

(d) An audible alarm is provided to sound when the system is in operation.

Note: See ch. ILHR 82 for requirements pertaining to cross connections.

(8) **SUBSTITUTE AUTOMATIC FIRE SUPPRESSION SYSTEMS.** When approved by the department, substitute automatic fire suppression systems may be used in lieu of an automatic fire sprinkler system in areas where the use of water could cause unusual damage to equipment, or where water may have a limited effect or may be hazardous to use because of the nature of processes involved.

(9) **SYSTEM SUPERVISION AND MONITORING.** The height limitations and fire resistive ratings in s. ILHR 51.02 (21) and (22) and the unlimited area buildings specified in chs. ILHR 54 to 62 shall be permitted only where the automatic fire sprinkler system is equipped with supervised sprinkler system valves or other approved component indicators, such as but not limited to fire pump power indicator or low water level indicator. The supervision function of the automatic fire sprinkler system shall be monitored by a central station, remote, auxiliary or proprietary fire alarm system company.

History: 1-2-56; r. and recr. Register, December, 1974, No. 228, eff. 1-1-75; cr. (7) (a), Register, December, 1976, No. 252, eff. 1-1-77; am. (6), Register, December, 1981, No. 312, eff. 1-1-82; r. and recr. (1), (4), (6) and (7), cr. (8), Register, June, 1983, No. 330, eff. 7-1-83; am. (6), Register, December, 1983, No. 336, eff. 1-1-84; emerg. am. (1) (a), (4) and (6) (a), cr. (9), eff. 9-6-86; am. (1) (a), (4) and (6) (a), cr. (9), Register, November, 1986, No. 371, eff. 12-1-86.

ILHR 51.24 Fire alarm systems. Interior fire alarm systems required under ss. ILHR 54.17, 56.19 and 57.17 shall be designed and constructed in conformity with the following requirements:

(1) All such alarm systems shall consist of operating stations on each floor of the building, including the basement, with bells, horns, or other approved sounding devices which are effective throughout the building. The system shall be so arranged that the operation of any one station will actuate all alarm devices connected to the system except in the case of a presignal system. Fire alarms shall be readily distinguishable from any other signalling devices used in the building. A system designed for fire alarm and paging service may be used if the design is such that fire alarm signals will have precedence over all others;

(a) In all buildings where a fire alarm system and a complete automatic sprinkler system are required, a water flow detecting device shall be provided to actuate the fire alarm system.

(2) Every fire alarm system shall be electrically operated or activated by non-combustible, nontoxic gas. Electrically operated systems shall be operated on closed circuit current under constant electrical supervision, so arranged that upon a circuit opening and remaining open or in case of a ground or short circuit in the undergrounded conductor, audible trouble signals will be given instantly. Gas-activated systems shall be mechanically supervised and under constant gas pressure, so arranged that in case of a pressure drop an audible trouble signal will be given instantly. Means shall be provided for testing purposes;

(3) (a) Except as provided in par. (b), coded fire alarm systems shall be provided in buildings more than 3 stories in height and the systems shall be so arranged that the code transmitted shall indicate the location and story of the structure in which the signal originated.

(b) 1. The department shall approve non-coded continuous sounding fire alarm systems under constant automatic supervision in apartment buildings.

2. The department shall approve non-coded continuous or march time sounding fire alarm systems with electrically supervised annunciator panels that indicate the location and the story of the structure in which the signal originated.

3. The department shall approve fire alarm and communication systems for high rise construction as specified in s. ILHR 52.01 (2) (e).

(4) Operating stations shall be prominently located in an accessible position at all required exit doors and required exit stairways. Operating stations shall be of an approved type and shall be conspicuously identified. All such operating stations shall be of a type, which after being operated, will indicate that an alarm has been sent therefrom until reset by an authorized means. (Operating stations having a "Break Glass" panel will be acceptable. On coded systems having a device to permanently record the transmission of an alarm, "Open Door" type stations may be used). The fire alarm operating stations shall be mounted not less than 3 feet nor more than 4 feet above the finished floor as measured from the floor to the center of the box;

FP (5) All alarm systems shall be tested at least once a month and a record of the tests shall be kept;

(6) Existing fire alarm systems that are effective in operation will be accepted if approved by the department;

(7) The gas for operation of non-combustible, non-toxic gas activated fire alarm systems shall be supplied from approved pressure cylinders on the premises. The cylinders shall have sufficient capacity and pressure to properly operate all sounding devices connected to the system for a period of not less than 10 minutes. Cylinders shall be removed for recharging immediately after use and shall be replaced by fully charged cylinders;

(8) Spare cylinders shall be kept on the premises at all times for immediate replacement and separate cylinders for testing shall be incorporated in the system;

(9) Tubing in connection with non-combustible, non-toxic gas activated fire alarm systems shall be installed in rigid metal conduit, flexible metal conduit, or surface metal raceways where subject to mechanical injury. Non-corrosive metallic tubing not less than 3/16" in diameter which will withstand a bursting pressure of not less than 500 pounds per square inch shall be used. The maximum length of 3/16" tubing shall not exceed 300 feet between charged cylinders. All tubing and other component parts shall be installed by skilled workers in accordance with the provisions of this code; and

Note: See Wisconsin State Electrical Code, Volume 2, ch. ILHR 16.

FP (10) MAINTENANCE. All fire alarm systems, whether required by this code or not, shall be maintained in an operable condition.

History: 1-2-56; am. (4) (a), Register, November, 1963, No. 95, eff. 12-1-63; am. Register, August, 1964, No. 104, eff. 9-1-64; r. (10), (11) and (12), Register, December, 1975, No. 240, eff. 1-1-76; cr. (1) (a) and am. intro. and (2), Register, December, 1976, No. 262, eff. 1-1-77; am. (intro.) and (4), r. (3) (a), Register, January, 1980, No. 289, eff. 2-1-80; am. (3) and (6), cr. (10), Register, December, 1981, No. 312, eff. 1-1-82; am. (5), Register, August, 1985, No. Register, April, 1990, No. 412

356, eff. 1-1-86; emerg. r. and recr. (3), eff. 9-6-86; r. and recr. (3), Register, November, 1986, No. 371, eff. 12-1-86.

ILHR 51.245 Smoke detectors. (1) **GENERAL REQUIREMENTS.** All required smoke detectors shall be approved by the department and shall comply with the provisions of NFPA No. 72E-1982 — Standard on Automatic Fire Detectors or NFPA No. 74-1980 — Household Fire Warning Equipment.

(2) **INSTALLATION.** (a) Smoke detectors and smoke detector systems shall be installed in accordance with the provisions of NFPA No. 72E-1982 — Standard on Automatic Fire Detectors or NFPA No. 74-1980 — Household Fire Warning Equipment and in accordance with the manufacturer's directions and specifications.

(b) Except as provided in s. ILHR 57.16 (2) (b), all smoke detectors interconnected with each other or with the manual fire alarm system shall be installed in accordance with the provisions of NFPA No. 72A-1979 — Standard for the Installation, Maintenance and Use of Local Protective Signaling Systems for Guard's Tour, Fire Alarm and Supervisory Service. Where smoke detectors are interconnected with the manual fire alarm system, the smoke detectors shall be wired in accordance with the provisions specified in s. ILHR 16.34.

(3) **MAINTENANCE.** Smoke detectors shall be maintained as follows, except as noted in s. ILHR 57.16:

(a) The owner shall be responsible for maintaining the smoke detectors and the smoke detection system in good working order;

(b) Tenants shall be responsible for informing the owner, in writing, of any smoke detector malfunction, including the need for a new battery;

(c) The owner shall have 5 days upon receipt of notice from the tenant to repair or replace the smoke detector or replace the battery; and

(d) The owner shall furnish to the tenant written notice of the responsibilities of the tenant and the obligations of the owner regarding smoke detector maintenance.

History: Cr. Register, December, 1981, No. 312, eff. 1-1-82; am. (2) and (3) (c), Register, October, 1982, No. 322, eff. 11-1-82; am. (1) and (2) (a) Register, December, 1983, No. 336, eff. 1-1-84; r. and recr. (3), Register, April, 1990, No. 412, eff. 5-1-90.

ILHR 51.25 Adoption of ASTM standards. Pursuant to s. 227.025, Stats., the attorney general and the revisor of statutes have consented to the incorporation by reference of the following standards of the American Society of Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103. Copies of the standards in reference are on file in the