

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**SEC. 3-7-50: Automatic Fire Sprinkler Systems Required**

[REDACTED]

(g) **Nursing, Convalescent, Old Age, Prison, Group Care and Other Institutional Facilities.** Throughout all nursing, convalescent, old age, prison, and other group care or institutional facilities.

[REDACTED]

(i) **High Hazard Occupancies.** Throughout any building which by reasons of its construction, use or high combustible occupancy, involves a severe life hazard to its occupants, or which in the judgment of the Fire Chief constitutes a fire hazard, including, but not limited to:

- (1) Aircraft hangars.
  - (2) Dry cleaning establishments using or storing gasoline or other volatile flammable liquids.
  - (3) Enameling of japanning operations
  - (4) Mills, including sugar, starch, cereal, feed, flour and grist.
  - (5) Paint and varnish, including manufacturing, storing, handling, spraying and other related operations
  - (6) Pyrozylin products, manufacture and storage
  - (7) Repair garages
  - (8) Smokehouses
  - (9) Storage of explosives gases under pressure {fifteen (15) p.s.i and over five thousand four hundred (5,400) cubic feet} such as acetylene, hydrogen, natural gas, etc
  - (10) Storage of materials with a flash point under two hundred degrees Fahrenheit (200°F ) such as celluloid products, kerosene, fuel, oil, etc
  - (11) Woodworking establishments
  - (12) Chemical works
  - (13) Explosives and pyrotechnics manufacturing
  - (14) Oil refineries
  - (15) Any other occupancies involving processing, mixing, storage and dispensing of volatile liquids
- [REDACTED]

[REDACTED]

- (k) **Exceptions.** Automatic fire sprinkler systems shall not be required in:
- (1) **Certain Manufacturing Areas.** Rooms or buildings used for the manufacture or storage of aluminum powder, calcium carbide, calcium, metallic sodium or potassium, quick lime, magnesium powder, sodium peroxide or like materials where the application of water may cause or increase combustion.
  - (2) **Where Water Would Increase Hazard.** Any location where, in the sole discretion of the Fire Chief, the use of the water as a fire extinguishing agent would increase hazards or unduly expose equipment, machinery, or other chattel to damage or destruction provided, however, that an automatic fire suppression system using an extinguishing agent other than water or any automatic smoke detection system is installed, and such location is connected to an approved Central Station Monitoring service.

[REDACTED]

**SEC. 3-7-51: Installation and Inspection of Automatic Fire Sprinklers.**

- (a) **Installation Standards.**
- (1) Approved automatic fire sprinkler equipment shall be installed in accordance with the current editions of Pamphlet No. 13, "Standards for the Installation of Sprinkler Systems", and other applicable standards of the National Fire Protection Association.

[REDACTED]

- (c) **Specific System Requirements.**
- (1) **System Drain.** The building automatic sprinkler system shall have a drain piped to the outside of the building or to a drain suitable to handle the required flows.
  - (2) **Inspector's Test Valve.** The building automatic sprinkler system shall have an inspector's test valve piped so as to discharge to the outside of the building. The

inspector's test valve shall be mounted at the most hydraulically remote location of the system. An orifice equal to the discharge of one (1) sprinkler head shall be installed on the outside of the building. The sprinkler alarm shall be tied into the building alarm system.

- (3) **Alarm Bell.** Alarm bells shall be installed on all alarm systems. One (1) bell shall be installed on the outside of the building. The sprinkler alarm shall be tied into the building alarm system.



**SEC. 3-7-52: Alarm Systems (Fire and Smoke Detection).**



(b) **Where Required.** Smoke and heat detection systems shall be installed in all spaces in all buildings regardless of size or construction except for one (1) and two (2) family dwellings. The detection systems shall be in all spaces, including but not limited to hidden spaces (e.g., attics, crawl spaces, truss constructed areas), basements, storerooms, closets, occupied and unoccupied areas. One (1) and two (2) family dwellings shall have smoke detection systems as required by Wisconsin Administrative Code.

(c) **Monitoring.** All detection systems shall be monitored by an approved central station monitoring service, except for one (1) and two (2) family dwellings.

(d) **Installation.**

- (1) All components of a fire or smoke detector system shall be listed by Underwriters Laboratories (UL) or the Factory Mutual System (FM). The entire installation shall conform to applicable provisions of NFPA Standards 71, 72A, 72C, 72D, or 72E, the National Electrical Code Article 760, and the Wisconsin Electric Code.
- (2) The system shall monitor the integrity of all alarm initiating and indicating appliance circuits, shall be provided with automatically charged standby batteries to maintain system operation for twenty-four (24) hours in the normal supervisory mode and have sufficient capacity to operate in the alarm mode for five (5) minutes at the conclusion of this supervisory time period. Batteries shall be supervised for connection to the system and for low voltage threshold. The automatic battery charger shall be capable of charging fully discharged batteries to one hundred percent (100%).
- (3) A remote annunciator shall be provided at the main entrance of the building to indicate each of the designated alarm initiating zones via RED LED's which flash when in a alarm mode and lock in upon acknowledging the alarm.

The remote annunciator shall be electrically supervised from the main fire alarm control panel. Space shall be provided on the remote annunciator for custom zone labels. The zone labels shall plainly describe the location of the zones. Different occupancies in one (1) building shall be zoned separately.

- (5) External devices:
- a. The system shall utilize UL or FM listed fire alarm indicating devices (Pull stations, smoke detectors, heat detectors, water flow switches, duct detectors etc.) and UL and FM listed fire alarm indicating devices (horns, bells, visual lights, etc.). Smoke detectors shall possess a Light Emitting Diode (LED) lamp to indicate either "ready" or "alarm" status.
  - b. Smoke detectors (photoelectric, ionization) shall be installed approximately thirty (30) feet on center, located on the ceiling or wall of the protected area. Smoke detection shall be provided but not limited to the following areas: basements, common hallways, stairwells, sleeping rooms, and all other rooms over fifty (50) square feet in area.
  - c. Heat detectors shall be installed approximately thirty (30) feet in the center, located on the ceiling of the protected area. Heat detection shall be provided not limited to the following areas: furnace rooms, engine rooms, garages, hidden spaces and kitchens and all other rooms over (50) square feet in area. Heat detectors shall also be installed as a substitution for smoke detectors in locations determined by the Fire Chief to be unsuitable for smoke detector installation.
  - d. Horns/Bells:
    1. Alarm System Horns: Horns used as the audible alarm indication appliance shall be twenty-four (24) volt direct current (DC) horns of metal construction. With the minimum sound pressure output at eighty-seven (87) db at ten (10) feet. Fire alarm horns shall be UL or FM listed for fire alarm use. Horns shall be adaptable for surface or semi-flush mounting and be suitable for use within combination auto-visual systems.
    2. Alarm System Bells: Bells used as the audible alarm indicating appliance shall be twenty-four (24) volt DC bells of the vibrating or single stroke type with a minimum sound pressure output of ninety (90) db at ten (10) feet. Bells shall be suitable for sound pressure or semi-flush mounting and be suitable for use within combination audio-visual systems
    3. Visual Flashing Lamps: Visual indicating appliances shall be

comprised of a strobe-type flash tube and be entirely solid state. These devices shall be UL or FM listed and shall be capable of either ceiling or wall mounting. Visual units shall incorporate a built-in reflector to improve lighting characteristics. Visual units shall be incorporated as part of the horn or bell assembly.

4. Horns, bells or visual flashing lamps shall be installed in each unit, living space or tenant space in the building.

(e) **System Operation.**

- (1) Alarm initiating devices shall be grouped in zones identified by zone LED's on the control panel and at the remote annunciator.
- (2) Actuation of an alarm initiating device shall:
  - a. Cause the respective red zone alarm LED on the control panel to flash until the "Acknowledge" switch is actuated at the control panel. Once acknowledged, the zone LED shall be constantly illuminated until the actuating device is restored to normal and the system is rest or equivalent operation.
  - b. The audible alarm indicating appliance shall sound throughout the entire facility until the system alarm acknowledge/silence switch is operated.
  - c. Visual indicating appliances shall flash until the acknowledge/silence switch is operated.
  - d. After the acknowledge switch is operated, subsequent activation of an initiating appliance shall cause the alarm bells or horns to resound, and the visual indicating appliances to flash.
- (3) Each alarm initiating circuit and indicating appliance circuit shall be electrically supervised. Any disarrangement of system wiring such as opens and grounds shall activate the audible and visual trouble indicators at the control panel. Actuation of the trouble silence switch shall silence the audible trouble indicator but the trouble LED shall remain lit. The trouble LED shall be non-canceling, except by an actual clearing of the trouble condition and restoring the trouble silence switch to normal.
- (4) The alarm system shall provide for the selection of:
  - a. Desire type of signal operation; alarm signal tempos, area selective codes, zone codes, general alarm codes and alarm silence inhibit.
  - b. UL or FM approved alarm verification operation.
  - c. Water flow/sprinkler supervisory operation on a distinct zone of the system.
- (5) Upon actuation of a smoke detector, the LED on the smoke detector shall remain constantly illuminated until the system is reset.

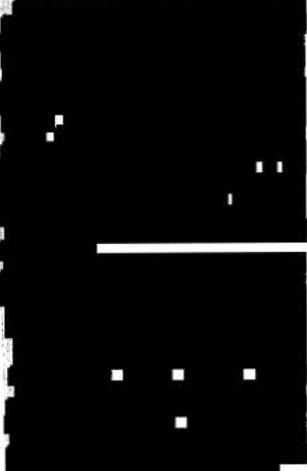


Existing Buildings, Sec. 3-7-53

(a) Except as hereinafter provided, automatic fire sprinklers, smoke detectors and standpipes need not be installed in buildings which existed or were under construction before Secs. 3-7-50, 3-7-51 and 3-7-52 became effective unless such installation was required by a previous ordinance, administrative regulation, statute or law.

(b) Where a building is expanded or remodeled and the building as remodeled or expanded is of a size, is of a type, or is of a use which, were the building then to be constructed would be subject to the provisions of Secs. 3-7-50, 3-7-51 and 3-7-52, in addition, the following shall apply to existing buildings:

(1) The entire building (existing, new and remodeled areas) shall be made to conform to the provisions of Secs. 3-7-50, 3-7-51 and 3-7-52 if more than fifty percent (50%) of the gross interior area of the building is remodeled or added to the building or the cost of the project is more than twenty-five percent (25%) of the Town of Madison Assessor's full estimated market value of the building, excluding any cost for cosmetic improvements, then the fire areas of the entire building shall be protected with an automatic fire sprinkler system, regardless of the whether such remodeling or alteration results in an increase in the fire areas of the building.



(4) In determining the foregoing percentages successive additions, expansions, or remodeling, if made within a twenty (20) year period, shall be aggregated and treated as a single expansion or addition.

(c) Regardless of any percentage test set forth in subsection (b), if the additional expanded, or remodeled areas is of a size, is of a type, or is for a use which is subject to the provisions of Sec. 3-7-50, 3-7-51 and 3-7-52, the additional, expanded, or remodeled areas must conform to the requirements of such Sections.

(d) Where at the time of its construction a building or any part thereof is exempt from the requirements of Sec. 3-7-50 and 3-7-51 by reason of its proposed or intended use and subsequent to construction the use of such building or part thereof is changed in such a way that the reason for the exemption no longer exists, the entire building or area as the case may be made to conform to the requirements of Sec. 3-7-50 and 3-7-51.

(e) If the use of an existing building or structure is changed and the requirements for the new use are more stringent than those for the previous use, the building or structure shall be made to comply with the requirements for the new use as provided in this Chapter.

BY THE ORDER OF THE TOWN BOARD  
OF THE TOWN OF MADISON

Renee Schwass, Clerk