

**27-01  
GENERAL PROVISIONS**

[REDACTED]

**(2) APPLICATIONS**

- (a) The provisions of this code shall apply to all public buildings and places of employment. **Exceptions:**  
The following buildings and uses are not public buildings or places of employment and are not subject to the provisions of this code:
  1. One and two-family dwellings
  2. Buildings used exclusively for farming as described in Wi. ss.102.04 (3).  
*Nothing contained in this section shall be construed as applying to the transportation of any article or thing shipped in conformity with the regulations prescribed by the Interstate Commerce Commission, or as applying to the military forces of the United States.*

[REDACTED]

**(3) ADDITIONS TO, CHANGE OF USE OR REMODELED BUILDINGS**

- (a) If fifty (50) percent or more of the total floor area of a building is remodeled and/or added, the entire building shall be brought into compliance with the requirements of this Code.

[REDACTED]

- (d) All percentages of additions or remodeling shall be cumulative as applied to (a),(b), and (c) above.
- (e) If the use of and/or contents of any existing building is changed and becomes more hazardous as determined by the *Authority Having Jurisdiction (AHJ)*, the building shall be brought into compliance with this code.
- (f) Those portions, elements, systems or components of existing buildings and structures to be altered or modified on or after the effective date of the rules under this Code and where the alteration, modification or the addition affects a building element or component relating to subject matters regulated by this Code, shall be designed, constructed and maintained in accordance with the applicable rules of this Code as the rules exist on one of the following:
  1. The date plans for the alteration or modification are conditionally approved by the AHJ.
  2. The date the local building permit is issued.
  3. The date the replacement is initiated, where 27-1(3)(f)1. & 2. do not apply.



**27-05****ADOPTION BY REFERENCE NFPA PUBLICATIONS**

The latest NFPA publications published on or before the effective date of this Code are adopted by reference, enforced and incorporated into this Code as if fully set forth herein:

NFPA 1	<i>Uniform fire Code (applies only to the use, maintenance, operation and testing), 2009 edition</i>
NFPA 10	<i>Standard for Portable Fire Extinguishers, 2007 edition</i>
NFPA 11	<i>Standard for Low-, Medium- and, High-Expansion Foam, 2005 edition</i>
NFPA 12	<i>Standard on Carbon Dioxide Extinguishing Systems, 2005 edition</i>
NFPA 13	<i>Standard for the Installation of Sprinkler Systems, 2007 edition</i>
NFPA 13D	<i>Sprinkler Systems in One and Two-Family Dwellings and Manufactured Homes, 2007 edition</i>
NFPA 13R	<i>Sprinkler Systems in Residential Occupancies up to and Including four Stories in Height, 2007 edition</i>
NFPA 14	<i>Standard for the Installation of Standpipes, Private Hydrant, and Hose Systems, 2007 edition</i>
NFPA 15	<i>Standard for Water Spray Fixed Systems for Fire Protection, 2007 edition</i>
NFPA 16	<i>Standard for the Installation of Foam-Water sprinkler and Foam-Water Spray Systems, 2003 edition</i>
NFPA 17	<i>Standard for Dry Chemical Extinguishing Systems, 2002 edition</i>
NFPA 17A	<i>Standard for Wet Chemical Extinguishing Systems, 2002 edition</i>
NFPA 20	<i>Standard for the Installation of Stationary Pumps for Fire Protection, 2007 edition</i>
NFPA 22	<i>Standard for Water Tanks for Private Fire Protection, 2003 edition</i>
NFPA 24	<i>Standard for the Installation of Private Fire Service Mains and their Appurtenances, 2007 edition</i>
NFPA 25	<i>Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, 2002 edition</i>
NFPA 30	<i>Flammable and Combustible Liquids Code, 2003 edition</i>
NFPA 30A	<i>Code for Motor Fuel Dispensing Facilities and Repair Garage's 2008 edition</i>
NFPA 30B	<i>Code for the Manufacture and Storage of Aerosol Products, 2007 edition</i>
NFPA 33	<i>Standard for Spray Application Using Flammable or Combustible Materials, 2007 edition</i>
NFPA 34	<i>Standard for Standard Dipping and Coating Processes Using Flammable or Combustible Liquids, 2007 edition</i>
NFPA 35	<i>Standard for the Manufacture of Organic Coatings, 2005 edition</i>
NFPA 36	<i>Standard for Solvent Extraction Plants, 2004 edition</i>
NFPA 37	<i>Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines, 2006 edition</i>

NFPA 40	<i>Standard for the Storage and Handling of Cellulose Nitrate Film, 2007 edition</i>
NFPA 42	<i>Code for the Storage of Pyroxylin Plastic, 2002 edition</i>
NFPA 45	<i>Standard on Fire Protection for Laboratories Using Chemicals, 2004 edition</i>
NFPA 51	<i>Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes, 2002 edition</i>
NFPA 51A	<i>Standard for Acetylene Cylinder Charging Plants, 2001 edition</i>
NFPA 54	<i>National Fuel Gas Code, 2006 edition</i>
NFPA 55	<i>Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks, 2005 edition</i>
NFPA 58	<i>Liquefied Petroleum Gas Code, 2004 edition</i>
NFPA 59	<i>Utility LP-Gas Plant Code, 2004 edition</i>
NFPA 59A	<i>Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG), 2006 edition</i>
NFPA 61	<i>Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities, 2002 edition</i>
NFPA 68	<i>Guide for Venting of Deflagrations, 2002 edition</i>
NFPA 69	<i>Standard on Explosion Prevention Systems, 2002 edition</i>
NFPA 70	<i>National Electrical Code®, 2005 edition</i>
NFPA 72	<i>National Fire Alarm Code, 2007 edition</i>
NFPA 75	<i>Standard for the Protection of Information Technology Equipment, 2003 edition</i>
NFPA 76	<i>Standard for the Fire Protection of Telecommunications Facilities, 2005 edition</i>
NFPA 80	<i>Standard for Fire Doors and Fire Windows, 2007 edition</i>
NFPA 82	<i>Standard on Incinerators and Waste and Linen Handling Systems and Equipment, 2004 edition</i>
NFPA 85	<i>Boiler and Combustion Systems Hazards Code, 2004 edition</i>
NFPA 86	<i>Standard for Ovens and Furnaces, 2007 edition</i>
NFPA 88A	<i>Standard for Parking Structures, 2007 edition</i>
NFPA 91	<i>Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids, 2004 edition</i>
NFPA 92B	<i>Standard for Smoke Management Systems in Malls, Atria, and Large Spaces, 2005 edition</i>
NFPA 96	<i>Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, 2004 edition</i>
NFPA 99B	<i>Standard for Hypobaric Facilities, 2005 edition</i>
NFPA 99C	<i>Standard on Gas and Vacuum Systems, 2005 edition</i>
NFPA 101	<i>Life Safety Code®, 2009 edition</i>
NFPA 101B	<i>Code for Means of Egress for Buildings and Structures, 2007 edition</i>
NFPA 102	<i>Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures, 2005 edition</i>
NFPA 105	<i>Standard for the Installation of Smoke Door Assemblies, 2007 edition</i>
NFPA 110	<i>Standard for Emergency and Standby Power Systems, 2005 edition</i>
NFPA 111	<i>Standard on Stored Electrical Energy Emergency and Standby Power Systems, 2005 edition</i>
NFPA 115	<i>Standard on Laser Fire Protection, 2003 edition</i>

NFPA 160	<i>Standard for the Use of Flame Effects before an Audience, 2006 edition</i>
NFPA 170	<i>Standard for Fire Safety and Emergency Symbols, 2006 edition</i>
NFPA 204	<i>Standard for Smoke and Heat Venting, 2002 edition</i>
NFPA 214	<i>Standard on Water-Cooling Towers, 2005 edition</i>
NFPA 221	<i>Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls, 2006 edition</i>
NFPA 230	<i>Standard for Fire Protection of Storage, 2003 edition</i>
NFPA 232	<i>Standard for the Protection of Records, 2007 edition</i>
NFPA 241	<i>Standard for Safeguarding Construction, Alteration, and Demolition Operations, 2004 edition</i>
NFPA 291	<i>Practice for Fire Flow Testing and Marking of Hydrants, 2007 edition</i>
NFPA 303	<i>Fire Protection Standards for Marine and Boatyards, 2000 edition</i>
NFPA 307	<i>Standards for the Construction and Fire Protection for Marine Terminals, Piers, and Wharves, 2000 edition</i>
NFPA 318	<i>Standard for the Protection of Semiconductor Fabrication Facilities, 2006 edition</i>
NFPA 418	<i>Standard for Heliports, 2006 edition</i>
NFPA 430	<i>Code for the Storage of Liquid and Solid Oxidizers, 2004 edition</i>
NFPA 432	<i>Code for the Storage of Organic Peroxide Formulations, 2002 edition</i>
NFPA 434	<i>Code for the Storage of Pesticides, 2002 edition</i>
NFPA 484	<i>Standard for Combustible Metals, 2006 edition</i>
NFPA 490	<i>Code for the Storage of Ammonium Nitrate, 2002 edition</i>
NFPA 495	<i>Explosive Materials Code, 2006 edition</i>
NFPA 499	<i>Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas, 2004 edition</i>
NFPA 560	<i>Standard for the Storage, Handling, and Use of Ethylene Oxide for Sterilization and Fumigation, 2002 edition</i>
NFPA 654	<i>Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, 2006 edition</i>
NFPA 655	<i>Standard for Prevention of Sulfur Fires and Explosions, 2007 edition</i>
NFPA 664	<i>Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities, 2002 edition</i>
NFPA 704	<i>Standard System for the Identification of the Hazards of Materials for Emergency Response 2007 edition</i>
NFPA 720	<i>Standard for the Installation of Carbon Monoxide (CO) Warning Equipment in Dwelling Units 2009 edition</i>
NFPA 750	<i>Standard on Water Mist Fire Protection Systems, 2006 edition</i>
NFPA 780	<i>Standard for the Installation of Lightning Protection Systems, 2004 edition</i>
NFPA 801	<i>Standard for Fire Protection for Facilities Handling Radioactive Materials, 2003 edition</i>
NFPA 804	<i>Standard for Fire Protection for Advanced Light Water Reactor Electric Generating Plants, 2006 edition</i>
NFPA 850	<i>Recommended Practice for Fire Protection for Electric Generating Plants, 2005 edition</i>
NFPA 853	<i>Standard for the Installation of Stationary Fuel Cell Power Systems, 2007 edition</i>

- NFPA 1123 *Code for Fireworks Display, 2006 edition*
- NFPA 1124 *Code for the Manufacture, Transportation, Storage and Retail Sales of Fireworks and Pyrotechnic Articles, 2006 edition*
- NFPA 1125 *Code for the Manufacture of Model Rocket and High Power Rocket Motors, 2007 edition*
- NFPA 1126 *Standard for the Use of Pyrotechnics before a Proximate Audience, 2006 edition*
- NFPA 2001 *Standard on Clean Agent Fire Extinguishing Systems, 2004 edition*
- NFPA 2010 *Standard for Fixed Aerosol Fire Extinguishing Systems, 2006 edition*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**27-12**

**AUTOMATIC FIRE SPRINKLER PROTECTION**



(2) **INSTALLATION REQUIRED.** An *Automatic Fire Sprinkler System* shall be installed in all structures where the floor area exceeds the thresholds established in Table 27-12(2) of the specific occupancy involved. For the purpose of determining square footage as it relates to the sprinklering of a building, firewalls shall not be considered area dividers unless the firewall is built in compliance with section 705 of the CBC

Table 27-12(2)

OCCUPANCY TYPE	TYPE I	TYPE II	TYPE III	TYPE IV	TYPE V
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
E*	ALL	ALL	ALL	ALL	ALL
F-2	5000 SF	5000 SF	3000 SF	3000 SF	3000 SF
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
I-2	ALL	ALL	ALL	ALL	ALL
I-3	ALL	ALL	ALL	ALL	ALL
I-4	ALL	ALL	ALL	ALL	ALL
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
R-4	ALL	ALL	ALL	ALL	ALL
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
U	5000 SF	5000 SF	3000 SF	3000 SF	3000 SF

\*excludes single family home day cares

(3) **In addition an automatic sprinkler system shall be installed in all:**

- (a) Parking structures above and below ground with ceilings.
- (b) CBRF's (Community Based Residential Facilities).

- (c) Adult Family Homes.
- (d) Throughout every building, new or existing, which by reason of its construction or combustible occupancy involves a life hazard to its occupants or in the judgment of the AHJ constitutes a fire menace.

**(4) Mini warehouses and unattached multifamily parking garages.**

Throughout all buildings provided that they contain:

- (a) Five thousand square feet or more in area on any floor or exceeding two stories.
- (b) Any portion that the floor is below grade level

[REDACTED]

**(6) Dormitories, fraternities and sorority houses.**

Throughout all buildings.

**(7) When a sprinkler system is required by this chapter but not the Wisconsin Department of Commerce, at a structure that is not currently serviced by a municipal water source:**

[REDACTED]

- (b) Within ninety (90) days after a municipal water system becomes available, the sprinkler system shall be connected to the municipal water supply.

**(8) ALL AUTOMATIC FIRE SPRINKLER SYSTEMS SHALL;**

- (a) Be monitored in accordance with NFPA 72.
- (b) Have sprinkler control rooms located with adequate access for Fire Department, Sprinkler Maintenance and Inspection personnel and shall not be located within private dwellings with the exception of NFPA 13D systems.
- (c) Have direct access from the exterior to the sprinkler control valve as determined by the AHJ.

[REDACTED]

- (e) Have a bell (minimum ten inch) and Strobe located above the FDC in accordance to NFPA 13.
- (f) The FDC must be at least forty (40) feet from all gas meters, electrical meters and transformers.
- (g) Be designed for the hazard being protected or as specifically specified in this code and/or as directed by the AHJ.

- (h) All automatic fire sprinkler systems hydraulic designs are to be based on ninety (90) percent available water supply (10% safety margin shall be maintained). All sprinkler systems designed shall be based on the most current approved water flow test conducted in accordance with NFPA 291.

[REDACTED]

[REDACTED]

(10) APPLICATION TO EXISTING BUILDINGS.

- (a) Adult Family Homes and CBRFs regardless of number of occupants or class must be retrofitted with sprinkler protection acceptable to the AHJ.
- (a) Where the AHJ finds that an existing building, because of current occupancy or a change in occupancy constitutes a hazard to its occupants or adjoining property, the AHJ may order compliance with the provisions of this section. A hazard shall be determined by the existence of one or more of the following conditions:
  1. Any building which by reason of its construction or highly combustible occupancy involves a hazard to its occupants or, in the judgment of the AHJ, constitutes a fire menace, e.g., paint shop and other occupancies involving processing, mixing, storing, and dispensing of volatile liquids or solids.
  2. Non-fire-resistive characteristics of a structure.
  3. Accumulation of flammable or combustible materials.
  4. Lack of accessibility to the premises for fire-fighting equipment.
  5. Substantial number of fire calls or complaints on the premises.
  6. Traffic patterns for pedestrian ingress and egress which require protection under this section.
  7. Insufficient ventilation system.

- 8. Lack of an internal communication system, or due to the size or type of building making regular fire department radio communication inoperable, the building owner is required to install a repeater system or something comparable to assist radio communications.
  - 9. Number, characteristics and movement of employees which require protection under this section
- (c) Installation of an automatic sprinkler system must be started within one year from the service of such orders and shall be completed within 180 days after construction has started.

(11) FIRE SPRINKLER CONTROL VALVE ACCESS

- (a) All structures that have automatic sprinkler systems shall comply with the following:
- 1. Have sprinkler control rooms located with adequate access for fire department, sprinkler maintenance and inspection personnel.
  - 2. Shall not be located within private dwellings with the exception of NFPA 13D systems.
  - 3. Have direct access from the exterior to the sprinkler control valve(s) that is acceptable to the AHJ.

EXEMPTIONS. Any location where the installation of sprinklers may cause or increase an occupational hazard as determined by any governmental AHJ over such location or occupation.

[REDACTED]

[REDACTED]

[REDACTED]

**27-14  
MISCELLANEOUS CONSTRUCTION PROVISIONS**

[REDACTED]

**(6) FIRE ALARM SYSTEMS**

(b) **INSTALLATION REQUIRED.** A Fire Alarm System shall be installed in all structures where the floor area exceeds the thresholds established in Table 27-14(4)(b) of the specific occupancy involved.

Table 27-14(4)(b)

OCCUPANCY TYPE	TYPE I	TYPE II	TYPE III	TYPE IV	TYPE V
<b>E*</b>	ALL	ALL	ALL	ALL	ALL
<b>I-2</b>	ALL	ALL	ALL	ALL	ALL
<b>I-3</b>	ALL	ALL	ALL	ALL	ALL
<b>I-4</b>	ALL	ALL	ALL	ALL	ALL
<b>R-3</b>	State Statutes apply				
<b>R-4</b>	ALL	ALL	ALL	ALL	ALL
<b>S-1</b>	3000 SF	3000 SF	3000 SF	3000 SF	3000 SF
<b>S-2</b>	5000 SF	5000 SF	3000 SF	3000 SF	3000 SF
<b>U</b>	5000 SF	5000 SF	3000 SF	3000 SF	3000 SF

\*excludes single family home daycares

(c) **MINIMUM SYSTEM REQUIREMENTS.** The following minimum system requirements shall be met when any occupancy type exceeds the limits in table 27-14(4)(b). Minimum system requirements shall include:

1. Audible Notification Appliances shall be installed throughout protected premises.
2. Visible Notification Appliances shall be installed throughout protected premises. **Exceptions:**
  - a. Closets and/or other similar small storage rooms that do not exceed 50 square feet in floor area and are not normally occupied.
  - b. Normally unoccupied crawl spaces.
  - c. Normally unoccupied attic spaces.
  - d. Any non-accessible area.
  - e. Any area the AHJ deems Visible Notification Appliances are not required.

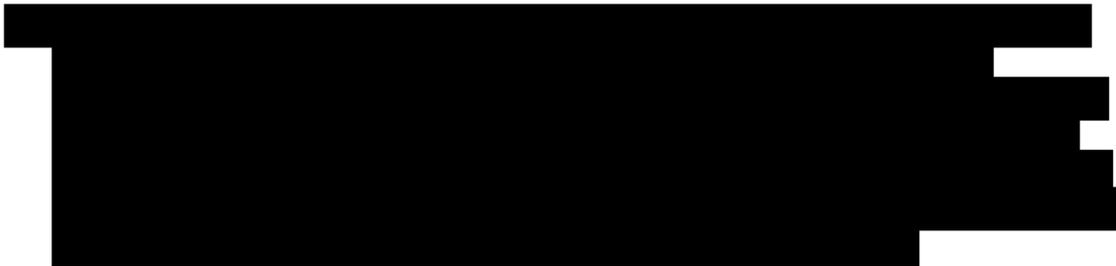


4. Manual Initiating Devices (pull stations) shall be located at all points of egress including all exit doors on every floor and/or building level.
5. Water flow detection devices shall be connected to the protected premises fire alarm system to specifically activate the notification device upon water flow.
6. Fire suppression system activation alarms shall be connected to the protected premises fire alarm system to specifically activate the notification appliances upon system activation. This includes but is not limited to Wet Chemical, CO2, Clean Agent, Water Mist and Dry Chemical Systems.
7. Fire control and/or suppression systems supervisory condition indicators shall be connected to and monitored by the protected premise fire alarm system. This specifically includes but is not limited to: Valve Supervisory Switches (Tamper Switches), Low Air Switches, Low Water Switches, Low Temperature Switches, Fire Pump Condition Indicators and/or any other situation or condition deem necessary by the AHJ.
8. *Fire Alarm Systems* shall be addressable and capable of indicating the status of all specific components connected to the system.
9. All *Fire Alarm Systems* shall be monitored by a service acceptable to the AHJ.
10. Fire alarm annunciators shall be installed in all protected premises. The number and locations of the fire alarm annunciators shall be acceptable to the AHJ
11. As determined by the AHJ, any additional notification and/or initiation appliances/devices may be required due to size, occupancy hazards, building construction, and/or occupancy use.





- (f) SPECIAL REQUIREMENTS. On all buildings over four stories in height a Fire Command Center for fire department operations shall be provided. The Fire Command center shall comply with NFPA 72 and shall contain the features required in the International Fire Code and NFPA 1.
  - 1. Two-way telephone communication service shall be provided for the fire department use. This system shall be in accordance with NFPA 72. The communications system shall operate between the central control station and every elevator car, every elevator lobby, and each floor level of exit stairs.
  - 2. The requirements of NFPA 1 shall not apply where the fire department radio system is approved as an equivalent system.  
[NFPA 101]



- (i) FIRE ALARM CONTROL PANELS. Shall display the status of the system components and be installed in a location acceptable to the AHJ. Adequate access for Fire Department, alarm maintenance, and inspection personnel shall be maintained. Fire alarm control panels shall not be located within private dwellings with the exception of one and two family dwellings.



(11) FIRE PUMP ROOMS

REQUIREMENTS:

- (a) All fire pump rooms at grade level must have at least one single door access and egress directly to the outside
- (b) All egress doors must swing out from the fire pump.
- (c) Must have an accessible aisle, a minimum of a 48 inch (4') aisle leading to the fire pump.
- (d) Must provide accessible and clearly labeled valves and controls capable of being manipulated by a firefighter in full PPE including SCBA.
- (e) Keys for all doors to the fire pump room must be labeled and in the "Access Box".

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**(17) STANDPIPES**

Fire Department Standpipes shall be provided in all new structures over two stories in height and in accordance with this section.

The installation of standpipes shall be in accordance with this Section and NFPA 14.

[REDACTED]

2. The location of standpipe connections shall be accessible and shall be located so that all portions of the building are within thirty (30) feet of a nozzle attached to one hundred (100) feet of hose.
3. When required by the AHJ, an approved standpipe shall be installed as construction progresses to make them available for Fire Department use in the top most floors constructed. Temporary standpipes shall be provided in place of permanent standpipes when required, during the period of construction on buildings over three stories in height.
4. The Fire Department Connections for the standpipe shall be approved by the AHJ.
5. The Fire Department Connections shall be located at least forty (40) feet from all electrical transformers, gas meters, or propane storage.
6. Temporary standpipes are required on buildings over three stories in height.