



SPRAY PAINTING with FLAMMABLE AND COMBUSTIBLE LIQUIDS

When spray painting with flammable and combustible liquids, a manufactured spray booth is required that meets NFPA 33. Having an approved spray booth can prevent fire and explosion by containing flammable vapors, removing the vapors effectively, and controlling ignition sources.

CONTAINING FLAMMABLE VAPORS:

- The quantity of flammable and combustible liquids stored in the spray booth must not exceed a one-day supply.
- The working area must not have more than three approved flammable liquid storage cabinets.
- Mixing of flammable liquids must be done only in a mixing room or in an approved spray area.

VENTILATION:

To remove flammable vapors you will need to have an adequate ventilation system in the spray booth. The ventilation system must be capable of removing vapors and mists to a safe location, as well as confining and controlling combustible residues, dusts, and deposits. The ventilation system must be able to limit the vapor and mist concentration to below 25% of the Lower Flammable Limit (the minimum concentration that is ignitable).

To ensure adequate ventilation, the exhaust ducts must meet several standards:

- There must be 18 inches of clearance between ducts and unprotected material.
- The ducts must not penetrate a firewall.
- The discharge point of the exhaust ducts must be at least six feet from an exterior wall or roof.
- The discharge point must not be directed forward of any combustible construction or unprotected opening within 25 feet.

CONTROLLING IGNITION SOURCES:

Electrical wiring and equipment are the main ignition sources in spray booths. Electrical wiring and equipment must be suitable for flammable and combustible liquid usage. Extension cords or other electrical plug-in cords are NOT to be used in a spray booth or within 20' outside a booth.

Light fixtures, as with all electrical wiring and equipment, must also meet the same requirements for Class and Division and:

- Must be serviced from outside the spray area.
- Panels for light fixtures or for observation must be of heat treated glass, wired glass, or hammered-wired glass and must be sealed to confine vapors, mists, residues, dusts, and deposits to the spray area.
- Portable electric light fixtures must NOT be used in a spray booth.



CONSTRUCTION OF THE SPRAY BOOTH:

- All spray booths should be equipped with an approved fire suppression system. (see NFPA 33)
- To ensure proper cleaning can take place, all parts, including filters, should be readily removable and accessible.
- All components of the spray booth must be of non-combustible material.
- The interior of the surface must be smooth to prevent build-up of paint residue and ensure proper ventilation and cleanup.

WHEN SPRAY PAINTING, OBSERVE THE FOLLOWING PRECAUTIONS:

- Equipment and storage containers should be bonded and grounded to prevent static electricity buildup (ignition source).
- There should be a regular, documented cleaning schedule to prevent excessive accumulations of overspray residue. Use non-spark-generating materials.
- Filters should be changed regularly. There are various means of filtering the air, but the most common is non-woven cloth filters. Check airflow gauges to make sure the filters are not blocking airflow (usually due to clogged filters).
- Previously used rags should be placed in self-closing cans during the day and removed to a safe location outside the building at the end of the working shift.
- Any portable fans or radios that are not in accordance with NFPA 70 (class I electrical) should not be used within the distances given on the reverse side (this is a common violation).
- Though this article concentrated on the fire/property hazards, the health hazards are also critical. Appropriate respirators and personal protective equipment (clothing, eyewear, etc.) should be used by employees. If lead or other metals are involved, there may need to be further OSHA-required controls.

Please consult the standard NFPA 33 for complete details at www.nfpa.org.

* This brochure is for summary purposes only and contains a general outline of coverage provided in the Pekin Insurance policy listed above. This is not a contract or policy. For a complete and detailed description of coverages and exclusions, contact your Pekin Insurance Agent.

