Building Division	**SPRAY BOOTH** City of Palo Alto (CPA) Building Inspection Division 285 Hamilton Ave. Inspection Request: 650 329-2496	Revision Date: 04/29/11 General Requirements/Checklist for: **COMMERCIAL** Codes Enforced: 2010 CBC, CMC, CPC, CEC Palo Alto Municipal Code (PAMC)

The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

PAINT SPRAY BOOTH

Plans Review

- Plans are required for all paint-spray booths and shall be complete in floor layout and include the paint-spray booth, all ventilation equipment, electrical criteria, i.e. amps, watts, phase, hazard classification and single-line drawing. Exterior booths shall be provided with engineering for both structural and lateral loads as required by the Building Code.
- Requires approval from Bay Area Quality Management

☐ Paint-spray booths shall not exceed 1500 sq. ft. nor 10% of the basic allowable area permitted for the major use of the building per the UBC.

☐ Paint-spray booths shall be constructed of No. 18 gage steel.

☐ Interior surfaces shall be smooth and continuous without edges, designed to prevent pocketing of residue and permit the free passage of air from all parts.

☐ Paint-spray booths shall be protected by an approved automatic fire-extinguishing system.

☐ Spaces within the booth on the downstream and upstream side of the filters shall be protected with approved automatic sprinklers.

☐ The floor of the booth shall be of noncombustible material.

☐ Baffle plates installed within the booth shall be noncombustible and removable

☐ Each spray booth having a frontal area exceeding nine (9) sq. feet not equipped with doors shall have a metal deflector at least 4 ½" deep, installed at the upper outer edge of the booth over the opening.

☐ Each spray booth shall be separated and have a clear space of not less than three (3) feet from walls and other operations.

☐ Illumination of booths shall be through heat-treated or hammered wire glass.

☐ Clearly specify on the plans the Hazard-classification of wiring and equipment:

- Wiring in the booth shall be explosion-proof: Class 1 Division 1.
- Wiring in the booth shall not produce sparks and shall be in rigid conduit or boxes and fittings containing no taps or splices.
- All metal parts of spray-booths, exhaust ducts and piping shall be electrically grounded.

☐ Clearly provide detail to show that the electrical equipment is interlocked with the ventilation system so that equipment cannot be operated unless the ventilation system is in operation.

☐ Spray booths shall have mechanical ventilation adequate to prevent accumulation of vapors, minimum of 6 AC/HR.

☐ The average air velocity through the booth cross-section shall not be less than 100 fpm.

☐ Each booth shall have an independent exhaust system discharging to the exterior.

☐ The termination point for exhaust ducts discharging to the atmosphere shall not be less than the following:

1. Ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet (9144 mm) from property line; 10 feet (3048 mm) from openings into the building; 6 feet (1829 mm) from exterior walls or roofs; 30 feet (9144 mm) from combustible walls or openings into the building which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade.
2. Other product-conveying outlets: 10 feet (3048 mm) from property line; 3 feet (914 mm) from exterior wall or roof; 10 feet (3048 mm) from openings into the building; 10 feet (3048 mm) above adjoining grade.
3. Environmental air duct exhaust: 3 feet (914 mm) from property line; 3 feet (914 mm) from openings into the building.

☐ Electrical motors for exhaust fans shall not be inside booths or ducts and rotating elements shall be non-ferrous or non-sparking.

☐ Exhaust ducts shall be of the following U.S. Stnd. Gage:

Diameter	Gage
8” or less	No. 24
over 8” to 18”	No. 22
over 18” to 30”	No. 20
over 30”	No. 18

☐ Exhaust ducts shall have eighteen (18) inches clearance to unprotected combustible construction.

☐ WHERE LUMINAIRES ARE INSTALLED INSIDE SPRAY BOOTHS, THEY SHALL BE A COMPLETE LISTED ASSEMBLY. CEC 501.13

☐ Protection of combustible construction may be accomplished to the following reductions:

Diameter	Reduced Clearance
• No. 28 gage metal on ¼" insulating millboard	12"
• No. 28 gage metal on 1/8" insulating millboard Spaced out 1" on noncombustible spacers	9"
• No. 22 gage metal on 1" rock-wool with batts reinforced with wire-mesh.....	3"

☐ Exhaust ducts shall not be installed at an angle exceeding forty-five (45) degrees.

☐ Clean-out opening shall be provided with tight-fitting sliding or hinged doors equal to or greater in thickness than the duct.

☐ Correct the plan and specify those checked for compliance.

INSPECTION CHECKLIST FOR SPRAY BOOTH 2001 U.F.C.

1) [4502.1] [LOCATION] - Of spray-finishing operations (A)-assemblies, (E)-educational, (I)-institutional,
(R)-Residential occupancies must be protected by an automatic system.
2) [4502.2.1] [MATERIALS] - Constructed of steel (.044) inch thick or other approved non-combustible materials.
3) [4502.2.4] [FLOORS] - Non-combustible materials must provide safe cleaning.
4) [4502.2.6] [DEFLECTOR] - Frontal area larger than 9 square feet and not equipped with door must have a
metal deflector not less than 4-1/2 inches deep.
5) [4502.2.7] [SEPARATION] - Minimum area of 3 feet.
6) [4502.2.8] [CLEAR SPACE] - Minimum of 3 feet, and keep free of storage and/or combustible materials.
7) [4502.2.10] [EXIT DOORS] - Not less than 2' x 6"/6' x 8".
8) [4502.3.3] [FILTER DISPOSAL] - Discarding of filter pads, to be removed immediately or placed in a
water-filled container.

9) [4502.4.3] [ELECTRICAL EQUIPMENT] - Class 1, Division 1, equipment required.
10) [4502.4.3.3] [PORTABLE ELECTRICAL LAMPS] - Not permitted during spraying operations. If used
during cleaning or repairing operations, must be of the type used for hazardous locations.
11) [4502. 5.1] [GENERAL] - Spraying equipment shall be interlocked with the ventilation system, working while
spraying.
12) [4502.5.3] [INDEPENDENT DUCTS] - Each booth must have its own exhaust system. Multiple spray booths
may use same duct system if identical spray-material is being used.
13) [4502.5.4] [FAN MOTORS AND BELTS] - Not installed inside booths or ducts, including belts. Okay if
tightly enclosed.
14) [4502.5.6.1] [CLEARANCE] - Ducts and combustible material 18 inches clear of all combustibles.
15) [4502.7.5] [VALVES] - Hose shut off valves up-stream of hose system.
16) [4502.7.8] [BONDING] - Containers two (2) or more, bonded together and grounded.
17) [4502.8.2] [EXTINGUISHERS] - U.F.C. Standard 10-1, (4A-40BC of minimum 30 ft.) (4A-80BC of
minimum, 50 ft.)
18) [4502.9.2] [TOOLS] - Shall be of non-sparking material.
19) [4502.9.4.1.3] [SOLVENTS] - Ventilating equipment must be operating when solvents are being used.
20) [4502.10.2.2.2] [DRYING APPARATUS] - Shall be of the portable infrared type and explosion-proof.
21) [4502.10.3] [NO OPEN FLAME] - Equipment can be used for drying.
22) [4503.5.1] [GENERAL] - Open flames and spark-producing devices shall not be located within 20 feet of
booths.

SPRINKLER SYSTEMS:

1) [U.B.C. Standard 38-1] [AUTOMATIC SPRINKLERS] - System shall be separated from any building
sprinkler or domestic system by a [Sectional Valve].
(a) One (1) sprinkler head for every 90 square feet
(b) Sprinklers shall not be located greater than 6 feet from end and side walls.
(c) Sprinklers shall not be located greater than 12 feet apart .
(d) Sprinkler heads shall be protected by paper or plastic

PERMITS & INTERIOR