



CITY OF
SANTA ROSA

Fire Department

955 Sonoma Avenue
Santa Rosa, CA 95404
Phone: (707) 543-3500
Fax: (707) 543-3520

<http://ci.santa-rosa.ca.us/fd/>

**FIRE DEPARTMENT
INFORMATION BULLETIN**

**SUBJECT: FLAMMABLE / COMBUSTIBLE LIQUID SPRAY BOOTH
INSTALLATION REQUIREMENTS**

Bulletin Number: 006
Date of Issue: May 1, 1993

Code Reference:

1994 Uniform Fire Code (UFC) Article 45
1994 Uniform Building Code (UBC) Section 302.1 exception 1.
Santa Rosa City Code Chapters 18-16,18-44
NFPA Standard 33, Flammable Spraying Operations

NOTE: This bulletin is a summary of Fire Department interpretations of City and State Codes. Information contained herein applies to typical instances and may not address all circumstances.

PLANS SUBMITTAL

Submit plans to the Fire Department for approval and permit prior to construction of the booth. A Permit from the Building Division shall be required for mechanical and electrical work.

The Fire Department requires four (4) separate permits: 1) an installation permit; 2) a fixed extinguishing system or automatic sprinkler system permit to be obtained by the installer prior to system installation; 3) an operational permit; and 4) a hazardous material permit. The installation permit shall be obtained by the installer. The operational and hazardous material permits are the responsibility of the business owner and are issued annually. Fees shall be paid at time of submittal.

Submit two copies of each of the listed plans. Plans shall be scaled or fully dimensioned.

Submit information to Bay Area Air Quality Management District (BAAQMD) for air quality permit requirement.

**INFORMATION BULLETIN
FLAMMABLE/COMBUSTIBLE LIQUID SPRAY BOOTH
INSTALLATION REQUIREMENTS**

Plan Submittal List

___ Site Plan

- Floor Plan

- ___ Location of spray booth and building exits.
- ___ Walls and fire rating of walls, if any. (i.e., one-hour, two-hour, etc.)
- ___ Room/area type of use.
- ___ Three foot separation from other operations, or a one-hour wall.
- ___ Three foot clearance around the booth for access.
- ___ Twenty foot clearance from open flame devices.
- ___ Two exits in approved locations required when an enclosed spray booth or room is over 200 sq. ft. in area.

- Booth Details and Specifications

- ___ Square footage of booth. (less than 1500 sq.ft.)
- ___ Booth construction. (No. 18 gauge steel or other approved non-combustible materials) Provide specification sheet if available.
- ___ Non-combustible floor.
- ___ Non-combustible filters or baffles: specify brand and type of baffle or filter and provide a listing sheet.
- ___ Visible filter air flow gauge (manometer) installed.
- ___ Four inch fire curtain at opening to open face booths.
- ___ All booth components shall be approved and listed.

- Ventilation System - Provide information showing compliance.

<u>Diameter of Duct</u>	<u>Minimum Thickness Sheet Gauge</u>
8 in. or less	No. 24
Over 8 in. - 18 in. inclusive	No. 22
Over 18 in. - 30 in. inclusive	No. 20
Over 30 in.	No. 18

- ___ Discharge point for ducts not less than six feet from adjoining combustible construction and no less than 25' from adjoining exterior wall openings.

INFORMATION BULLETIN
FLAMMABLE/COMBUSTIBLE LIQUID SPRAY BOOTH
INSTALLATION REQUIREMENTS

- ___ Exhaust ducts shall have a clearance from unprotected combustible construction of not less than 18 inches. Clearances may be reduced as follows when the protection is applied to all surfaces within 18 inches of the duct:
 - a) 12 in. - No. 28 Gauge Sheet Metal on 1/4 inch insulating millboard.
 - b) 9 in. - No. 28 Gauge Sheet Metal on 1/8 inch insulating millboard spaced out one inch on non-combustible spacers.
 - c) 3 in. - No. 22 Gauge Sheet Metal on one-inch rockwool batts reinforced with mesh or the equivalent.
 - d) 6 in. - Where ducts are protected internally with an approved automatic sprinkler system, the clearance may be reduced. 6 in.

- ___ Air-intake ducts within six (6) inches of the floor.

- ___ Duct bends shall not exceed a 45-degree angle.

- ___ The ventilation system shall be electrically interlocked with the spraying equipment. Spraying equipment shall not be available for use in the event the ventilation system is not operating.

- ___ Exhaust ducts shall be provided with ample access doors to facilitate cleaning.

- ___ Exhaust Fan: Average air velocity over face of booth no less than 100 linear feet per minute.

Volume Calculation: $CFM = H \times W \times V$
H = Height of booth
W = Width of booth
V = 100 FPM enclosed booth
V = 150 FPM enclosed w/conveyor
V = 300 FPM open booth
Volume = _____ x _____ x _____ = CFM

- ___ Provide exhaust fan rated at appropriate static pressure for the CFM calculated.

- ___ Fan rotating element non-ferrous or non-sparking or casing consisting of or lined with non-ferrous or non-sparking material.

- ___ Belts shall not enter duct or booth unless tightly enclosed.

- Electrical

INFORMATION BULLETIN
FLAMMABLE/COMBUSTIBLE LIQUID SPRAY BOOTH
INSTALLATION REQUIREMENTS

— Fixed lighting units with heat-treated or hammered wire glass. If other lights, wiring or electrical equipment are placed inside the booth, they shall be explosion-proof Class I or II, Division I or II. Refer to the National Electrical Code (NEC) for specific requirements.

— Electrical equipment located outside the booth shall conform to one of the following, depending on the booth openings:

A. **Closed top, open face or open front booth:** Electrical wiring and equipment shall be Class I or Class II, Division 2:

1. Five feet from the open face or open front.
2. Three feet in all directions from openings other than the open face or front.

B. **Open top booth:** Electrical wiring and equipment shall be Class I or Class II, Division 2:

1. Three feet vertically above booth.
2. Three feet in all directions from any openings.

C. **Enclosed booths:** Electrical wiring and equipment shall be Class I or Class II, Division 2:

Three feet in all directions from any openings.

— Electrical motors for exhaust fans shall be located outside of the booth and duct or the motor shall be rated as Class I, Division 1 equipment.

- **Fire Extinguishing System**

A fire sprinkler system, within sprinklered buildings, or a fixed extinguishing system (Halon or Dry Chemical type), in unsprinklered buildings, is required to be installed within the booth. The contractor shall submit separate plans to the Fire Department for review and approval prior to installation.

Systems shall be inspected and tested in accordance with Fire Department requirements prior to being placed in service.

**INFORMATION BULLETIN
FLAMMABLE/COMBUSTIBLE LIQUID SPRAY BOOTH
INSTALLATION REQUIREMENTS**

- Miscellaneous

- ___ Portable Fire Extinguishers: Provide no less than one 20BC extinguisher within 30 ft. of the booth or one 40BC extinguisher within 50 ft. of the booth.

- ___ Signs: "No Smoking" and "No Welding" signs shall be posted. Signs shall be in English and foreign languages, as needed.

- ___ Provide a detailed description of the spray process. Identify the spray equipment type, commodity to be sprayed, and the quantity and location of the flammable/combustible storage area.

- ___ Hazardous Materials Management Plan and Inventory Statement to be submitted by operator.