating limits of the structure explicitly outlined by the registered design professional including environmental conditions and physical forces.
   1.5. Effects of additive elements such as video walls, supported scenery, audio equipment, vertical and horizontal coverings.
   1.6. Means for adequate stability including specific requirements for guying and cross-bracing, ground anchors or ballast for different ground conditions.

2. Designation of responsible party: The owner of the temporary stage canopy shall designate in writing a person to have responsibility for the temporary stage canopy on the site. The designated person shall have sufficient knowledge of the construction documents, manufacturer’s recommendations and operations plan to make judgments regarding the structure’s safety and to coordinate with the fire code official.

3. Operations plan: The operations plan shall reflect manufacturer’s operational guidelines, procedures for environmental monitoring and actions to be taken under specified conditions consistent with the construction documents.
3105.6 Inspections. Inspections shall comply with Section 106 and Sections 3105.6.1 and 3105.6.2.

3105.6.1 Independent inspector. The owner of a temporary stage canopy shall employ a qualified, independent approved agency or individual to inspect the installation of a temporary stage canopy.

3105.6.2 Inspection report. The inspecting agency or individual shall furnish an inspection report to the fire code official. The inspection report shall indicate that the temporary stage canopy 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.

3105.7 Means of egress. The means of egress for temporary stage canopies shall comply with Chapter 10.

3105.8 Location. Temporary stage canopies shall be located a distance from property lines and buildings to accommodate distances indicated in the construction drawings for guy wires, cross-bracing, ground anchors or ballast. Location shall not interfere with egress from a building or encroach on fire apparatus access roads.