

ASSEMBLY
OCCUPANCY/TEMPORARY
MEMBRANE
INSPECTION CHECK LIST

Fire Prevention
County of Merced

Purpose:

To perform an annual fire inspection in order to issue an operational permit, and to review and update findings for your pre-plan.

Procedure:

These items are to be turned in to the Fire Department at time of inspection:

- Payment of fees
- Operational Fire Permit Application



GENERAL EXTERIOR/INTERIOR:

PASS	N/C	N/A	CODE
			(CFC 505.1) Address identification. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property.
			(CFC 506.1) Key Box/Knox. Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the fire code official is authorized to require a key box to be installed in an approved location.
			(CFC 503.4) Obstruction of fire apparatus. Obstruction of fire apparatus access roads. Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles.
			(CFC 503.3) Fire lane marking. Where required by the fire code official, approved signs or other approved notices or markings that include the words NO PARKING-FIRE LANE shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof.
			(CFC 310) Smoking. Post and enforce "NO SMOKING" signs.
			(CFC 507.5.4) Obstruction of hydrants. Unobstructed access to fire hydrants shall be maintained at all times. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.
			(CFC 507.5.6) Hydrant protection. Where fire hydrants are subject to impact by a motor vehicle, guard posts or other approved means shall comply with Section 312.
			(CFC 304.3.3) Dumpsters. Dumpsters and containers with an individual capacity of 40.5 cubic feet or more shall not be stored in buildings or placed within 5 feet combustible walls, openings or combustible roof eave lines.
			(CFC 304.3.2) Waste containers. Containers with a capacity exceeding 5.33 cubic feet (40 gallons) shall be provided with lids. Containers and lids shall be constructed of noncombustible materials.
			(CFC 605.1) Electrical hazards. Identified electrical hazards shall be abated. Identified hazardous electrical conditions in permanent wiring shall be brought to the attention of the responsible code official. Electrical wiring, devices, appliances and other equipment that is modified or damaged and constitutes an electrical shock or fire hazard shall not be used. <i>*Including unprotected light bulbs on mounted light fixtures or light poles, and unprotected outlets</i>



PASS	N/C	N/A	
			(Merced County Code 9.25.010) Weed abatement. The ordinance codified in this chapter is enacted to provide for the removal of weeds, rubbish, and other material that results in a fire hazard, and to establish an method of recovering cost for removal.
			(CFC 304.1.2) Weed abatement/vegetation. Weeds, grass, vines or other growth that is capable of being ignited and endangering property, shall be cut down and removed by the <i>owner</i> or occupant of the premises.
			(CFC 304.1.1) Waste material. Accumulations of wastepaper, wood, hay, straw, weeds, litter or combustible or flammable waste or rubbish of any type shall not be permitted to remain on a roof or in any court, yard, vacant lot, alley, parking lot, open space, or beneath a grandstand, bleacher, pier, wharf, manufactured home, recreational vehicle or other similar structure.
			(CFC 603.9) Gas meters. Above-ground gas meters, regulators and piping subject to damage shall be protected by a barrier - or otherwise protected in an approved manner.
			(CFC 316.6.2) Outdoor storage. Outdoor storage within the utility easement underneath high-voltage transmission lines shall be limited to noncombustible material. Storage of hazardous materials including, but not limited to, flammable and combustible liquids is prohibited.
			(T19 Sec. 567/568) Extinguishers required. One Class 2-A rated fire extinguisher shall be provided for each 3,000 square feet of light hazard fuel load or one Class 2-A extinguisher for each 1,500 square feet of ordinary hazard fuel load. Travel distance shall not exceed 75 feet. <i>*Minimum 2-A:10-B:C rating, mounted</i>
			(CFC 906.5) Extinguisher availability. Portable fire extinguishers shall be located in conspicuous locations where they will be readily accessible and immediately available for use. These locations shall be along normal paths of travel,
			(T19 Sec. 567.3) Extinguisher Mounting. Portable extinguishers shall be securely mounted on brackets or places in cabinets.
			(CFC 906) Extinguishers. All extinguishers shall be inspected monthly, serviced annually and shall have a current service tag attached to them.
Pass	N/C	N/A	



			<p>(CFC 5704.3.4.4) Flammable and combustible liquids. Liquids for maintenance and operation of equipment. In all occupancies, quantities of flammable and combustible liquids in excess of 10 gallons (38 L) used for maintenance purposes and the operation of equipment shall be stored in liquid storage cabinets in accordance with Section 5704.3.2. Quantities not exceeding 10 gallons (38 L) are allowed to be stored outside of a cabinet when in approved containers located in private garages or other approved locations.</p> <p>If above 10 gallons: (CFC 5704.3.2.1.2) Labeling cabinet. Cabinets shall be provided with a conspicuous label in red letters on contrasting background which reads: FLAMMABLE-KEEP FIRE AWAY.</p>
			<p>(Title 19, Section 3.08) Drapes, Curtains. State regulations require that drapes, hangings, curtains, etc., that would tend to increase fire and panic hazards in Groups A, E, I and R-3.1 occupancies be made from non-flammable material or treated and maintained in a non-flammable condition by California State Fire Marshal (CSFM) registered chemicals or processes.</p>
			<p>(Title 19, Section 3.25) Open flame. Open flame devices are prohibited in A occupancies with exceptions for ceremonial or theatrical purposed, or approved candle holders in dining establishments.</p> <p>*Review details with Fire Marshal (permit may be required)</p>
			<p>(CFC 806.1.1) Trees. Natural cut trees shall not be displayed except in areas protected by an approved sprinkler system.</p>
			<p>(CFC 1029.1) Basements. Basements shall have at least one exterior emergency escape and rescue opening shall be such as a s window, door, or other device operable from the inside.</p>
			<p>(CFC 603.4) Portable unvented heaters. Portable unvented fuel fired heating equipment shall be prohibited in occupancies in Groups A, E, I, R-I, R-2, R-2.1, R-3, R-3.1 and R-4.</p> <p>*If outdoor heaters are being used, refer to the California Fire Code for additional information</p>
			<p>(CFC 315.3.1) Ceiling clearance. Storage shall be maintained 2 feet or more below the ceiling in non-sprinklered areas of buildings or a minimum of 18 inches below sprinkler head deflectors in sprinklered areas of buildings.</p>
PASS	N/C	N/A	
			<p>(CFC 703.1) Cracks or holes in walls. Restore fire-resistive construction.</p>



			Maintain fire-resistive construction on walls and ceilings. Repair holes using fire-resistive construction. Replace missing ceiling panels which may provide means of rapid fire spread to above-ceiling area.
			(CFC 904.11) Commercial cooking systems. Commercial cooking equipment that produce grease laden vapors shall be provided with a Type J Hood, in accordance with the California Mechanical Code, and an automatic fire extinguishing system that is listed and labeled for its intended use. -and- (T 19, Sec. 573) Class K. A Class K extinguisher shall be provided for hazard where there is a potential for fires involving combustible cooking media. Maximum travel distance shall not exceed 30 feet.
			(CFC 901.6.2) Fire Alarm. Inspect and test the fire alarm system as required, provide /maintain adequate records.
			(CFC 901.6) Fire Protection Systems. Fire protection systems, including sprinkler, hydrant, standpipe, smoke removal, shall be maintained in an operative condition at all times, and replaced or repaired when defective.
			(CFC 315.2.3) Mechanical Rooms. Remove combustibles and storage from mechanical and equipment room/s.
			Exits: (CFC 1028) Exits and exit paths shall not be obstructed in any manner. (CFC 1008.1) Exit doors shall be maintained in proper working condition. (CFC 1011.5.3) Exit signs shall be fully illuminated at all times.
			(CFC 304.1) Improve housekeeping: Maintain storage in neat and orderly manner, maintain aisles and clear exits, eliminate unnecessary combustible storage to minimize fire spread and facilitate fire control. No combustible storage permitted outside within 10 feet of property line. Store oily rags in metal container with tight-fitting lid.
PASS	N/C	N/A	ELECTRICAL:
			(CFC 605.5) Extension cords. Extension cords and flexible cords shall not be a substitute for permanent wiring extension cords and flexible cords shall not be



			affixed to structures, extended through walls, ceilings or floors, or under doors or floor coverings, nor shall such cords be subject to environmental damage or physical impact. Extension cords shall be used only with portable appliances.
			(CFC 605.9) Temporary wiring. Temporary wiring is allowed for a period not to exceed 90 days; such wiring is allowed for longer periods for construction, remodeling or repair of buildings or equipment.
			(CFC 604.2.5) Accessible means of egress elevators. Standby power shall be provided for elevators that are part of an accessible means of egress in accordance with Section 1007.4.
			Electric Space Heaters: (CFC 605.10.2) Power supply. Portable, electric space heaters shall be plugged directly into an approved receptacle. (CFC 605.10.4) Prohibited areas. Portable, electric space heaters shall not be operated within 3 feet of any combustible materials. Portable, electric space heaters shall be operated only in locations for which they are listed.
			(NEC 370-15) Outlet covers: Each electrical outlet box shall have a cover, faceplate or fixture canopy. Open junction boxes and open wiring splices shall be prohibited. Appropriate covers shall be provided for all switches and electrical boxes.
			(CFC 605.3) Electrical Equipment. Working space and clearance. A working space of not less than 30 inches (762 mm) in width, 36 inches in depth and 78 inches in height shall be provided in front of electrical service equipment. Where the electrical service equipment is wider than 30 inches, the working space shall not be less than the width of the equipment. No storage of any materials shall be located within the designated working space.
			(CFC 605.3.1) Panel labeling. Doors into electrical control panel rooms shall be marked with a plainly visible and legible sign stating ELECTRICAL ROOM or similar approved wording. The disconnecting means for each service, feeder or branch circuit originating on a switchboard or panel-board shall be legibly and durably marked to indicate its purpose unless such purpose is clearly evident.
			(CFC 316.4) Rooftop. Wires, cables, ropes, antenna or suspended obstruction installed on a roof of a building having a roof slope of less than 30 degrees (0.52 rad) shall not create an obstruction that is less than 7 feet high above the surface of the roof. Exception: Such obstruction shall be permitted where there is a solid obstruction below such that accidentally walking into the wire, cable, rope, antenna or suspended obstruction is not possible. <i>*When applicable, this code refers to firefighter safety (ex: ventilation efforts, rescue)</i>
PASS	N/C	N/A	TEMPORARY MEMBRANE STRUCTURE
			Membrane structures or tents shall have a permanently affixed label bearing the identification of size and fabric or material type. (CFC 3104.3)



			<p>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. CFC 3103.12.7</p>
			<p>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. CFC 3103.12.8</p>
			<p>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. CFC 3103.12.5</p>
			<p>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. CFC 3103.6</p>
			<p>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. (CFC 3104.19)</p>
			<p>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. (CFC 3104.15.6)</p>
PASS	N/C	N/A	
			<p>Location Cooking and heating equipment shall not be located within 10 feet (3048 mm) of exits or combustible materials. (CFC 3104.15.3)</p>



			<p>[California Code of Regulations, Title 19 Division 1, §319.(a) through (c) Fire Extinguishers and other fire protection equipment</p> <p>(a) One Class 2-A fire extinguisher shall be provided in every tent having a floor area between 500 square feet (46m²) and 1,000 square feet (93m²) plus one 2-A extinguisher in each auxiliary adjacent tent. One additional extinguisher shall be provided for each additional 2,000 square feet (186m²) or a fraction thereof.</p> <p>(b) At least one class 10B-C fire extinguisher shall be provided with each generator or transformer.</p> <p>(c) At least one class 10B-C fire extinguisher shall be provided in kitchen, dining areas, and at locations where flammable or combustible liquids or flammable gasses are used, stored or dispensed.</p>
			<p>Anchorage required for tents, canopies 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. (CFC 3103.9)</p>
			<p>When approved by the enforcing agency, tents may be located in or on permanent buildings provided such use does not constitute an undue hazard.</p> <p>[California Code of Regulations, Title 19, Division 1, §312.] Parking of Vehicles. <i>Vehicles necessary to the operation of the establishment shall be parked at least 20 feet (6096mm) from any tent. No other vehicle shall be parked less than 100 feet (30 480mm) from any tent except vehicles parked on a public street shall park at least 20 feet(6096mm)from any tent.</i></p>
			<p>Location: Tents or membrane structures shall not be located within 20 feet (6096mm) of lot lines, buildings, other tents or membranes 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.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Separation distance between membrane structures and tents not used for cooking is not required when the aggregate floor area does not exceed 15,000 square feet (1394mm). 2. Membrane structures or tents need not be separated from buildings when all of the following conditions are met: <ol style="list-style-type: none"> 2.1. The aggregate floor area of the building and membrane structure or tent shall not exceed 10,000 square feet (929m²). 2.2. The aggregate floor area of the building and membrane structure or tent shall exceed the allowable floor area including increases as indicated in the California Building Code. 2.3. Required means of egress 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.
PASS	N/C	N/A	
			<p>Smoking is not permitted within the membrane structure. "NO SMOKING" signs shall be posted (CFC, Section 3104.6)</p>
			<p>Tents or membrane structures are allowed to be joined together by means of corridors.</p>



		<p>Exit doors shall be provided at each end of such corridor. On each side of such corridor and approximately opposite each other, there shall be provided openings not less than 12 feet wide. (CFC 2403.8.4)</p>																														
		<p>Exits shall be clearly marked, and with illumination at all times. (CFC 3103.12.6 & 3103.12.6.1)</p> <p>Distribution</p> <p>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 480mm) or less from an exit. (CFC 3103.12.1)</p> <p>Number</p> <p>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 3103.12.2. The total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by 0.2 inches (5 mm) per person.</p> <p>Minimum number of means of egress with four exits are as follows: Minimum number of means of egress with four exits are as follows:</p> <table border="1" data-bbox="516 911 1078 1178"> <caption>Table 2403.12.2 Minimum number of means of egress and means of egress width from temporary membranes structures, tents and canopies</caption> <thead> <tr> <th rowspan="2">Occupant Load^a</th> <th rowspan="2">Minimum Number of Means of Egress^a</th> <th colspan="2">Minimum width of each means of egress (inches)^a</th> </tr> <tr> <th>Tent or Canopy^a</th> <th>Membrane Structure^a</th> </tr> </thead> <tbody> <tr> <td>10 to 199^a</td> <td>2^a</td> <td>72^a</td> <td>36^a</td> </tr> <tr> <td>200 to 499^a</td> <td>3^a</td> <td>72^a</td> <td>72^a</td> </tr> <tr> <td>500 to 999^a</td> <td>4^a</td> <td>96^a</td> <td>72^a</td> </tr> <tr> <td>1,000 to 1999^a</td> <td>5^a</td> <td>120^a</td> <td>96^a</td> </tr> <tr> <td>2,000 to 2999^a</td> <td>6^a</td> <td>120^a</td> <td>96^a</td> </tr> <tr> <td>Over 3,000^a</td> <td>7^a</td> <td>120^a</td> <td>96^a</td> </tr> </tbody> </table> <p><i>For SI: inch = 25.4mm</i></p> <p><i>a: When the occupant load exceeds 3,000, the total width of means of egress (in inches) shall not be less than the total occupant load multiplied by 0.2 inches per person.</i></p>	Occupant Load ^a	Minimum Number of Means of Egress ^a	Minimum width of each means of egress (inches) ^a		Tent or Canopy ^a	Membrane Structure ^a	10 to 199 ^a	2 ^a	72 ^a	36 ^a	200 to 499 ^a	3 ^a	72 ^a	72 ^a	500 to 999 ^a	4 ^a	96 ^a	72 ^a	1,000 to 1999 ^a	5 ^a	120 ^a	96 ^a	2,000 to 2999 ^a	6 ^a	120 ^a	96 ^a	Over 3,000 ^a	7 ^a	120 ^a	96 ^a
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Over 3,000 ^a	7 ^a	120 ^a	96 ^a																													
		<p>Comments:</p>																														



No Violations: _____ Violations Found: _____

Compliance Re-inspection shall be made in or on: _____ days/date.

Received By: _____ Date: _____

Print Name: _____

Inspected By: _____ Date: _____

Anchoring Your Tent Safely

This is intended to be only a guideline to gather knowledge about anchoring tents. Each tent manufacturer will have more precise engineering information on the product you use.

Simplifying Tent Anchoring:

This is a brief understanding of safety factors and engineering criteria that goes into the design and anchoring for tents and structures. When tents are designed and engineered they must use specified industry standards and safety factors set by standards organizations and model code authorities, (i.e. IBC, IFC, ASCE, NFPA, ASTM, ANSI, UFC, and California Title Codes). Local, State, County, City or Port District Authorities will determine which code is used in your area. Many officials adopt one (1) of the major building codes and some add their own addendums that become the law we all must follow.

Tent engineering requirements are usually calculated in *wind speed forces*. The most common wind speed for most of the land mass in U.S. and Canada is rated at 85 mph under the International Building Code (IBC) and the International Fire Code (IFC) which is where tents are classified. The most common wind speed under the IFC is 85 mph rating which is similar to the old UBC 70 mph. The other factor is the exposure rating or multiplier used for given site conditions. Designers and engineers refer to the term “pounds” to set the needed values when anchoring a tent. The best way to visualize “pounds” is as dead weight and/or how to achieve the equivalent with friction from anchors. You must know your anchor weight and/or how much holding power (in pounds) your anchor will develop. Anchoring safety factors at 1.5 to 1 or 2 to 1 are considered adequate but this also makes it more important to know what region you are in when anchoring your tents.

A Simple Formula, Not Pure Science, But it Helps

Without using an involved equation and employing hours of engineering time at every tent job, an easy system was figured to find the necessary amount of stakes to hold a tent at approximately 85mph, exposure C. Simply multiply the square footage of your tent (plan view) by 19 psf. (pounds per square foot), a number found in many formulas known as the applied load. The result is the total number or anchor pounds needed. This is not pure science, but when checked against most tent specifications from major manufacturers, most sizes up to 60ft.



wide fell within these parameters. (For a 40' x 60' x 12' high tent, this method provides about 1.5 to 1 margin of safety).

Sample formula for 40' x 100' tent" [40 (w) x 100 (l) = 4,000 sq. ft.] x 19 psf. = 76,000. There can be a wide range of holding power for tent stakes depending on the soil conditions. By testing a typical 1" diameter x 36" long stake, driven most of the way into the ground (average lawn), we know it has a holding power of about 1,000 lbs. The same stake in aged dense soil or aged asphalt parking lot generally holds more, approximately 2,000 lbs. A 40' x 100' tent installation on lawn requires about 76 stakes plus safety factors. Asphalt requires only about 38 stakes plus a safety factor. You will still need to stake to the design of the tent.

All tents require almost the same holding power regardless of the tent style (pole, frame, or structure), the required anchoring power will be similar if factors, such as leg height, overall height and basic slope of the roof are within known patterns.

Pole tents require anchors just to maintain shape and stand up and should be staked at every rope location on the tent or at each upright, whichever provides the most support. To meet load requirements in larger tents 40' wide and above, a minimum of one (1) stake should be used at the leg bottom, preferably in the base plate and two (2) stakes at the guy-out point. This point will be a minimum of 3/5 of the support height to a maximum of the support height away from the tent. On Tension tents, follow the manufacturer's recommendation.

Get Good at Driving STAKES!

Increasing the holding power of anchors will become an important step in future tenting practices. The first item to tackle is getting proficient at driving and pulling tent stakes. If you look at the numbers above, the only safe method is to add more stakes in the ground. The following anchoring devices should also be explored...Load Distribution Bars...Anchor Bars...Screw Anchors...others.

Anchoring With Weights

When the engineers specify weight they mean just that in dead weight that does not move sideways. The best weights are large blocks of concrete referred to as "Lego Blocks" or "Ultra Blocks". They come in two general sizes 2200 lbs. and 4400 lbs. You will need to have lift trucks to handle them, and large semi-trucks to transport them.

NOTE! Many rental companies use water barrels, but when filled with water a 50 gallon barrel only weighs 400 lbs. If you are using this method of anchoring be sure you understand the risk and are willing to take it.

Call before Dig •••• It's the law! Call 2-3 days prior to the date required to assure avoidance of hitting underground lines or utilities. This is the law!

In California Call Underground Service

If you have any questions or concerns regarding these conditions, please feel free to contact me at (209) 385-7347.