**TENTS AND OTHER MEMBRANE STRUCTURES**

**2403.2 Approval required.** Tents and membrane structures having an area in excess of 400 square feet (37 m2) shall not be erected, operated or maintained for any purpose without first obtaining a permit and approval from the fire code official.

**Exceptions:**

1. Tents used exclusively for recreational camping purposes.

2. Tents open on all sides which comply with all of the following:

2.1. Individual tents having a maximum size of 700 square feet (65 m2).

2.2. The aggregate area of multiple tents placed side by side without a fire break clearance of 12 feet (3658 mm), not exceeding 700 square feet (65 m2) total.

2.3. A minimum clearance of 12 feet (3658 mm) to all structures and other tents.

**2403.6 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.

**2403.8.1 Access.** Fire apparatus access roads shall be provided in accordance with Section 503.

**2403.8.2 Location.** Tents or membrane structures shall not be located within 20 feet (6096 mm) 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 guy wires shall be considered as part of the temporary membrane structure or tent.

**Exceptions:**

1. Separation distance between membrane structures or tents not used for cooking is not required when the aggregate floor area does not exceed 15,000 square feet (1394 m2).

2. Membrane structures or tents need not be separated from buildings when all of the following

conditions are met:

2.1. The aggregate floor area of the membrane structure or tent shall not exceed 10,000 square feet.

2.2. The aggregate floor area of the building and membrane structure or tent shall not exceed the allowable floor area including increases as indicated in the *International Building Cod*e.

2.3. Required means of egress provisions are provided for both the building and the membrane structure or tent, including travel distances.

2.4. Fire apparatus access roads are provided in accordance with Section 503.

**2403.8.6 Fire break.** An unobstructed fire break passageway or fire road not less than 12 feet (3658 mm) wide and free from guy ropes or other obstructions shall be maintained on all sides of all tents and membrane structures unless otherwise approved by the fire code official.

**2403.9 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.

**2403.11 Seating arrangements.** Seating in tents or membrane structures shall be in accordance with Chapter 10.

**2403.12 Means of egress.** Means of egress for temporary tents and membrane structures shall be in accordance with Sections 2403.12.1 through 2403.12.8.

**2403.12.1 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.

**2403.12.2 Number.** Tents or membrane structures or a usable portion thereof shall have at least one exit

and not less than the number of exits required by Table 2403.12.2. The total width of means of egress in inches

(mm) shall not be less than the total occupant load served by a means of egress multiplied by 0.2 inches (5 mm) per person.

**TABLE 2403.12.2**

**MINIMUM NUMBER OF MEANS OF EGRESS AND MEANS OF EGRESS WIDTHS FROM TEMPORARY MEMBRANE**

**STRUCTURES, TENTS AND CANOPIES**

**OCCUPANT MINIMUM NUMBER OF MINIMUM WIDTH OF EACH MINIMUM WIDTH OF**

**LOAD MEANS OF EGRESS MEANS OF EGRESS (inches) EACH MEANS OF EGRESS (inches)**

**10 to 199 2 72 36**

**200 to 499 3 72 72**

 **500 to 999 4 96 72**

**1000 to 1999 5 120 96**

**2403.12.3 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 a minimum of 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.

**2403.12.4 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).

**2403.12.5 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.

**2403.12.5.1 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.

**2403.12.6 Exit signs.** Exits shall be clearly marked. Exit signs shall be installed at required exit doorways and where

otherwise necessary to indicate clearly the direction of egress when the exit serves an occupant load of 50 or more.

**2403.12.6.1 Exit sign illumination.** Exit signs shall be of an approved self-luminous type or shall be internally

or externally illuminated by luminaires supplied in the following manner:

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

2. Two separate sources of power, one of which shall be an approved emergency system, shall be provided when 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 NFPA 70.

**2403.12.7 Means of egress illumination.** Means of egress shall be illuminated with light having an intensity of not less than 1 foot-candle (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.

**2403.12.8 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 8 feet (2438 mm). The surface of means of egress shall be maintained in an approved manner.

**2404.2 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 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 and meet the flame propagation performance criteria of NFPA 701, and thatsuch flame propagation performance criteria are effective for the period specified by the permit.

**2404.3 Label.** Membrane structures or tents shall have a permanently affixed label bearing the identification of size and fabric or material type.

**2404.4 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 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.

**2404.5 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. The areas within and adjacent to the tent or air-supported structure shall be maintained clear of all combustible materials or vegetation that could create a fire hazard within 20 feet (6096 mm) of the structure. Combustible trash shall be removed at least once a day from the structure during the period the structure is occupied by the public.

**2404.6 Smoking.** Smoking shall not be permitted in tents or membrane structures. Approved “No Smoking” signs shall be conspicuously posted in accordance with Section 310.

**2404.7 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.

**2404.9 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 9.25 inches (235 mm) thick.

**2404.10 Safety film.** Motion pictures shall not be displayed in tents or membrane structures unless the motion picture film is safety film.

**2404.11 Clearance.** There shall be a minimum clearance of at least 3 feet (914 mm) between the fabric envelope and all contents located inside the tent or membrane structure.

**2404.12 Portable fire extinguishers.** Portable fire extinguishers shall be provided as required by Section 906.

**2404.14 Occupant load factors.** The occupant load allowed in an assembly structure, or portion thereof, shall be determined in accordance with Chapter 10.

**2404.15.6 Outdoor cooking.** Outdoor cooking that produces sparks or grease-laden vapors shall not be performed

within 20 feet (6096 mm) of a tent or membrane structure.

**2404.19 Separation of generators.** Generators and other internal combustion power sources shall be separated from

tents or membrane structures by a minimum of 20 feet (6096 mm) and shall be isolated from contact with the public by fencing, enclosure or other approved means.

 **2404.21 Vegetation removal.** Combustible vegetation shall be removed from the area occupied by a tent or membrane structure, and from areas within 30 feet (9144 mm) of such structures.

**2404.22Waste material.** The floor surface inside tents or membrane structures and the grounds outside and within a 30-foot (9144 mm) perimeter shall be kept clear of combustible waste. Such waste shall be stored in approved containers until removed from the premises.