

**Title: Tents and Other Membrane Structures Guideline and Application****Number:** FPG-22**Effective Date:** 01/01/2008**Revised Date:** 05/12/25**Code References:** California Fire Code (CFC), California Code of Regulations (CCR) Title 19, Merced Municipal Code (MMC)**Note:** *This guideline is a summary of Fire Department clarifications and interpretations of City and State Codes and nationally recognized standards in accordance with the currently adopted edition of the Fire Code. Information contained herein applies to typical circumstances and may not address all situations.*

TEMPORARY TENT & MEMBRANE STRUCTURE REGULATIONS

SCOPE

This guideline has been developed to assist the public and business community with the inspection and maintenance requirements for tents, canopies and other membrane structures.

CODES AND GUIDELINES

All aspects of the California Fire Code relating to tents shall be complied with. The regulations included on this guideline are only a sample of the regulations affecting tents. See the California Fire Code Chapter 31 for the complete list.

All aspects of the California Fire Code relating to liquefied petroleum gas (LPG) shall be complied with. The regulations included in this guideline are only a sample of the regulations affecting LPG. See the California Fire Code Chapter 61 for the complete list.

DEFINITIONS

Air-Inflated Structure: A structure that 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.

Air-Supported Structure: 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 a single skin, but with an attached liner that is separated from the outer



skin and provides an airspace which serves for insulation, acoustic, aesthetic or similar purposes.

Single Skin

Where there is only the single outer skin and the air pressure is directly against that skin.

Membrane Structure: An air-inflated, air-supported, cable or frame-covered structure as defined by the California Building Code and not otherwise defined a tent. See Chapter 31 of the California Building Code.

Temporary Special Event Structure: Any temporary ground-supported structure, platform, stage, stage scaffolding or rigging, canopy, tower supporting audio or visual effects equipment or similar structures or regulated within the scope of the California Building Code.

Tent: A structure, enclosure, umbrella structure or shelter, with or without sidewalls or drops, constructed of fabric or pliable material supported in any manner except by air or the contents it protects (see “Umbrella structure”).

TENT PERMITS

1. These regulations apply to any tent in which 10 or more people may gather.
2. A tent shall not be erected until a Tent Permit application (if applicable) has been approved by the Fire Prevention Division.
3. A Tent Permit must be obtained from the Fire Prevention Division for any of the following:
 1. A single tent greater than seven hundred (700) square feet open on all sides. (2022 CFC 3103.2)
 2. A single tent greater than four hundred (400) square feet with one or more sidewalls or drops. (2022 CFC 3103.2)
 3. Multiple tents having no sidewalls or drops placed side-by-side with a combined area greater than seven hundred (700) square feet. (A twelve [12]-foot wide or wider fire break can be used to break up the size of the combined tent area to stay under seven hundred (700) square feet.) There can be no combustible material placed or located in the fire break area. (2022 CFC 3103.8.6)
4. The Tent Permit application fee shall be paid at time of submittal.
5. The Tent Permit application shall be received by the Fire Prevention Division at least



fourteen (14) calendar days before the expected erection date of the tent. It shall include a site diagram, drawn to scale or fully dimensioned, showing all streets, alleys, lot lines, buildings; including fire-fighting equipment (such as fire sprinkler risers, fire hydrants, FDC's, and PIV's), generators, and other fixed objects on the site. It shall

also show all aisles, doors, tables, displays, extinguishers and other fixtures inside the tent.

6. In addition to the above, if there will be persons seated in the tent provide a diagram indicating the proposed occupant load for any seating areas in the tent. Show all fixed seating (e.g. benches) and portable seating (e.g. chairs). If there will be dancing show the dance floor area drawn to scale on the diagram and post the expected maximum number of persons dancing at one time.
7. A representative from the company or person erecting the tent must be present at time of tent inspection.

FIRE APPARATUS ACCESS ROADS

1. An unobstructed fire engine access roadway must be maintained around and/or through all tent areas. It shall be a minimum of twenty (22) feet wide as measured from the face of the curb, exclusive of shoulders, except for approved security gates in accordance with Section 503.6 of the CFC, 2022 Edition, and an unobstructed vertical clearance of not less than thirteen and one half (13½) feet high. This width is measured outside the support wires (ropes) supporting the tent. More than one access road may be needed. (Merced Municipal Code)
2. No aspect of a tent or area of tents shall be greater than one hundred fifty (150) feet from an approved access road.

TENT DISTANCES (GENERAL REQUIREMENTS)

1. Tents shall be spaced at least twenty (20) feet from each other. However, tents need not be separated from each other if none of the units is used for cooking and the aggregate floor area does not exceed fifteen thousand (15,000) square feet. (2022 CFC 3103)
2. Tents shall be spaced at least twenty (20) feet from buildings. However, this does not apply when all of the following conditions are met: (2022 CFC 3103.8.2)

The aggregate floor area of the tents does not exceed ten thousand (10,000) square feet.

The aggregate floor area of the building and tents does not exceed the allowable floor area including increases as indicated in the California Building Code.



Required means of egress provisions are provided for both the building and the tents including travel distances to the public way.

Fire apparatus access roads are provided in accordance with Merced Municipal Code (and CFC).

3. Tents shall not be located within twenty (20) feet of lot lines.
4. Vehicle parking and equipment with internal combustion engines must be located at least twenty (20) feet from any tent.
5. Fire protection equipment on buildings and on site (sprinkler risers, fire hydrants, FDC's, PIV's, etc.) shall NOT be blocked or obstructed by a tent.

ANCHORAGE

1. Tents or membrane structures and their appurtenances shall be designed and installed to withstand the elements of weather and prevent collapsing. Documentation of structural stability shall be furnished to the fire code official. (2022 CFC 3103.9)

OCCUPANT LOAD

An area capable of fifty (50) or more persons shall have the occupancy load sign posted in a conspicuous place, near the main exit or exit access doorway. Posted signs shall be an approved legible design and shall be maintained by the owner or owner's authorized agent.

Code reference Table 3103.12.2

(Occupant load= $(W \times L) / (7 \text{ without fixed seating})$ (5 Standing) (15 Unconcentrated, tables & chairs)

Every temporary tent structure based on the occupant load shall have a minimum number of exits based on the table listed. Number of Exits = Occupant Load x .2 Factor)



OCCUPANT LOAD	MINIMUM NUMBER OF MEANS OF EGRESS	MINIMUM WIDTH OF EACH MEANS OF EGRESS TENT (INCHES)	MINIMUM WIDTH OF EACH MEANS OF EGRESS MEMBRANE STRUCTURE (INCHES)
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 3,000	7	120	96

EXITING

- Exit curtains shall be free sliding on a metal support. The metal support shall be a minimum of eighty (80) inches above the floor level at the exit. The curtains shall be so arranged that, when open, no part of the curtain obstructs the exit. Exit curtains shall be of a color or colors that contrast with the color of the tent. (2022 CFC 3103)
- Exits shall be clearly marked. If the occupant load is fifty (50) or more exit signs shall be installed at required exit doorways and where otherwise necessary to clearly indicate the direction of egress. 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 by two separate circuits, one of which shall be separated from all other circuits. If the occupant load is greater than three hundred (300) emergency power is required as well as other requirements.
- Exit path lighting. The means of egress pathway originating on the interior and concluding on the exterior shall be illuminated with light having an intensity of not less than 1 foot-candle at floor level while the tent is occupied. Fixtures required for the means of egress illumination shall be supplied from a separate circuit or source of power.
- Aisle. In areas serving employees only, the minimum aisle width shall be twenty-four (24) inches but not less than the width required by the number of employees served. In public areas, smooth-surfaced, unobstructed aisles having a minimum width of not less than forty-four (44) inches shall be provided from seating areas, and aisles shall be progressively increased in width to provide, at all points, not less than one 1 foot of aisle width for each fifty (50) persons served by such aisle at the point. (2022 CFC 3103.12)



TENT MATERIAL

1. Flame Propagation Performance Treatment and Certification

Before a permit is granted, the owner or agent shall file with the fire code official a certificate provided by the product manufacturer to verify that the materials have been tested and certified by an approved testing laboratory. The certificate shall indicate that the floor coverings, tents, membrane structures and their appurtenances, which include sidewalls, drops and tarpaulins, are composed of materials meeting the flame propagation performance of Test Method 2 of NFPA 701. Additionally, it shall indicate that the bunting and combustible decorative materials and effects are composed of material meeting the flame propagation performance criteria of Test Method 1 or Test Method 2 of NFPA 701, as applicable. Alternatively, the materials shall be treated with a flame retardant in an approved manner and meet the flame propagation performance criteria of the applicable test method of NFPA 701. The certificate shall indicate compliance with the testing requirements of NFPA 701, Chapter 16. The flame propagation performance criteria shall be effective for the period specified by the permit. (2022 CFC 3104.2)

2. Tents shall have a permanently affixed label bearing the identification of size and fabric or material. (2022 CFC 3104.3)
3. 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 tent is located. The affidavit shall attest to the following information relative to the flame propagation performance criteria of the fabric: (2022 CFC 3104.4)
 - a. Names and address of the owners of the tent or air-supported tent.
 - b. Date the fabric was last treated with flame-retardant solution.
 - c. Trade name or kind of chemical used in treatment.
 - d. Name of person or firm treating the material.
 - e. Name of testing agency and test standard by which the fabric was tested.

FIRE EXTINGUISHERS

1. A minimum of one 2A10BC rated fire extinguisher or larger shall be provided in every tent from five hundred (500) square feet to one thousand (1000) square feet plus one 2-A fire extinguisher in each auxiliary adjacent tent. One additional extinguisher shall be provided for each additional two thousand (2000) square feet or fraction thereof. (CCR Title 19, Division 1, Chapter 2, Article 3, Section 319)



2. At least one Class 10-BC fire extinguisher shall be provided with each generator or transformer.
3. At least one Class 10-BC fire extinguisher shall be provided in kitchens, dining areas, and at locations where flammable or combustible liquids or flammable gases are used, stored or dispensed.
4. Inside a tent larger than one thousand (1000) square feet, a fire extinguisher shall be accessible within seventy-five (75) feet of travel distance.
5. A K-class rated wet chemical fire extinguisher shall be provided for deep-fat fryers. The maximum travel distance shall be thirty (30) feet. (CCR Title 19, Division 1, Chapter 3)
6. Portable fire extinguishers shall be located in conspicuous location where they will be readily accessible and immediately available for use located along normal paths of travel.
7. Each fire extinguisher must be serviced annually or after it has been used whichever occurs first. (There must be a current State Fire Marshal maintenance tag attached to

the extinguisher or a fire extinguisher sales receipt dated within the last twelve [12] months or a label on the fire extinguisher indicating that the extinguisher was manufactured within the last twelve [12] months.) (2022 CCR, Title 19, Division 1, Chapter 3)

COOKING, HEATING, AND WARMING APPLIANCES AND DEVICES

1. An operational permit is required if used inside a tent. Contact the City of Merced Fire Prevention Division regarding Fire Prevention Guideline - 09 Special Outdoor Events
2. Unless approved by the Fire Code official open flame or other devices emitting flame, fire, or heat; flammable or combustible liquids, gas, charcoal, or other cooking devices; and unapproved devices shall not be permitted inside or located within twenty (20) feet of any tent while open to the public.
3. Cooking, heating, and warming equipment designed to be vented shall either be properly vented to the outside as specified in the California Mechanical Code or shall be physically located outside the tent. Where vents or flues are used, all portions of the tent shall be not less than twelve (12) inches from the flue or vent. (2022 CFC 3107)
 - a. Tents with one or more sidewalls or drops where cooking is performed shall be separated from other tents by a minimum of twenty (20) feet.
 - b. Outdoor cooking that produces sparks or grease-laden vapors shall not be performed within twenty (20) feet of a tent.



- c. Heating and cooking equipment shall not be located within ten (10) feet of exits, aisles, passageways, or combustible materials.
4. Combustible material shall be kept a minimum of three (3) feet from all ignition sources (such as luminaires, heaters, and flame-producing devices).

LPG TANKS

1. A Fire Prevention Division permit is required to use LPG in a commercial event, whether inside or outside a tent.
2. LP-gas containers and tanks shall be located outside away from public access. Pressure relief devices shall be pointed away from the tent or membrane structure. All fuel tanks shall be secured from falling and refueling shall be performed in an approved location at least 20 feet from tent or membrane structures. (Title 19, Division 1, Section 325)

GENERATORS AND INTERNAL COMBUSTION ENGINES

1. Generators and other internal combustion power sources shall be separated from tents by a minimum of twenty (20) feet and shall be isolated from contact with the public by fencing, enclosure, or other approved means.
2. Refueling shall be performed in an approved location not less than twenty (20) feet from tents.

FLAMMABLE AND COMBUSTIBLE LIQUID FUELED EQUIPMENT

1. Generators shall be located a minimum of 20 feet from tents or canopies. They shall also be isolated from contact with the public by fencing, enclosed or other approved means. The refueling of hot generators is now allowed. (California Fire Code 3107.16).

COMBUSTIBLE VEGETATION AND WASTE MATERIALS

1. Hay, straw, shavings or similar combustible materials shall not be located within any tent or membrane structure containing an assembly occupancy. (California Fire Code 3107.2)

SMOKING

1. Smoking shall not be permitted in tents or membrane structures. Approved "No Smoking" signs shall be conspicuously posted in accordance with Section 310. (California Fire Code 3106.4.5)

City of Merced



Fire Department

Note: The information contained herein is intended to be a guide, other items may be identified during the inspection that need to be corrected.



City of Merced • Fire Prevention Bureau

99 E. 16th Street, Merced, CA 95340

Website: www.cityofmerced.org

Phone: (209) 385-6891

Email: fireweb@cityofmerced.org

TEMPORARY TENT & MEMBRANE Permit Application

APPLICANT INFORMATION

Event Name: _____

Event Type: ☐ Retail Sales ☐ Food Service ☐ Public Assembly Other: _____

City of Merced Business License Required? _____ Attach Copy of Business License

Address of Events: _____

Date of Event(s): _____ Hours of Operation: _____

Event Responsible Person: _____ Telephone: _____

Mailing Address of Responsible Person: _____

City: _____ State: _____ Zip: _____ Alternate Telephone: _____

Email Address _____ Number of people anticipated: _____

Entertainment: ☐ Yes ☐ No Type of Entertainment: _____

Admission being charged? _____ Is Alcohol being served? _____

Date Tent will be erected: _____ Date Tent will be taken down: _____

Number of Tents: _____ Square Feet of all Tents if combined: _____

TEMPORARY TENT & MEMBRANE Permit Application *(Continued)*

TEMPORARY STRUCTURE WILL BE USED FOR: Check all that Apply						
Use of Tents						Does Tent have One or More Sides (if applicable)
Tent	Retail Sales Yes/No	Public Assembly (≥50 people) Yes/No	Cooking Yes/No	Other	Size of Tent	
1						
2						
3						
4						
5						
6						

Food Service (How prepared): _____

Fuel used for Cooking: ☐ LPG (≥ 5 gl) ☐ Electric

NO OPEN FLAME COOKING IS ALLOWED WITHIN 20 FEET OF ANOTHER TENT, CANOPY OR MEMBRANE STRUCTURE

Source of Electric Power: _____

Fuel used: ☐ LPG (≥ 5 gl) ☐ Natural Gas ☐ Electric

ELECTRICAL SERVICE SHALL COMPLY WITH THE ELECTRICAL CODE.

Type of Heat Device/Appliance: _____

Fuel used: ☐ LPG (>5gl) ☐ Natural Gas ☐ Electric

ALL HEATING DEVICES SHALL BE UL LISTED AND APPROVED FOR USE

Type of Ground Cover and Decoration: _____

ALL GROUND COVER AND DECORATIONS SHALL COMPLY WITH THE FLAME RETARDANT REQUIREMENTS OF THE CALIFORNIA FIRE CODE. DOCUMENTATION SHALL BE PROVIDED.

OFFICIAL USE ONLY

Tent Permit (Sq. Ft.) ☐ \$240 (>400 & ≤1,500) ☐ \$320 (>1,500 & ≤15,000) ☐ \$801 (>15,000 & ≤ 30,000) ☐ \$1,121(>30,000)

Assembly Fee ☐ \$160 (≥ 50 & ≤ 299) ☐ \$320 (> 299) ☐ \$92 (Non-Profit Organization)

LPG Permit ☐ \$121

APPLICATION ☐ APPROVED BY _____ – Tent(s) may be set up.
Call 209-385-6891 for inspection. Permit will be issued after inspection has been completed.

☐ DENIED –



Once conditions listed above are resolved an inspection may be requested.

Plot Plan

(Draw to scale with all required dimensions)

Occupant Load:
Size of Dance Floor:
Required Exits:

