

DUQUESNE UNIVERSITY

PORTABLE FIRE EXTINGUISHERS: PROGRAM AND PROCEDURES

Effective January 9, 2006

Revised October 2008

Prepared by: Environmental Health and Safety Department
EH&S Coordinator

TABLE OF CONTENTS

	Page
1.0 General Information	2
2.0 Selection and Distribution	2
3.0 Inspection, Maintenance and Testing	3
4.0 Training and Education	4
5.0 New Installation	4



Record of Review/Changes

Date of Review	Changes	Signature
October 2008	Added "Record of Review/Changes" table. Removed Appendix B: "Sample Floor Marshal Fire Extinguisher Inspection Checklist" (EH&S will conduct all inspections) and Appendix A: "Floor Marshal Responsibilities" (now its own program).	Vanessa Fowler

1.0 GENERAL INFORMATION

Portable extinguishers are intended as a first line of defense to cope with fires of limited size. They are needed even when a facility is equipped with automatic sprinklers, standpipe and hose, or other fixed protection equipment. The provisions of this program apply to the selection and distribution, inspection, maintenance and testing of portable extinguishing equipment as well as training and education for potential fire extinguisher users. The requirements given herein are minimums.

1.1 Applicable Standards and Regulations

The overall campus fire safety program is governed by

- Occupational Safety and Health Administration under **29 CFR 1910.157** “Portable Fire Extinguishers,”
- National Fire Protection Association under **NFPA 10** Standard for Portable Fire Extinguishers and
- Pennsylvania **Fire and Panic Act** (FPA) of 1972, P.L. 465, No. 299.

1.2 Definitions

NFPA 10 5.2

- *Class A Fire Hazard-* Ordinary combustibles: wood, cloth, paper, rubber, trash and many plastics.
- *Class B Fire Hazard-* Flammable and combustible liquids: gasoline, oil, grease and solvents.
- *Class C Fire Hazard-* Energized electrical equipment: anything “plugged in.”
- *Class D Fire Hazard-* Combustible metals: magnesium, titanium, aluminum, sodium, and potassium.
- *Class K Fire Hazard-* Cooking Appliance/Media: vegetable or animal oils and fats.

1.3 Classification and Ratings

NFPA 10 5.3

Portable fire extinguishers are classified for use on Class A, B, C, D or K fires and rated by nationally recognized testing laboratories for relative extinguishing effectiveness. The classification and rating are based upon the preceding classification of fires and the fire-extinguishment potentials as determined by fire tests by manufacturers.

2.0 SELECTION AND DISTRIBUTION

2.1 Selection

29CFR 1910.157(d)(1) & NFPA 10 5.0

The selection of extinguishers for a given situation is determined by the classification of anticipated workplace fires and on the size and degree of the hazard which would affect their use.

2.2 Distribution

29CFR 1910.157(d)(2-6) & NFPA 10 6.2-6

Fire extinguishers shall be provided for the protection of the building and for the occupancy hazard contained therein:

- Required building protection shall be provided by fire extinguishers suitable for Class A.
- Protection against occupancy hazard shall be provided by fire extinguishers suitable for such Class A, B, C, or D fire potentials as may be present.

2.21 Distances

The distance between extinguishers and the associated hazard depends on the fire hazard classes present:

- Class A- 75 feet
- Class B- 50 feet
- Class C- 75 to 50 feet, based on appropriate A or B hazard
- Class D- 75 feet
- Class K- 30 feet

2.3 **Mounting**

NFPA 10 6.1.3.8 & FPA 4.1

Extinguishers shall be conspicuously located where they will be readily accessible in the event of fire. They shall be located along normal paths of travel, including exits from an area. For situations where extinguishers are mounted within a cabinet or recess and are not readily visible, locations will be indicated by a light above the cabinet location. Additional signage may also be warranted. Fire protection and fire detection equipment shall not be obstructed in any situation.

Height of mounting depends on the weight of the extinguisher as follows:

- Less than 40 pounds: top no more than 5ft off floor
- Greater than 40 pounds: top no more than 3.5ft off floor
- 4" minimum distance from floor for all

3.0 **INSPECTION, MAINTENANCE AND TESTING**

3.1 **Inspections**

NFPA 10 7.2

Extinguishers are to be visually inspected on a monthly basis. See *Attachment A: Monthly Fire Extinguisher Inspectors* for inspector responsibilities.

Monthly inspections will include a check of the following items:

- Located in designated place
- No obstruction to access or visibility, signs for extinguishers if needed
- Safety seals and tamper indicators not broken or missing
- Operating instructions shall be clearly visible and facing outward
- Fullness determined by weighing or "hefting"
- Examination for obvious physical damage, corrosion, leakage, or clogged nozzle
- Pressure gauge reading or indicator in the operable range or position
- Condition of tires, wheels, carriage, hose, and nozzle checked (for wheel units)
- Mounted in accordance with NFPA Standard No. 10
- HMIS label in place

Monthly inspection records will be kept for at least one year.

Extinguishers will also be inspected annually, tested periodically, and recharged when necessary by a certified contractor. The qualifying credentials of these outside contractors will be kept on file in the EHS office.

Maintenance

NFPA 10 7.3

Extinguishers needing to be recharged due to use or pressure leakage will be coordinated through EHS and Facilities Management at no cost to the department or building to which the extinguisher was assigned.

Hydrostatic Testing

Fire extinguisher models requiring hydrostatic testing will be tested at intervals as determined by 29CFR 1910.157(f)(3) Table L-1. Records of hydrostatic testing, which will include the date of the test, signature of the person who performed the test and serial number or other identifier of the fire extinguisher will be kept until retesting.

4.0 TRAINING AND EDUCATION

29CFR 1910.157(g)

Portable fire extinguisher training will be provided to appropriate University employees upon initial employment with annual refresher training thereafter. Appropriate employees include Mellon Hall/Bayer Learning Center faculty and staff, Facilities Management, Public Safety and campus-wide floor marshals.

Initial training will consist of an in-class lecture and a hands-on simulation exercise. Annual refresher training will include an in-class lecture only. Employees will be trained in basic fire safety principles, proper fire extinguisher use and incipient stage fire fighting.

Alternately, the lecture portion of initial and annual refresher training will be internet-based, provided through the Environmental Health and Safety organization site on Blackboard. Initial training will also include a hands-on simulation. Employees will be trained in basic fire safety principles, proper fire extinguisher use and incipient stage fire fighting.

5.0 NEW INSTALLATION

EHS will review plans and determine the types and number of fire extinguishers required for new buildings. The purchase of fire extinguishers and fire hoses for new buildings will normally be funded from the Capital Improvements budget for the new building. The building's using department must reserve sufficient funds in the budget to cover all costs of initial outfitting for fire extinguishers. EHS will designate the placement of fire extinguishers and will coordinate with Facilities Management for installation.

5.1 Renovation

Each department will be responsible for funding additional extinguishers required by changes in the type of occupancy (e.g., conversion of space from office to laboratory). EHS will determine the type and location of extinguishers and will coordinate with Facilities Management for installation.

5.2 Extinguisher Loss Due to Damage or Theft

It is the responsibility of the using department to institute security measures to prevent losses due to theft. EHS will replace missing extinguishers, billing them to the department responsible for the area.