



TOWN OF BRIGHTON
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Fire Extinguisher Spacing & Installation Guidelines

This guideline describes the basic requirements for size and number of fire extinguishers that facilities are required to have contained in the Fire Code of New York and the National Fire Protection Association Chapter 10 - 2007 Edition.

Scope

The Fire Code of New York specifies the type, size and number of fire extinguishers that facilities are required to have. This guideline describes the basic requirements contained in the Fire Code of New York and the National Fire Protection Association Chapter 10 - 2007 Edition.

Licensing Requirements

No person shall engage in or conduct the trade of installing, charging, filling, maintaining, recharging, refilling, repairing and/or testing rechargeable fire extinguishers or fire extinguishing systems within the Town of Brighton without first having obtained a license therefore issued by the Fire Marshal or his designee. The Fire Marshal or his designee may issue a license under this Chapter 73 to any applicant holding a license to engage in the trade issued by the City of Rochester Fire Department or holding any other license to engage in the trade issued by another jurisdiction which the Fire Marshal determines has requirements for its issuance that are substantially similar to the licensing requirements of the City of Rochester Fire Department.

Fires are divided into five categories in order to determine what type of chemical (dry chemical, carbon dioxide, etc.) will safely extinguish the fire.

| Fire Extinguisher Types and Sizes | | |
|--|---------|--|
|  | Class A | Fires involving ordinary combustibles (wood, cloth, paper, rubber, and many plastics.) |
|  | Class B | Fires involving flammable liquids, oils, greases, tars, oil-based paints, lacquers, and flammable gases. |
|  | Class C | Fires involving energized electrical equipment |
|  | Class D | Fires involving combustible metals (magnesium, titanium, sodium, etc.) |
|  | Class K | Fires involving combustible cooking media (fats, oils, etc.) |

Fire extinguishers are rated as to which class of fires for which they are appropriate. Fire extinguishers are also rated with respect to the fires they will control. The larger the number given, the larger fire they will control. For example, a 4A-rated extinguisher will control a larger fire than will a 2A-rated extinguisher. Size ratings are not provided for class C fires since this rating simply refers to the fact that the extinguishing chemical will not conduct electricity. The following sections of this guideline are a direction for determining what size extinguisher is needed in various situations.

Basic Fire Extinguisher Selection, Numbers and Location

1) For each area, determine the hazard classification using the definitions below.

Light (low) Hazard: Light hazard occupancies are locations where the total amount of Class A combustible materials, including furnishings, decorations, and contents, is of minor quantity. This may include some buildings or rooms occupied as offices, classrooms, churches, assembly halls, guestroom areas of hotels/motels, etc. This classification anticipates that the majorities of content items are either noncombustible or so arranged that a fire is not likely to spread rapidly. Small amounts of Class B flammables used for duplicating machines, art departments, etc. are included in this classification provided that they are kept in closed containers and safely stored.

Ordinary (light) Hazard: Ordinary hazard occupancies are locations where the total amount of Class A combustibles and Class B flammables are present in greater amounts than expected under light (low) hazard occupancies. These occupancies could consist of dining area, mercantile shops and allied storage, light manufacturing, research operations, auto showrooms, parking garages, workshop or support service area of light (low) hazard occupancies, and warehouses containing Class I or Class II commodities as defined in NFPA 231, Standard for General Storage (Class I and Class II commodities include noncombustible products on wooden or certain plastic pallets, in ordinary cardboard cartons or in paper wrappings, or in slatted wooden crates, solid wooden boxes, multiple-thickness paperboard cartons with or without pallets. The products are allowed to contain a limited amount of plastics.)

Extra (High) Hazard: Extra hazard occupancies are locations where the total amount of Class A combustibles and Class B flammables present, in storage, production use, and/or finished product is over and above those expected and classed as ordinary (light) hazards. These occupancies could consist of woodworking, vehicle repair, aircraft and boat servicing, cooking area, individual product display showrooms, product convention center displays, and storage and manufacturing processes such as painting, dipping, coating, including flammable liquid handling. Also included is warehousing or in-process storage of other than Class I and Class II commodities (i.e. plastics as a part of product or package)

2) Using the table below determine what size and type of fire extinguisher you need, how many you need and the maximum allowed travel distance to a fire extinguisher.

Note: a small, higher hazard operation (such as a spray booth) located in a larger area can be provided with an extinguisher specifically for that operation while the rest of the fire extinguishers in the area are rated for the overall hazard of the area. An example is provided on the last page of this document. Please also note that this chart addresses general situations, not special hazards. Special situations are addressed in 4) below.

3) Locate the fire extinguishers throughout the facility to satisfy the number of extinguishers needed based on square footage and the maximum travel distance. In general, fire extinguishers should be located near exit doors and in exit paths so that employees do not have to go deeper into a building to get a fire extinguisher, thus compromising their ability to exit should that be necessary. Fire extinguisher must be mounted on the wall or a post or placed on shelves. The bottom of the extinguisher must be between 4 and 48 inches off the ground.

4) The above information and the following are general guidelines. Special situations exist for which additional guidance is needed. For example, open tanks of flammable liquids, high piled storage of combustible materials, large scale spraying of flammable liquids, etc. For situations such as these, contact the Office of the Fire Marshal at (585) 784-5220 for assistance

| <i>Hazard Level</i> | <i>Minimum Fire Extinguisher Rating</i> | <i>Maximum Travel Distance to a Fire Extinguisher</i> | <i>Maximum Square Footage</i> |
|--|--|---|---|
| Light hazard | 2A 10B:C | 75 feet | Maximum coverage of 3,000 square feet per unit of A (thus a 2A extinguisher can cover 6000 sq. ft) |
| Ordinary Hazard with moderate amounts of Class A combustibles and only minimal amounts of flammable/combustible liquids and gases. | 2A 10B:C | 75 feet | Maximum coverage of 1,500 square feet per unit of A (thus a 2A extinguisher can cover 3,000 sq. ft.) |
| Ordinary hazard with moderate amounts of flammable/combustible liquids and gases. Examples: Parking garages, small laboratories, and hardware stores | Option 1 2A 10B:C | 30 feet | Maximum coverage of 1,500 square feet per unit of A (thus a 2A extinguisher can cover 3,000 sq. ft.) |
| | ----- Option 2 2A 20B:C | ----- 50 feet | ----- Maximum coverage of 1,500 square feet per unit of A (thus a 2A extinguisher can cover 3,000 sq. ft.) |
| Extra hazard - all types | Option 1* 4A 40B:C | 30 feet | Maximum coverage of 1,000 square feet per unit of A (thus a 4A extinguisher can cover 4,000 sq. ft.) |
| | ----- Option 2 4A 80B:C *4A 40B:C <i>may be hard to locate new - larger size ok</i> | ----- 50 feet | ----- Maximum coverage of 1,000 square feet per unit of A (thus a 4A extinguisher can cover 4,000 sq. ft.) |
| Commercial kitchens | 2A 1B: C; K Recommend using through-out the restaurant | 30 feet | Maximum coverage of 1,000 square feet per unit of A (thus a 4A extinguisher can cover 4,000 sq. ft.) |

Example:

7,000 sq. ft. office

- light hazard
- 2A10B:C minimum size
- Maximum travel distance = 75 feet
- Number of extinguishers needed = 2
 - 3,000 sq. ft. per unit A = 6,000 sq. ft. Per 2A extinguisher
 - Max 6,000 sq. ft. per extinguisher = 7,000 sq. ft./6,000 sq. ft. = >1.1 extinguisher
 - Round up, so 2 extinguishers needed

14,000 sq. ft. warehouse/light manufacturing area

Storage all under 12' high
Small spray booth is the only use of flammable liquids. Minor amounts only

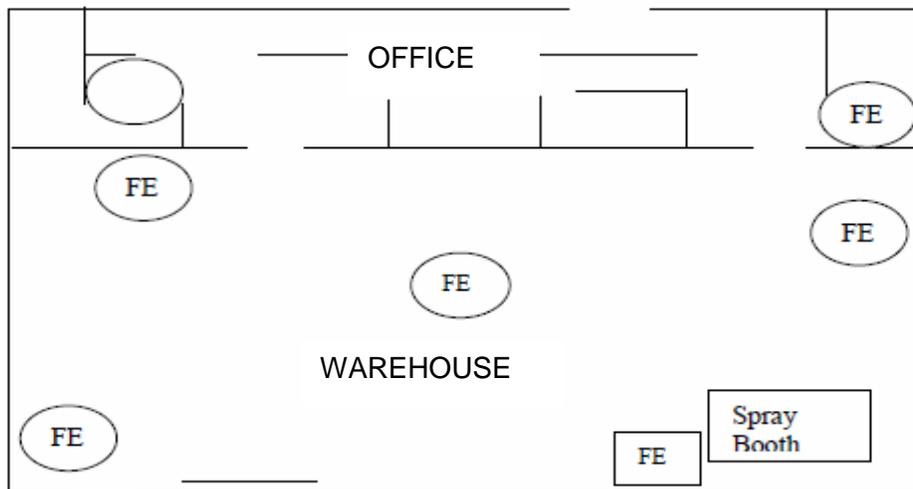
Spray Booth

- Extra hazard
- 4A40 BC minimum size
- Maximum travel distance = 30 feet
- Coverage for the booth only

General warehouse/manufacturing area

- Ordinary hazard with minimal amounts of flammable liquids
- 2A10B:C minimum size
- Maximum travel distance = 75 feet
- Number of extinguishers needed = 5
 - 1,500 sq. ft. per unit A = 3,000 sq. ft. per 2A extinguisher
 - Max 3,000 sq. ft. per extinguisher = 14,000 sq. ft. / 3,000 st. = > 4.16 extinguisher
 - Round up, so 5 extinguishers needed

Note that the spray booth extinguisher (4A40BC) can be used to satisfy the requirement for one of the 2A 10B:C extinguishers as long as the travel distances are satisfied. Thus, there would be 4 @ 2A 10B:C and 1 @ 4A 40B:C.



Key

(FE) = 2A10BC

[FE] = 4A40BC