

# Paint Spray Booth Plan Requirements

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Plans are required for all paint spray booths in compliance with the 2022 California Fire Code, Chapter 24 and NFPA 33-21 which shall be complete in floor layout and shall include the paint spray booth, all ventilation equipment, and electrical criteria (e.g., amps, watts, phase, hazard-classification and single-line drawing).

- Paint spray booths shall not exceed the lesser of 10% of the area of any floor of a building or the basic area allowed for a Group H-2 occupancy without area increases per the 2022 California Building Code.
- Paint spray booths shall be constructed of No. 18 gauge steel for single skin.
- 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. Fire sprinklers are to be protected from accumulation of residue from spraying operations in an approved manner.
- 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 9 Ft<sup>2</sup> not equipped with doors shall have a metal deflector at least 4 ½-in 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 3-ft from walls and other operations or by 1-hour fire rated assembly.
- Illumination of booths shall be through heat-treated or hammered wired glass.
- Clearly specify on the plans the Hazard classification of wiring and equipment:
  - Wiring in the booth shall be explosion proof: Class 1 Division 2.
  - 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 cfm.
- Each booth shall have an independent exhaust system discharging to the exterior.
  - Termination of discharges. Ducts conveying explosive or flammable vapors, fumes or dusts: 30-ft from property line; 10-ft from openings into the building; 6-ft from exterior walls and roofs; 30-ft from combustible walls or openings into the building that are in the direction of the exhaust discharge; 10-ft above adjoining grade.
- Electric motors for exhaust fans shall not be inside booths or ducts and rotating elements shall be non-ferrous or non-sparking.
- Routing of Exhaust Ducts. Air exhausted from spray operations shall be conducted by ducts directly to the outside of the building. Exhaust ducts shall follow the most direct route to the point of discharge but shall not penetrate a fire wall. The exhaust discharge shall be directed away from any fresh air intakes.
- The exhaust duct discharge point shall be at least 6-ft from any exterior wall or roof. The exhaust duct shall not discharge in the direction of any combustible construction that is within 25-ft of the exhaust duct discharge point nor shall it discharge in the direction of any unprotected opening in any noncombustible or limited-combustible construction that is within 25-ft of the exhaust duct discharge point.
- Clean-out openings shall be provided with tight-fitting sliding or hinged doors equal to or greater in thickness than the duct.
- Mixing rooms shall comply with NFPA 33-2021.
- Approved and listed portable fire extinguishers shall be provided in the vicinity of paint booths, mixing rooms and paint storage areas per CFC and NFPA 10-2021 – Standard for Portable Fire Extinguishers.