

CUSTOMER FOCUS ON LOSS CONTROL

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Fire Protection In Spray Booths

Spray painting operations are a severe fire hazard. An accumulation of overspray in the paint spray booth, on the fan blades, on the filters, and in the duct is subject to ignition and will contribute to the rapid spread of any fire. This hazard can be effectively controlled when the operation is restricted to a standard paint booth that is cleaned regularly, and that has a properly installed and maintained automatic sprinkler system.

Provide Adequate Sprinklers or Other Protection

Automatic sprinkler protection must properly protect the interior of the booth, the area behind the filters, and the interior of the exhaust duct. Place sprinklers in booths on extra hazard spacing of 90 square feet. In ducts, install sprinklers every 12 feet. Use dry-pipe sprinkler systems in ducts that are subject to freezing. The system should include a separate indicating shut-off valve so that the entire sprinkler system does not have to be shut off if there is a fire in the booth. In non-sprinklered buildings, domestic water lines can be used as the water supply. The water supply should have adequate volume and pressure to supply an appropriate number of sprinkler heads to protect the operation.

Where automatic sprinkler protection is not available, or where another type of extinguishing means is better suited to provide the required protection, spray areas may be protected with a dry chemical, carbon dioxide, or a gaseous agent extinguishing system.

Place an adequate supply of approved portable fire extinguishers near spray areas and mixing rooms.

Inspect and Maintain Sprinklers

Improper maintenance of the sprinkler system can cause a delay or failure of the sprinkler head in the event of a fire within the booth. This failure could allow the fire to spread beyond the booth, resulting in more extensive damage to the surrounding areas.

Inspect the sprinkler heads in all paint spray booths to check for accumulation of overspray residue. Replace any heads that have been painted or coated with new listed sprinklers. Protect the new sprinklers from future accumulation by covering them with cellophane bags or thin paper bags [.003 inches (.076 mm)]. Inspect the coverings at frequent intervals and replace them as necessary to limit the accumulation of residue.

Provide Adequate Ventilation

Equip all spray areas with mechanical ventilation adequate to remove flammable or combustible vapors or mists to a safe location, and adequate to maintain the concentration of flammable or combustible vapors or mists in the exhaust stream below 25 percent of the Lower Flammable Limit (LFL). Be sure that the spray booth filters are properly fitted into their mountings. Overspray deposits in the duct are difficult to clean, and may cause a rapidly spreading fire due to spontaneous ignition.

Proper Booth Construction and Maintenance

The spray booth should be constructed of noncombustible materials. The interior surfaces should be smooth and designed to prevent pocketing of residues and to facilitate ventilation, cleaning and washing. To clean the interior of the spray booth, use solvents with flash points above 100°F and non-sparking scrapers and tools. Operate the booth's ventilation system during cleaning. Wet down the scraped-off overspray residues, deposit them in UL listed or FM approved metal waste containers, and remove them from the building immediately.

Prohibit smoking, and post "No Smoking" signs, in areas where flammable and combustible liquids, solvents, or adhesives are used, sprayed, or applied.

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