

<p>July 1, 2010</p>	<p align="center"><b>SANTA ROSA FIRE DEPARTMENT FIRE PREVENTION BUREAU STANDARD</b></p>
	<p align="center"><b>DRY CLEANING FACILITY</b></p>

**PURPOSE**

This standard outlines the general requirements for new or modified dry cleaning operations.

**CODE REFERENCES**

2007 California Building Code (CBC) Chapter 4 (415.6.4)

2007 California Fire Code (CFC) - Chapter 12

**PERMIT(S) REQUIRED**

A permit to operate a dry cleaning operation is required. The permit is based on the use of either perchloroethylene, or non-perchloroethylene cleaning solutions.

An operational permit is required to engage in the business of dry cleaning or to change to a more hazardous cleaning solvent used in existing dry cleaning equipment. *(CFC Appendix Chapter 1, Sections 105.6.12)*

A separate permit is also required if the dry cleaning business uses perchlorethylene *(SRCC 18-44)*

Categories and fee amounts are found at: <http://ci.santa-rosa.ca.us/doclib/Documents/IB%20018.pdf>

**ATTACHMENTS**

- 1) Plan Review Checklist – Dry Cleaning
- 2) Inspection Checklist – Dry Cleaning

**REQUIRED INSPECTIONS**

Inspections shall be scheduled a minimum of 48 hours in advance. Directions for scheduling are found at: <http://ci.santa-rosa.ca.us/news/Pages/AutomatedFireInspectionRequestSystem.aspx>

**DEFINITIONS** *(CFC 1202):*

**Dry Cleaning.** The process of removing dirt, grease, paints and other stains from such items as wearing apparel, textiles, fabrics and rugs by use of nonaqueous liquids (solvents).

**Dry Cleaning Plant.** A facility in which dry cleaning and associated operations are conducted, including the office, receiving area and storage rooms.

**Dry Cleaning Room.** An occupiable space within a building used for performing dry cleaning operations, the installation of solvent-handling equipment or the storage of dry cleaning solvents.

**Dry Cleaning System.** Machinery or equipment in which textiles are immersed or agitated in solvent or in which dry cleaning solvent is extracted from textiles.

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**Solvent or Liquid Classifications.** A method for classifying solvents or liquids according to the following classes:

- **Class I solvents.** Liquids having a flash point below 100°F(38°C).
- **Class II solvents.** Liquids having a flash point at or above 100°F (38°C) and below 140°F (60°C).
- **Class IIIA solvents.** Liquids having a flash point at or above 140°F (60°C) and below 200°F (93°C).
- **Class IIIB solvents.** Liquids having a flash point at or above 200°F (93°C).
- **Class IV solvents.** Liquids classified as nonflammable.

**Classification of dry cleaning plants and systems.** (CFC 1203.2) Dry cleaning plants and systems shall be classified based on the solvents used as follows:

1. Type I—systems using Class I solvents.
2. Type II—systems using Class II solvents.
3. Type III-A—systems using Class IIIA solvents.
4. Type III-B—systems using Class IIIB solvents.
5. Type IV—systems using Class IV solvents in which dry cleaning is not conducted by the public.
6. Type V—systems using Class IV solvents in which dry cleaning is conducted by the public.

Spotting and pre treating operations conducted in accordance with Section 1206 shall not change the type of the dry cleaning plant.

**Multiple solvents.** (CFC 1203.2.1) Dry cleaning plants using more than one class of solvent for dry cleaning shall be classified based on the numerically lowest solvent class.

**Design.** (CFC 1203.3) The occupancy classification, design and construction of dry cleaning plants shall comply with the applicable requirements of the *California Building Code*.

## **GENERAL REQUIREMENTS**

**Hazardous Materials Management Plan (HMMP)** (CFC 2701.5.1). A management plan, site map, and chemical inventory shall be submitted through the Unidocs website at [www.unidocs.org](http://www.unidocs.org). Follow the requirements contained in CFC 2701.5.2 and/or the Hazardous Materials Management Plan.

**Prohibited use** (CFC 1204.1). Type I dry cleaning plants shall be prohibited. Limited quantities of Class I solvents stored and used in accordance with this section shall not be prohibited in dry cleaning plants.

**Building services** (CFC 1204.2). Building services and systems shall be designed, installed and maintained in accordance with this section and Chapter 6.

**Ventilation** (CFC 1204.2.1). Ventilation shall be provided in accordance with Section 502 of the *California Mechanical Code* and DOL29CFRPart 1910.1000, where applicable.

**Heating** (CFC 1204.2.2). In Type II dry cleaning plants, heating shall be by indirect means using steam, hot water or hot oil only.

**Electrical wiring and equipment** (CFC 1204.2.3). Electrical wiring and equipment in dry cleaning rooms or other locations subject to flammable vapors shall be installed in accordance with the *California Electrical Code*.

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**Bonding and grounding** (CFC 1204.2.4). Storage tanks, treatment tanks, filters, pumps, piping, ducts, dry cleaning units, stills, tumblers, drying cabinets and other such equipment, where not inherently electrically conductive, shall be bonded together and grounded. Isolated equipment shall be grounded.

## **OPERATING REQUIREMENTS**

**General** (CFC 1205.1). The operation of dry cleaning systems shall comply with the requirements of Sections 1205.1.1 through 1205.3.

**Written instructions** (CFC 1205.1.1). Written instructions covering the proper installation and safe operation and use of equipment and solvent shall be given to the buyer.

**Type II, III-A, III-B and IV systems** (CFC 1205.1.1.1). In Type II, III-A, III-B and IV dry cleaning systems, machines shall be operated in accordance with the operating instructions furnished by the machinery manufacturer. Employees shall be instructed as to the hazards involved in their departments and in the work they perform.

**Type V systems** (CFC 1205.1.1.2). Operating instructions for customer use of Type V dry cleaning systems shall be conspicuously posted in a location near the dry cleaning unit. A telephone number shall be provided for emergency assistance.

**Equipment identification** (CFC 1205.1.2). The manufacturer shall provide nameplates on dry cleaning machines indicating the class of solvent for which each machine is designed.

**Open systems prohibited** (CFC 1205.1.3). Dry cleaning by immersion and agitation in open vessels shall be prohibited.

**Prohibited use of solvent** (CFC 1205.1.4). The use of solvents with a flash point below that for which a machine is designed or listed shall be prohibited.

**Equipment maintenance and housekeeping** (CFC 1205.1.5). Proper maintenance and operating practices shall be observed in order to prevent the leakage of solvent or the accumulation of lint. The handling of waste material generated by dry cleaning operations and the maintenance of facilities shall comply with the provisions of this section.

**Floors** (CFC 1205.1.5.1). Class I and II liquids shall not be used for cleaning floors.

**Filters** (CFC 1205.1.5.2). Filter residue and other residues containing solvent shall be handled and disposed of in covered metal containers.

**Lint** (CFC 1205.1.5.3). Lint and refuse shall be removed from traps daily, deposited in approved waste cans, removed from the premises, and disposed of safely. At all other times, traps shall be held securely in place.

**Customer areas** (CFC 1205.1.5.4). In Type V dry cleaning systems, customer areas shall be kept clean.

**Type II systems** (CFC 1205.2). Special operating requirements for Type II dry cleaning systems shall comply with the provisions of Sections 1205.2.1 through 1205.2.3.

**Inspection of materials** (CFC 1205.2.1). Materials to be dry cleaned shall be searched thoroughly and foreign materials, including matches and metallic substances, shall be removed.

**Material transfer** (CFC 1205.2.2). In removing materials from the washer, provisions shall be made for minimizing the dripping of solvent on the floor. Where materials are transferred from a washer to a drain tub, a nonferrous metal drip apron shall be placed so that the apron rests on the drain tub and the cylinder of the washer.

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**Ventilation** (CFC 1205.2.3). A mechanical ventilation system which is designed to exhaust 1 cubic foot of air per minute for each square foot of floor area [0.0058 m<sup>3</sup>/(s · m<sup>2</sup>)] shall be installed in dry cleaning rooms and in drying rooms. The ventilation system shall operate automatically when the dry cleaning equipment is in operation and shall have manual controls at an approved location.

**Type IV and V systems** (CFC 1205.3). Type IV and V dry cleaning systems shall be provided with an automatically activated exhaust ventilation system to maintain a minimum of 100 feet per minute (0.51 m/s) air velocity through the loading door when the door is opened. Such systems for dry cleaning equipment shall comply with the *California Mechanical Code*.

**Exception:** Dry cleaning units are not required to be provided with exhaust ventilation where an exhaust hood is installed immediately outside of and above the loading door which operates at an airflow rate as follows:

**(Equation 12-1)**

$$Q = 100 \times A_{LD}$$

where:

Q = flow rate exhausted through the hood, cubic feet per minute (m<sup>3</sup>/s).

A<sub>LD</sub> = area of the loading door, square feet (m<sup>2</sup>).

### **SPOTTING AND PRETREATING**

**General** (CFC 1206.1). Spotting and pretreating operations and equipment shall comply with the provisions of Sections 1206.2 through 1206.5.

**Type I solvents** (CFC 1206.2). The maximum quantity of Type I solvents permitted at any work station shall be 1 gallon (4 L). Class I solvents shall be stored in approved safety cans or in sealed DOTn-approved metal shipping containers of not more than 1-gallon (4 L) capacity. Dispensing shall be from approved safety cans.

**Type II and III solvents** (CFC 1206.3). Scouring, brushing, and spotting and pretreating shall be conducted with Class II or III solvents. The maximum quantity of Type II or III solvents permitted at any work station shall be 1 gallon (4 L). In other than a Group H-2 occupancy, the aggregate quantities of solvents shall not exceed the maximum allowable quantity per control area for use-open system.

**Spotting tables** (CFC 1206.3.1). Scouring, brushing or spotting tables on which articles are soaked in solvent shall have a liquid-tight top with a curb on all sides not less than 1 inch (25 mm) high. The top of the table shall be pitched to ensure thorough draining to a 1.5-inch (38 mm) drain connected to an approved container.

**Special handling** (CFC 1206.3.2). When approved, articles that cannot be washed in the usual washing machines are allowed to be cleaned in scrubbing tubs. Scrubbing tubs shall comply with the following:

1. Only Class II or III liquids shall be used.
2. The total amount of solvent used in such open containers shall not exceed 3 gallons (11 L).
3. Scrubbing tubs shall be secured to the floor.
4. Scrubbing tubs shall be provided with permanent 1.5- inch (38 mm) drains. Such drain shall be provided with a trap and shall be connected to an approved container.

**Ventilation** (CFC 1206.3.3). Scrubbing tubs, scouring, brushing or spotting operations shall be located such that solvent vapors are captured and exhausted by the ventilating system.

**Bonding and grounding** (CFC 1206.3.4). Metal scouring, brushing and spotting tables and scrubbing tubs shall be permanently and effectively bonded and grounded.

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**Type IV systems** (CFC 1206.4). Flammable and combustible liquids used for spotting operations shall be stored in approved safety cans or in sealed DOTn-approved metal shipping containers of not more than 1 gallon (4 L) in capacity. Dispensing shall be from approved safety cans. Aggregate amounts shall not exceed 10 gallons (38 L).

**Type V systems** (CFC 1206.5). Spotting operations using flammable or combustible liquids are prohibited in Type V dry cleaning systems.

## **DRY CLEANING SYSTEMS**

**General equipment requirements** (CFC 1207.1). Dry cleaning systems, including dry cleaning units, washing machines, stills, drying cabinets, tumblers, and their appurtenances, including pumps, piping, valves, filters and solvent coolers, shall be installed and maintained in accordance with NFPA 32 (Dry Cleaning Plants, 2004 edition). The construction of buildings in which such systems are located shall comply with the requirements of this section and the *California Building Code*. B:C portable fire extinguishers shall be provided near the doors inside dry cleaning rooms containing Type II, Type III-A and Type III-B dry cleaning systems.

**Type II systems** (CFC 1207.2). Type II dry cleaning and solvent tank storage rooms shall not be located below grade or above the lowest floor level of the building and shall comply with Sections 1207.2.1 through 1207.2.3.

**Exception:** Solvent storage tanks installed underground, in vaults or in special enclosures in accordance with Chapter 34.

**Fire-fighting access** (CFC 1207.2.1). Type II dry cleaning plants shall be located so that access is provided and maintained from one side for fire-fighting and fire control purposes in accordance with Section 503.

**Number of means of egress** (CFC 1207.2.2). Type II dry cleaning rooms shall have not less than two means of egress doors located at opposite ends of the room, at least one of which shall lead directly to the outside.

**Spill control and secondary containment** (CFC 1207.2.3). Curbs, drains, or other provisions for spill control and secondary containment shall be provided in accordance with Section 2704.2 to collect solvent leakage and fire protection water and direct it to a safe location.

**Solvent storage tanks** (CFC 1207.3). Solvent storage tanks for Class II, IIIA and IIIB liquids shall conform to the requirements of Chapter 34 and be located underground or outside, above ground.

**Exception:** As provided in NFPA 32 for inside storage or treatment tanks.

## **FIRE PROTECTION**

**General** (CFC 1208.1). Where required by this section, fire protection systems, devices and equipment shall be installed, inspected, tested and maintained in accordance with Chapter 9.

**Automatic sprinkler system** (CFC 1208.2). An automatic sprinkler system shall be installed in accordance with Section 903.3.1.1 throughout dry cleaning plants containing Type II, Type III-A or Type III-B dry cleaning systems.

**Automatic fire-extinguishing systems** (CFC 1208.3). Type II dry cleaning units, washer-extractors, and drying tumblers in Type II dry cleaning plants shall be provided with an approved automatic fire-extinguishing system installed and maintained in accordance with Chapter 9.

**Exception:** Where approved, a manual steam jet not less than 0.75 inch (19 mm) with a continuously available steam supply at a pressure not less than 15 pounds per square inch gauge (psig) (103 kPa) is allowed to be substituted for the automatic fire-extinguishing system.

**Portable fire extinguishers** (CFC 1208.4). Portable fire extinguishers shall be selected, installed and maintained in accordance with this section and Section 906. A minimum of two 2-A:10-B:C portable fire extinguishers shall be

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provided near the doors inside dry cleaning rooms containing Type II, Type III-A and Type III-B dry cleaning systems.