



INDIO OFFICE OF THE FIRE MARSHAL SPRAY BOOTH INSTALLATION AND OPERATION GUIDE

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PURPOSE

Improper application of spray finishes using flammable combustible liquids has the potential to pose a significant fire and explosion hazard when not performed in accordance with local, state and federal regulations. The intent of this guideline is to ensure design and installation of Spray Booths is done in accordance with the California Fire Code 2019 edition Chapter 24 and NFPA 33.

SCOPE

This guideline is only intended to offer basic information about particular Fire Code requirements. It is not a complete review of the applicable codes. It is the responsibility of the owner and design professional to ensure compliance with all Federal, State and Local regulations.

I. SUBMITTAL DOCUMENTS

- a. Spray booth installation permit shall be obtained from the Indio Fire Department prior to installation. Permit application and current permit fee shall be submitted with plan documents.
- b. Three (3) sets of plans showing site area, floor plan of building, fully dimensional ducting plan and spray booth plan and appropriate equipment data sheets for spray booth shall be submitted to the Indio Fire Department neatly drawn to an approved scale (3/32" = 1' - 0" minimum for floor plan layouts, 1" = 50' - 0" minimum for site plan layout) on sheets of uniform size.
- c. Spray booth plan review checklist completed and signed shall accompany the plan document submittals.
- d. Fire suppression systems for spray booths require a permit prior to installation. Separate plans (3 sets) and appropriate equipment submittals shall be submitted to the Indio Fire Department for review and approval. Permit application, a completed signed fire sprinkler plan review checklist, and current permit fees shall be submitted with the plan documents. All design and work shall be conducted by a State Licensed C-16 Specialty Contractor.
- e. All local building and safety, state and federal permits shall be obtained by the applicant. Verification shall be provided to Indio Fire Department upon request.

II. SITE, ROOF AND FLOOR PLAN LAYOUT

- a. Indicate on the plans the distances from exhaust duct discharge to property lines, building openings, exterior walls and roof, combustible walls and adjoining grade. The termination point for exhaust ducts discharging to the atmosphere shall not be less than the following distances:
 - 30 feet from the property line
 - 10 feet from openings into the building (This includes roof mounted evaporator coolers)
 - 6 feet from exterior walls and roofs.
- b. Aggregate area of spray booths in a building shall not exceed the lesser of 10% of the area of any floor of a building or the basic area allowed for Group H-2, as specified in CFC section 2404.3.3.6.. Spray booth area cannot exceed the lesser of the aggregate area or 1,500 square feet. Attach calculations to the plans showing this limit is not exceeded. (C.F.C., 2404.3.3.6) (Exception: One individual booth not exceeding 500 square feet).
- c. Spray booths shall be installed so that all parts of the booth are readily accessible for cleaning. A clear space of not less than 3 feet shall be maintained on all sides of the spray booth. This clear space shall be kept free of any storage or combustible construction. Indicate the clearance distance on the plans. Contact Indio Fire services for additional exception. (C.F.C., 2404.3.3.5)



INDIO OFFICE OF THE FIRE MARSHAL SPRAY BOOTH INSTALLATION AND OPERATION GUIDE

- d. Open flames and spark producing devices shall not be located in flammable vapor areas and shall not be located within 20 feet of such areas unless separated by a permanent partition. (C.F.C., 2403.2.2)
- e. Conspicuous signs with the following warning shall be posted in the vicinity of spraying areas, dipping operations and paint storage rooms: Indicate the sign and its location on the plans. (C.F.C., 2403.2.7)

NO WELDING

The use of welding or cutting equipment in or near this area is dangerous because of fire and explosion hazards. Welding and cutting shall be done only under the supervision of the person in charge.

III. SPRAY BOOTH AND DUCTING

- a. Spray booths shall be constructed of No. 18 gauge steel or other approved noncombustible materials. Attach manufacturer's cut sheets of the spray booth to the plans
- b. Spray booth floors shall be of noncombustible and non-sparking materials. Indicate materials of construction on the plans. (C.F.C., 2404.3.3.3)
- c. Interior surfaces shall be smooth and continuous. (C.F.C., 2404.3.3.2)
- d. Metal parts of spray booths and exhaust ducts shall be grounded in accordance with the California Electrical Code Show the grounding rod and bonding straps on the plans.(C.F.C., 2403.2.5)
- e. Panels for luminaires or for observation shall be of heat-treated glass, wired glass or hammered wire glass and shall be sealed to confine vapors to the flammable vapor area. (C.F.C., 2404.6.2.1)
- f. Means of egress doors from pre-manufactured spray booths shall not be less than 30 inches in width by 80 inches in height. (C.F.C., 2404.3.3.4)

IV. MECHANICAL VENTILATION

- a. Ventilation shall be provided in accordance with Section 505 of the California Mechanical Code. Contact an appropriate State Licensed contractor for compliant design of the ventilation system.
- b. Motors and fans shall be sized to provide the required air movement. (C.F.C 2404.7.3.)
- c. Equipment and appliances used to exhaust explosive or flammable vapors, fumes or dusts shall bear an identification plate stating the ventilation rate for which the system was designed. (C.M.C., 503.3)
- d. Electrical motors driving exhaust fans shall not be placed inside booths or ducts. Fan rotating elements shall be nonferrous or non-sparking. (C.F.C., 2404.7.7)
- e. Spraying equipment shall be interlocked with the ventilation of the flammable vapor areas such that spraying operations cannot be conducted unless the ventilation system is in operation. (C.F.C., 2404.7.1)
- f. Air intake and exhaust filters shall be listed or approved. (C.F.C., 2404.7.8)
- g. Use the following calculation to determine the cubic feet per minute (CMF) that is required for the ventilation.
- h. Spray booths equipped with a filter roll that is automatically advanced when the air velocity is reduced to less than 100 feet per minute shall be arranged to shut down the spraying operation if the filter roll fails to advance automatically. (C.F.C., 2404.7.8.4)



INDIO OFFICE OF THE FIRE MARSHAL SPRAY BOOTH INSTALLATION AND OPERATION GUIDE

- i. Visible gauges, audible alarms or pressure-activated devices shall be installed to indicate or ensure that the required air velocity is maintained. (C.F.C., 2404.7.8.3)
- j. Ventilation shall not be interlocked with the fire alarm system and the automatic fire suppression system activation. Ventilation shall remain in operation during such activations except where the type of fire-extinguishing system used requires such ventilation to be discontinued. (C.F.C., 2404.8.2)

$$CFM = H \times W \times V$$

H = Height of Booth

W = Width of Booth

V = 100 for Enclosed Booth

V = 150 for Enclosed Booth w/ conveyor

V = 300 for Open Booth

IV. FIRE PROTECTION

- a. Spray booths inside of buildings that are protected by a fire sprinkler system shall be protected by the building's fire sprinkler system. Spray booths installed in Buildings without fire sprinkler protection shall be protected by an approved automatic fire suppression system. (C.F.C., 2404.4)
- b. Where a building fire alarm system is installed, automatic fire-extinguishing systems shall be monitored by the building fire alarm system in accordance with NFPA 72. (C.F.C., 904.3.5)
- c. A portable fire extinguisher with a minimum 4A:40BC rating shall be available within 30 feet of spray operations. (C.F.C., 906)

IV. ELECTRICAL

- a. Electrical wiring and equipment in flammable vapor areas shall be approved for Class I, Division 1 or Class II, Division 1 in accordance with the California Electrical Code. (C.F.C., 2403.2.1.1)
- b. Electrical wiring and equipment located outside of, but within 5feet horizontally and 3 feet vertically of openings in a spray booth or a spray room, shall be approved for Class I, Division 2 or Class II, Division 2, whichever is applicable. Indicate this on the electrical portion of the plans.(C.F.C., 2403.2.1.3)

Following this guideline will significantly reduce the chance of a fire and life safety incident from occurring at a business. If you have any questions regarding the requirements of this guideline, please contact Indio Fire Services at (760) 347-0756.

