

CITY AND COUNTY OF DENVER		POLICY	DENVER FIRE DEPARTMENT
Subject:	SPRAYING OF WATER-BASED FINISHES		
Reference:	2015 IFC, Denver Amendments and NFPA		
Approved:			Manuel Almaguer Division Chief, Fire Prevention Division
Number:	IFC- 3406-5 NFPA 33	Effective Date: March 1, 2019	Page 1 of 6

This policy is meant to provide basic information for the most common conditions and situations. In any given occupancy, many other Fire Code requirements may be enforced. The Fire Inspector will address these during a premise inspection. Questions can be addressed by contacting the Fire Prevention Division between 7:00 a.m. and 4:00 p.m. at 720-913-3474. Walk-in hours are 7:00 a.m. to 9:30 a.m. ONLY, Monday-Friday at 745 W. Colfax Avenue.

I. SCOPE

This policy covers the permitting requirements as they pertain to: **OCCUPANCIES USED FOR THE APPLICATION OF WATER-BASED FINISHES** within the City and County of Denver.

II. DEFINITIONS

- A. Water-based finish** is a product that is neither a flammable nor a combustible liquid.
- B. Flammable liquid** is a liquid having a closed cup flash point below 100 degree F. The category of flammable or combustible liquids does not include compressed gas or cryogenic fluids. Flammable liquids are further categorized into a group known as Class I liquids, subdivided as follows:
1. **Class I-A** liquids include those having a flash point below 73 degrees F and having a boiling point below 100 degrees F.
 2. **Class I-B** liquids include those having a flash point below 73 degrees F and having a boiling point at or above 100 degrees F.
 3. **Class I-C** liquids include those having a flash point at or above 73 degrees F and below 100 degrees F.
- C. Combustible Liquid** is a liquid having a flash point at or above 100 degrees F, subdivided as follows:
1. **Class II liquids** are those having closed cup flash point at or above 100 degrees F and below 140 degrees F.
 2. **Class III-A liquids** are those having closed cup flash points at or above 140 degrees F and below 200 degrees F.
 3. **Class III-B liquids** are those having a closed cup flash point at or above 200 degrees F.

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III. ANNUAL PERMITS and FEES

A. The following annual permit must be obtained from the Denver Fire Department, Fire Prevention Division, Flammables Section:

1. Spraying of Water-based Products. Fee \$50.00 per spray booth, room and/or area.
2. **The owner or responsible party must complete the Spraying of Water-Based Finishes** application form (attached) and remit with the required fee. Check shall be payable to **Denver Manager of Finance**. Submit to the Denver Fire Department, Fire Prevention Division - Flammables Section. All required permits shall be current and posted on site.

Mail-in to: Denver Fire Prevention/Permits
745 W. Colfax Avenue
Denver, CO 80204

Walk-in permits: 7:00 a.m. to 9:30 a.m. **ONLY**, Monday – Friday, at 745 W. Colfax Denver CO 80204

IV. TO OBTAIN PERMITS

A permit shall be obtained from the Denver Fire Department, Fire Prevention Division Flammables Section. To obtain a permit the following information must be provided:

- A. Business Name, address, phone number and fax number.
- B. Contact Name, phone number and fax number.
- C. Site address
- D. **Diagram of site location indicating spray area, room or booth**
- E. Presence and/or absence of code complying/functional sprinkler system
- F. A letter detailing owner's written agreement that flammable finishes **will not be used at any time**
- G. **MSDS** (materials safety data sheets) of water-based product(s) used on site
- H. Documentation verifying that you comply with the National Fire Protection Association (NFPA) Standard 33 requirements listed below:
 1. **NFPA Section 6.5.1** Electrical wiring and utilization equipment located outside, but within 20 ft. horizontally and 10 ft. vertically of an unenclosed spray area and not separated from the spray area by partitions extending to the boundaries of the area designated as Division 2 in figure 4.3.1 (see page 8) shall be suitable for Class I, Division 2 or Class II, Division 2 locations, whichever is applicable.

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2. **NFPA Section 6.5.2** If spray application operations are conducted within a closed-top, open-face or open-front booth or room, as shown in **Figure 6.5.2(a)** or **Figure 6.5.2(b)**, any electrical wiring or utilization equipment located outside the booth or room but within 915 mm (3 ft) of any opening shall be suitable for Class I, Division 2; Class I, Zone 2; Class II, Division 2; or Zone 22 locations, whichever is applicable.
3. **NFPA Section 6.5.3** If spray application operations are conducted within an open-top booth, any electrical wiring or utilization equipment located within the space 915 mm (3 ft) vertically from the top of the booth shall be suitable for Class I, Division 2; Class I, Zone 2; Class II, Division 2; or Zone 22 locations, whichever is applicable. In addition, any electrical wiring or utilization equipment located within 915 mm (3 ft) in all directions of openings other than the open top also shall be suitable for Class I, Division 2; Class I, Zone 2; Class II, Division 2; or Zone 22 locations, whichever is applicable.
4. **NFPA Section 6.5.4** If spray application operations are confined to an enclosed spray booth or room, electrical area classification shall be as follows:
 - a. The area within 915 mm (3 ft.) of any opening shall be classified as Class I, Division 2; Class I, Zone 2; Class II, Division 2; or Zone 22 locations, whichever is applicable, as shown in **Figure 6.5.4**.
 - b. Where automated spray application equipment is used, the area outside the access doors shall be unclassified provided the door interlock prevents the spray application operations when the door is open.
 - c. Where exhaust air is recirculated and all requirements of Section **7.5** are met, both of the following shall apply:
 - 1) The interior of any recirculation path downstream of the recirculation particulate filter up to and including the air supply plenum shall be classified as Class I, Division 2; Class I, Zone 2; Class II, Division 2; or Zone 22 locations, whichever is applicable.
 - 2) The interior of fresh air supply ducts shall be unclassified.
5. Where exhaust air is not recirculated, the interior of fresh air supply ducts and fresh air supply plenums shall be unclassified.
 - a. **NFPA Section 6.5.5** Open containers, supply containers, waste containers, spray gun cleaners, and solvent distillation units that contain Class I liquids shall be located in areas ventilated in accordance with applicable requirements of Chapter **7**.
 - b. **NFPA Section 6.6.1 Light Fixtures**. Luminaires, like that shown in **Figure 6.6.1**, that are attached to the walls or ceiling of a spray area but that are outside any classified area and are separated from the spray area by glass panels that meet the requirements of Section **5.4** shall be suitable for use in unclassified locations. Such fixtures shall be serviced from outside the spray area.

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- c. **NFPA Section 6.6.2** Luminaires, like that shown in **Figure 6.6.1**, that are attached to the walls or ceiling of a spray area; that are separated from the spray area by glass panels that meet the requirements of Section **5.4**; and that are located within a Class I, Division 2; a Class I, Zone 2; a Class II, Division 2; or a Zone 22 location shall be suitable for such location. Such fixtures shall be serviced from outside the spray area.
- d. **NFPA Section 6.6.3** Luminaires, like that shown in **Figure 6.6.3**, that are an integral part of the walls or ceiling of a spray area shall be permitted to be separated from the spray area by glass panels that are an integral part of the fixture. Such fixtures shall be listed for use in Class I, Division 2; Class I, Zone 2; Class II, Division 2; or Zone 22 locations, whichever is applicable, and also shall be listed for accumulations of deposits of combustible residues. Such fixtures shall be permitted to be serviced from inside the spray area.
- e. **NFPA Section 4.4.4** Luminaires that are located inside the spray area shall meet the requirements of Section **6.4** and Section **6.7**.
- f. **NFPA Section 6.7 Static Electricity.** All electrically conductive objects in the spray area, except those objects required by the process to be at high voltage, shall be electrically connected to ground with a resistance of not more than 10^6 ohms (1 megohm). This requirement shall apply to containers of coating material, wash cans, guards, hose connectors, brackets, and any other electrically conductive objects or devices in the area. This requirement shall also apply to any personnel who enter the spray area.
- g. **NFPA Section 7.2 Performance Requirements.** Each spray area shall be provided with mechanical ventilation that is capable of confining and removing vapors and mists to a safe location and is capable of confining and controlling combustible residues, dusts, and deposits. The concentration of the vapors and mists in the exhaust stream of the ventilation system shall not exceed 25 percent of the lower flammable limit.
- h. **NFPA Section 10.1 General.** Maintenance procedures shall be established to ensure that all spray application apparatus and processes are operated and maintained in accordance with the manufacturers' specifications and the requirements of this standard. Maintenance shall be the responsibility of the users of the apparatus and processes.
- i. **NFPA Section 10.1.1** Spray application operations shall not be conducted outside of predetermined spray areas.
- j. **NFPA Section 10.2*,10.2.1,10.2.2,10.2.2.1,10.2.3 Combustible Deposits.** All spray areas shall be kept free of the accumulation of deposits of combustible residues. Combustible coverings (thin paper, plastic, etc.) and strippable coatings shall be permitted to be used to facilitate cleaning operations in spray areas. If residue accumulates to excess in booths, ducts

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or duct discharge points, or other spray areas, then all spraying operations shall be discontinued until conditions are corrected.

- k. **NFPA Section 10.3 High Pressure Hose Lines.** High pressure hose lines that convey flammable or combustible coating material in “airless” spray application operations shall be inspected frequently and shall be repaired or replaced, as necessary. Hose lines and equipment shall be located so that, in the event of a leak or rupture, coating material will not be discharged into any space having a source of ignition.
- l. **NFPA Section 10.501,10.5.2,10.5.3*,10.5.4 Waste Containers.** Approved metal waste cans shall be provided wherever rags or waste are impregnated with sprayed material and all such rags or waste deposited therein immediately after use. The contents of waste cans shall be disposed of at least once daily at the end of each shift.
- m. **NFPA Section 10.9 Spontaneous Ignition Hazards.** The same spray booth shall not be alternately used for different types of coating materials if the combination of the materials is conducive to spontaneous ignition, unless all deposits of the first coating material are removed from the booth and exhaust ducts prior to spraying with the second coating material.

V. SITE INSPECTION

Upon approval of spraying water based finishes permit, Denver Fire Department Fire Prevention Bureau Inspector will conduct a field inspection of the site; If any violations of the above sections exist, the occupancy will be reclassified as an H-Occupancy and be required to comply with the requirements of NFPA Standard 33: i.e., installation of spray rooms or booths and automatic sprinkler systems. Compliance with **all** Fire Code requirements shall be maintained at all times. Permit shall be kept on site at all times. Permit is valid for business/property owner, time frame, site indicated on the permit. The transfer of permits to other sites and or businesses is prohibited.

VI. A permit will be revoked when:

- A. Any of the conditions or limitations set forth in the permit has been violated.
- B. Compliance with written orders has not been achieved.
- C. False statements or misrepresentations of information provided in the permit application are found.
- D. The permit is issued in error, in violation of a city ordinance or a Fire Code violation exists.

Visit DenverGov.org/DFD and select “Fire Safety Permits” for the current Fire Permit Fee Calculation Table.

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SPRAYING OF WATER BASED FINISHES PERMIT APPLICATION FORM

THIS FORM SHALL BE COMPLETED AND SIGNED BY A REPRESENTATIVE OF THE SITE APPLYING FOR SPRAYING OF WATER-BASED FINISHES PERMITS. A PERMIT WILL NOT BE ISSUED IF THIS FORM IS NOT COMPLETE.

NAME OF BUSINESS: _____

BUSINESS ADDRESS: _____ CITY, STATE, ZIP CODE: _____

CONTACT'S NAME: _____

CONTACT'S PHONE NUMBER: _____ FAX: _____

SITE ADDRESS: _____

- I HAVE INCLUDED A WRITTEN AGREEMENT THAT FLAMMABLE FINISHES WILL NOT BE USED AT ANYTIME: (CIRCLE ONE) YES NO
- PRESENCE AND/OR ABSENCE OF CODE COMPLYING/FUNCTIONAL SPRINKLER SYSTEM:
(CIRCLE ONE) YES NO
- I HAVE INCLUDED MSDS OF WATER-BASED FINISHES USED ON SITE (CIRCLE ONE) YES NO

I HAVE READ AND UNDERSTAND THE DENVER FIRE DEPARTMENT POLICY ON SPRAYING OF WATER-BASED FINISHES. I ALSO UNDERSTAND THAT THE DENVER FIRE PREVENTION DIVISION WILL CONDUCT A SITE INSPECTION AND IF I DO NOT COMPLY WITH THE INTERNATIONAL FIRE CODE AND NFPA, MY PERMIT(S) MAY BE REVOKED WITHOUT A REFUND.

PRINT NAME: _____

SIGNATURE: _____ DATE: _____