

CENTRAL MARIN FIRE DEPARTMENT



Developed by

Ruben Martin, Fire Marshal

Approved by

Scott Shurtz, Fire Chief

Fire Protection Standard 308A

Application of Flammable Finishes-Limited Spraying Areas

Date: 8-21-2017

Revision: 8-21-2017

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The Central Marin Fire Department has developed this standard pursuant to Chapter 24 of the California Fire Code as adopted by ordinance. It is intended that this standard be used as a guide for establishing a reasonable degree of fire and life safety in buildings or portions thereof used for limited spraying and application of flammable finishes.

1. Limited spraying areas commonly known as “spotting” or “touch-up” areas are less hazardous than quantity production spray finishing operations. Such operations may be approved by permit only provided they conform to the following requirements.
2. A fire department permit is required to conduct spotting or touch-up spraying applications of flammable finishes. The permit application and filing fee should be submitted to the Fire Prevention Bureau for processing.
3. Limited spraying is defined by the size of the job and frequency. The size of the job done in such areas shall not exceed 9 square feet of surface area and is not of a continuous nature. Each application of primer or paint is considered to be a job.

Note: It is considered to be continuous spraying if more than:

- 1 job in one hour; or,
- 2 jobs in four hours; or,
- 3 jobs in eight hours.

4. The area designated as a “limited spray area” shall be mutually agreed upon, in writing, by the owner and Fire Marshal and shall be no more than 200 square feet.
5. Limited spray areas shall be built and maintained in accordance with the Building Code requirements for a group H, division 4 occupancy.
6. Positive mechanical ventilation shall be installed providing a minimum of six complete air changes per hour. The system shall meet the following requirements:
 - a. Mechanical ventilation shall be kept in operation at all times while spraying operations are being conducted and for a sufficient time thereafter to allow vapors from drying coated articles and dry finishing material residue to be exhausted. The electrical equipment shall be interlocked with the ventilation of spraying area so that the equipment cannot be operated unless the ventilation fans are in operation.

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- b. Electric motors driving exhaust fans shall not be placed inside booths or ducts. Fan rotating element shall be nonferrous or non-sparking or the casing shall consist of or be lined with such material.
- c. Exhaust ducts shall be constructed of steel having a thickness not less than indicated in the table below:

<u>Diameter of Duct</u>	<u>Minimum Thickness Sheet Gage</u>
8" or less	No. 24
Over 8" to 18" inclusive	No. 22
Over 18" to 30" inclusive	No. 20
Over 30"	No. 18

The discharge point for exhaust ducts in a paint spray booth shall be not less than 6 feet from adjoining combustible construction nor less than 25 feet from adjoining exterior wall openings.

- d. Exhaust ducts shall have a clearance from unprotected combustible construction or material of not less than 18 inches. If combustible construction is provided with the following protection applied to all surfaces within 18 inches, clearance may be reduced to the distances indicated.
 - i. No. 28 gage (.044 inch) sheet metal on ¼ inch asbestos millboard 12 inches
 - ii. No. 28 gage sheet metal on 1/8 inch asbestos millboard spaced out 1 inch on noncombustible spacers 9 inches
 - iii. No. 22 gage (.027 inch) sheet metal on 1-inch Rockwool bats reinforced with wire mesh or the equivalent 3 inches
 - e. Air exhausted from spraying operations shall not be re-circulated.
7. All electrical wiring within 10 feet of the floor shall comply with Class I, Division 2 locations in accordance with the electrical code and all of the following:
- a. Space heating appliances, steam pipes or hot surfaces shall not be located in a spraying area where deposits of combustible residues may readily accumulate.
 - b. Unless specifically approved for locations containing both deposits of readily ignitable residue and explosive vapors, there shall be no electrical equipment in any spraying area whereon deposits of combustible residues may readily

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accumulate, except wiring in rigid conduit or boxes or fittings containing no taps, splices or terminal connections.

- c. Electric wiring and equipment not subject to deposits of combustible residues but located in a spraying area shall be of explosion proof type approved for use in such hazardous location.
 - d. Electrical wiring, motors and other equipment outside of but within 20 feet of any spraying area and not separated there from by partitions shall be protected from physical damage by suitable guards or by location.
 - e. Electric lamps outside of but within 20 feet of any spraying area and not separated there from by a partition shall be totally enclosed to prevent the falling of hot particles and shall be protected from physical damage by suitable guards or by location.
 - f. Portable electric lamps shall not be used in any spraying area during spraying operations. Portable electric lamps, if used during cleaning or repairing operations, shall be of the type approved for hazardous locations.
 - g. All metal parts of spray booths, exhaust ducts and piping systems conveying class I or II liquids shall be properly electrically grounded in accordance with the electrical code.
8. Storage and handling of flammable or combustible liquids shall be in accordance with Fire Protection Standard No. 510 and the following:
- a. Where the quantity of liquid in 5 gallon and smaller containers, other than original sealed containers, exceeds a total of 10 gallons, it shall be stored in a storage cabinet conforming to Fire Protection Standard No. 510A or in storage or mixing rooms conforming to Chapter 57, California Fire Code.
 - b. Original closed containers approved portable tanks, approved safety cans or a properly arranged system of piping shall be used for bringing flammable or combustible liquids into spray finishing areas. Open or glass containers shall not be used.
 - c. Containers supplying spray nozzles shall be of closed type or provided with metal covers kept closed. Containers not resting on floors shall be on noncombustible supports or suspended by wire cables. Containers supplying spray nozzles by gravity flow shall not exceed 10 gallons capacity.

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- d. All containers or piping to which is attached a hose or flexible connection shall be provided with a shutoff valve at the connections. Such valves shall be kept shut when not in use.
 - e. Heaters shall not be located in spray booths nor other locations subject to the accumulation of deposits or combustible residue.
 - f. If flammable or combustible liquids are supplied to spray nozzles by positive displacement pumps, pump discharge line shall be provided with an approved relief valve discharging to pump suction or safe detached location.
 - g. When a flammable mixture is transferred from one portable container to another, a bond shall be provided between the two containers, one of which shall be grounded.
9. Operations and maintenance of spraying areas shall comply with the following:
- a. Smoking shall be prohibited in any spray finishing areas and in the vicinity of dip tanks. NO SMOKING signs shall have letters at least 3 inches high with a $\frac{3}{4}$ inch stroke, red and on a white background. Signs shall be conspicuously posted.
 - b. Conspicuous signs conveying the following warning shall be posted in the vicinity of all spraying areas, dipping operations and paint storage rooms:

NO WELDING

The use of welding or cutting equipment in or near this area is dangerous because of fire and explosion, welding and cutting shall be done by permit only.

Note: "No Welding" lettering shall be 3 inches high with a $\frac{3}{4}$ inch stroke. All other lettering shall be at least 1 inch high. All letters are to be black on a white background.

- c. All spraying areas shall be kept free from the accumulation of deposits of combustible residues as practical, with cleaning conducted daily if necessary.
- d. Scrapers, spuds or other such tools used for cleaning purposes shall be on non-sparking material.
- e. The use of solvents for cleaning operations shall be restricted to Class II and Class III liquids, except solvents with flash points not less than those normally

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used in spraying operations may be used for cleaning spray nozzles and auxiliary equipment, provided such cleaning is conducted inside spray booths and ventilation equipment is operating during cleaning.

- f. Metal waste cans with a self-closing lid shall be provided wherever rags or waste are impregnated with finishing materials and all such rags or waste deposited therein immediately after use. The contents of waste cans shall be properly disposed of at least once daily and at the end of each shift.

10. A minimum of one type 2A40BC fire extinguisher shall be installed within 30 feet travel distance from the spray area. The extinguisher shall be installed in an accessible location so that the bottom of the extinguisher is not less than 4" and the top of the extinguisher is not greater than 5' from the floor.