



Bennett-Watkins Fire Rescue

COMMUNITY RISK REDUCTION DIVISION

355 4th Street Bennett, CO 80102

Office: 303-644-3572 | Fax: 303-644-3401

CRRDivision@BennettFireRescue.org

GENERAL REQUIREMENTS

Scope

Tent, air-inflated structure, air-supported structure, or membrane structure having an area in excess of 400ft² shall be in accordance with Article 31.

Location and Parking

Tents or membrane structures shall not be located within 20 feet of lot lines, buildings, other tents or membrane structures, parked vehicles or internal combustion engines. For the purpose of determining required distances, support ropes and guywires shall be considered as part of the temporary membrane structure or tent.

[15 IFC 3103.8.2]

Exception 1: Separation distance between membrane structures and tents not used for cooking is not required when the aggregate floor area does not exceed 15,000ft².

Exception 2: Separation from buildings is not required when all the following are met:

- A. Aggregate floor area shall not exceed 10,000ft²
- B. Aggregate floor area of building and membrane structure or tent shall not exceed the allowable floor area including increases per the IBC
- C. Required means of egress are met for both the building and membrane structure and tent, including travel distances
- D. Fire apparatus access roads are provided to within 150' of all sides of the tent

MEANS OF EGRESS

Distribution:

Exits are evenly distributed, and all points shall be 100' or less from an exit

TABLE 3103.12.2 MINIMUM NUMBER OF MEANS OF EGRESS AND MEANS OF EGRESS WIDTHS FROM TEMPORARY MEMBRANE STRUCTURES, TENTS, AND CANOPIES

OCCUPANT LOAD	MINIMUM # OF MEANS OF EGRESS	MINIMUM WIDTH OF EACH MEANS OF EGRESS (inches)	
		TENT	MEMBRANE STRUCTURE
10 to 199	2	72	36
200 to 499	3	72	72
500 to 999	4	96	72
1,000 to 1,999	5	120	96
2,000 to 2,999	6	120	96
Over 3,000a	7	120	96



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When the occupant load exceeds 3000, the total width of means of egress shall not be less than the total occupant load x 0.2 inches per person. Such widths of means of egress shall be divided approximately equally among the separate means of egress.

Exit openings from tents:

Exit openings shall remain open unless covered by a flame-resistant curtain that complies with the following:

1. Curtains shall be free sliding on a metal support and arranged so that when open, no part of the curtain obstructs the exit. The support shall be a minimum of 80" above the floor level of the exit
2. Curtains shall be of a color(s) that contrast with the tent color

Doors

Exit doors must swing in the direction of travel. For air-supported membrane structures, doors must be automatic closing against operating pressures. Opening force at the door edge shall not exceed 15 pounds.

Aisles

The width of aisles without fixed seating shall be per the following:

1. In areas serving employees only, the minimum width is 24" but not less than the width required for the number of employees served.
2. In public areas, smooth surfaced, unobstructed aisles with a minimum width of 44" shall be provided from seating areas, and aisle width shall be progressively increased to provide, at all points, not less than 1' for each 50 occupants served by the aisle at that point.

Maintenance

The required width of exits, aisles, and passageways shall be always maintained to a public way. Guywire, guy ropes, and other supports shall not cross a means of egress at a height of less than 8'.

Exit Signs

Signs shall be installed at required exit doorways, and where otherwise necessary to indicate direction of egress, when the exit serves an occupant load of 50 or more.

Illumination: Exit signs shall listed and labeled per UL 924 or as an internally illuminated type or externally illuminated in the following manner:

1. Two separate circuits for occupant loads of 300 or less, -or-
2. Two separate sources of power, one of which shall be an approved emergency system when the occupant load exceeds 300. The emergency system shall be powered from storage batteries or an onsite generator installed per the ICC Electrical Code and has a minimum duration of 90 minutes.



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The means of egress shall be illuminated, at floor level, with a minimum of 1 foot-candle while the tent is occupied. Required fixtures shall be powered from a separate circuit or source of power.

TEMPORARY AND PERMANENT TENTS AND MEMBRANE STRUCTURES

Flame propagation performance treatment

Documentation is required for all tents and membrane structures, including all appurtenances such as sidewalls, drops and tarpaulins; floor coverings, bunting and combustible decorative materials and effects, including sawdust when used on floors or passageways, shall be composed of material meeting the flame propagation performance criteria of NFPA 701 or shall be treated with a flame retardant in an approved manner so that treated materials meet the flame propagation performance criteria of NFPA 701 and that the flame performance criteria are effective for the duration of the permit period.

Label

A permanently affixed label is required identifying the size of structure and fabric or material type.

Certification

Documentation must be submitted, and a copy kept on site, attesting to the following 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

Combustible Materials

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

Smoking

Smoking shall not be permitted in temporary membrane structures or tents and approved NO SMOKING signs must be conspicuously posted.

Open Flames

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 within 20' of, the membrane structure or tent, while open to the public, unless approved by the fire department.



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Fireworks

Shall not be used within 100 feet of tents or temporary membrane structures.

HEATING AND COOKING EQUIPMENT

Venting

Where vents or flues are used, all portions of the temporary membrane structure or tent shall be not less than 12" from the flue or vent. Spark arresters may be required by local amendment based on fire conditions.

Location

Cooking and heating equipment shall not be located within 10' of exits or combustible material.

Cooking Tents

Tents where cooking is performed shall be separated from temporary membrane structures and other tents by a minimum of 20'.

Outdoor Cooking

Outdoor cooking that produces sparks or grease laden vapors shall not be performed within 20' of a tent or membrane structure.

LP GAS

Location of Containers

Containers shall be located outside with safety release valves pointed away from the tent or temporary membrane structure as follows:

- Containers with a capacity of 500-gallons or less must be a minimum of 10' from structures
- Containers with a capacity of more than 500-gallons must be a minimum of 25' from structures

Protection and Security

LPG containers, piping, valves and fittings which are located outside and are being used to fuel equipment inside shall be adequately protected to prevent tampering, damage by vehicles or other hazards.

FLAMMABLE AND COMBUSTIBLE LIQUIDS

Use

Flammable liquid fueled equipment shall not be used in a temporary membrane structure, tent or canopy.



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Storage

Liquids shall be stored outside in an approved manner not less than 50' from tents or temporary membrane structures. Storage shall be in accordance with Chapter 34.

Refueling

Equipment refueling shall take place at least 20 feet from tents or membrane structures.

GENERATORS

Generators and other internal combustion power sources shall be separated from tents and temporary membrane structures by a minimum of 20' and be isolated from contact with the public by fencing, enclosure or other approved means.

STANDBY PERSONNEL

Based on the opinion of our office, when the safety of occupants in a tent or membrane structure is in question, the owner, agent, or lessee of the tent or membrane structure shall employ one or more qualified persons to act as a fire watch during all times that the tent or membrane structure is open to the public or when any activity is being conducted that may place occupants at additional risk.

COMBUSTIBLE VEGETATION

Combustible vegetation that could create a fire hazard shall be removed from areas within 30' of tents and membrane structures.

COMBUSTIBLE WASTE MATERIAL

The floor surface inside tents and membrane structures, and grounds outside within 30' shall be kept free of combustible waste or other combustibles that could create a fire hazard. Waste shall be stored in approved containers and removed from the site at least once daily during time the structure is occupied by the public.

FIRE EXTINGUISHERS

Each tent shall have a minimum of 1-5# ABC extinguisher for each 3000 square feet of area.

REQUIRED INSPECTIONS

The items listed on the Inspection Record Card require an on-site fire department inspection before tents can be occupied. This is only a preliminary list and can be modified after Bennett-Watkins Fire Rescue has reviewed all requested submittals. It is the responsibility of the contractor to call for all inspections.