

Spray Booths



SPRAY BOOTHS

A spray booth or spray room is a mechanically-ventilated and heated structure used to enclose or accommodate a spraying operation and curing cycle to harden paint. Spraying booths or rooms are designed to confine and limit the escape of spray, volatile vapors, mist or combustible residue, dust, odors, and exhaust. Spray booths/spray rooms and exhaust duct work shall be protected in accordance with the Building Code and operated and maintained in accordance with the Fire Code.

The Department issues permits to install booths or rooms used to spray paints, lacquers, varnishes and other surface coatings and the Fire Department issues a permit to operate and maintain such facilities. Businesses are not allowed to spray paint in or upon any buildings or other structures unless permitted. A Certificate of Operation issued by the New York City Department of Environmental Protection (DEP) is also required, and any air ventilation on spray painting operations or any operation associated with the spray painting process must comply with the New York City Noise Code.

New York City Administrative Code and Building Code

The NYC Administrative Code (AC) outlines the requirements for work applications, including spraying facilities. The NYC Building Code (BC) regulates structural design, fire protection, means of egress, and accessibility. Spray booths and rooms are considered Occupancy Group H High Hazard and may be classified as Group H-1, H-2, H-3, H-4 or H-5 depending on the hazard presented and chemicals stored on site. Ventilation in spray spaces must also meet the requirements of the NYC Mechanical Code (MC) for flammable vapor areas. Electrical wiring must meet the requirements of the NYC Electrical Code for Class I Division 2 locations.

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New York City Zoning Resolution

The Zoning Resolution (ZR) governs use and bulk of buildings and structures, and its regulations vary according to zoning districts. In addition to permitted uses, these regulations govern floor area, open space, density, yards, height, setbacks and parking allowed for each use.

New York City Fire Code

The New York City Fire Code (FC) also governs the design, construction, operation and maintenance of spray booths and rooms. A permit from New York City Fire Department (FDNY) is required to conduct a spraying or dipping operation utilizing flammable or combustible liquids or the application of powder coatings regulated by Fire Code Chapter 15.

The [Code Notes](#) series has been developed to provide a general overview of the NYC Department of Buildings (DOB) project requirements for the construction industry. The information in this document is only a summary and overview and is not intended to substitute for the full text and meaning of any law, rule or regulation. Users may also consult with a registered design professional for more specific guidance on Construction Codes requirements, other regulatory laws and rules, and technical site-specific requirements.

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ADMINISTRATIVE

DOB Forms

- **PW1** – Plan/Work Approval Application
 - Mechanical (MH) work type for related mechanical equipment
 - General Construction (OT) as applicable
- **PW1B** – Schedule B (if plumbing or sprinkler work is involved) Plumbing schedule showing new sprinkler work (verify number of sprinkler heads indicated on Schedule B to match the number shown on plans)
- **TR1** – Indicate sprinkler systems, fire-resistant penetrations and joints, mechanical systems and other special inspections as applicable
- **PW3** – Cost Affidavit (verify estimated cost on PW3 to match the number of sprinkler heads or area of coverage)

Technical Documents

- ACP5 Asbestos Report (for duct penetrations) - AC 28-106.1

Related Applications

- Sprinkler (SP) application if filed separately

ZONING

- Spray booths and rooms are considered to be Zoning Use Group 17, which involves industrial products, processes and objectionable influences. Spray booths and rooms are commonly used in conjunction with auto repair but may be used in manufacturing furniture or other objects – ZR Appendix A
- Performance standards, such as noise, vibration, odor, toxic or noxious matter, or fire and explosive matter, are typically associated with manufacturing uses and shall apply to spray booths and rooms – ZR 42-20

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BUILDING CODE

- Optional use of prior codes except as otherwise noted. For example, fuel gas, plumbing, and mechanical work must comply with the 2014 Building Code requirements – AC Section [28-101.4.3](#)
- Special detailed requirements based on use and occupancy – BC [416](#)
 - Spray rooms: enclosures, floors – BC [416.2](#)
 - Spraying spaces: ventilation, spray curtains – BC [416.3](#)
 - Fire protection – BC [416.5](#)

Egress – BC Chapter 10

- Common path of egress travel for H-1, H-2 and H-3 occupancies – BC [1014.3](#)
- Exit access travel distance in a high hazard area – BC Table [1016.1](#)

Sprinkler / Fire Protection Systems – BC Chapter 9

- Requirements for full systems or modifications – BC [901.2](#), [901.3](#)
- Supervised service for Group H – BC [901.6.2](#)
- Sprinklers required and additional requirements – BC [903.2.5](#), BC Table [903.2.11.10](#)
- Sprinkler system supervision and alarms – BC [903.4](#), Exception 4
- Alternative automatic fire extinguishing systems – BC [904.2](#), Exception
- Fire alarm required – BC [907.2.5](#)

MECHANICAL CODE

- Intake opening location – MC [401.4](#)
- Location of exhaust outlets – MC [501.2.1](#)

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- Mechanical ventilation of flammable vapor areas – MC [502.7.3](#)
 - Operation of mechanical ventilation during spraying – MC [502.7.3.1](#)
 - No exhaust air recirculation from spraying operations – MC [502.7.3.2](#)
 - Independent ducts – MC [502.7.3.5](#)
- Hazardous exhaust systems – MC [510](#)
- Electrostatic apparatus and devices – MC [502.7.5](#)
- Air intake filters that are part of the wall or ceiling of a spray booth or spray room should be listed as Class I or Class II in accordance with UL 900 – MC [605.2](#)

ENERGY CODE

- In accordance with Section ECC 101.3, the purpose of the NYCECC is to *'regulate the design and construction of buildings for the effective use of energy.'* Thus, the building envelope separating conditioned from unconditioned space and the mechanical and electrical systems that make it function for human occupancy (or otherwise) are regulated by the NYCECC. However, the processes housed within the building but are not part of it, whether they are a paint spray booth, office computers and copiers, refrigerators and cooking appliances, plug-in floor or table lamps, or fabrication equipment, are not regulated by the NYCECC.

For additional information see [Code Notes on Energy Code](#).

FIRE CODE

- Design and installation documents – FC 105.4, Item 22
- Flammable finishes – FC Chapter 15
- Design and installation of spray booths and rooms – FC 1504.3.1 through 1504.3.7, as applicable.
- Operation and maintenance – FC 1504.4

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OTHER AGENCY APPROVALS

- **NYC Department of Environmental Protection (DEP)** is responsible for enforcing the City's Air and Noise Codes, Community Right-To-Know Law, Hazardous Substances Emergency Response Law, and the 'Spill Bill.'
- **NYS Department of Environmental Conservation (DEC)** is responsible for administering and enforcing the State's Environmental Conservation Laws, including regulations and registrations for air permits and surface coating processes.
- **U.S. Environmental Protection Agency (EPA)** is responsible for implementing and enforcing federal environmental laws, including the: Clean Air Act, Clean Water Act, and the Superfund Amendments and Reauthorization Act (SARA) Title III.
- **NYC Fire Department (FDNY)** regulates variances where Fire Code provisions are not met.
- **U.S. Department of Labor Occupational Safety and Health Administration (OSHA)** is responsible for Regulations- 29 CFR 1910; Subpart H; 1910.107 spray finishing using flammable and combustible materials; 1926, Subpart D; 1926.66 criteria for the design and construction of spray booths.