

CHAPTER 1305
DEPARTMENT OF ADMINISTRATION
ADOPTION OF INTERNATIONAL BUILDING CODE

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1305.0010 [Repealed, 27 SR 1474]

1305.0011 ADOPTION OF INTERNATIONAL BUILDING CODE BY REFERENCE AND ADMINISTRATIVE AUTHORITY.

Subpart 1. **General.** For purposes of this chapter, "IBC" means the 2000 edition of the International Building Code as promulgated by the International Code Council, Falls Church, Virginia. The IBC is incorporated by reference and made part of the Minnesota State Building Code except as qualified by the applicable provisions in chapter 1300, part 1305.0021, and as amended in this chapter. The IBC is not subject to frequent change and a copy of the IBC, with amendments for use in Minnesota, is available in the office of the commissioner of administration.

Subp. 2. **Mandatory chapters.** IBC Chapters 2 through 10, 12 through 29, 31 through 33, and 35 must be administered by any municipality that has adopted the code, except as qualified by the applicable provisions in chapter 1300, and as amended by this chapter.

Subp. 3. **Replacement chapters.** The following IBC chapters are deleted and replaced with the Minnesota Rules chapters listed in items A to D.

A. IBC Chapter 1 and any references to code administration are deleted and replaced with chapter 1300, Minnesota Administration Code.

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B. IBC Chapter 11 and any references to accessibility are deleted and replaced with chapter 1341, Minnesota Accessibility Code.

C. IBC Chapter 30 and any references to elevators or related devices are deleted and replaced with chapter 1307, Minnesota Elevator Code.

D. IBC Chapter 34 and any references to conservation or rehabilitation of existing buildings are deleted and replaced with chapter 1311, Minnesota Building Conservation Code.

Subp. 4. **Seismic or earthquake provisions.** Any seismic or earthquake provisions of the IBC and any references to them are deleted and are not included in this code.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0020 [Repealed, 27 SR 1474]

1305.0021 REFERENCES TO OTHER INTERNATIONAL CODE COUNCIL CODES.

Subpart 1. **General.** References to other codes and standards promulgated by the International Code Council in the IBC are modified in subparts 2 to 11.

Subp. 2. **Building code.** References to the IBC in this code mean the Minnesota Building Code, adopted pursuant to this chapter and Minnesota Statutes, section 16B.61, subdivision 1.

Subp. 3. **Residential code.** References to the International Residential Code in this code mean the Minnesota Residential Code, adopted pursuant to chapter 1309 and Minnesota Statutes, section 16B.61, subdivision 1.

Subp. 4. **Electrical code.** References to the International Code Council Electrical Code in this code mean the Minnesota Electrical Code, adopted pursuant to chapter 1315 and Minnesota Statutes, section 326.243.

Subp. 5. **Fuel gas code.** References to the International Fuel Gas Code in this code mean the Minnesota Mechanical Code, adopted pursuant to chapter 1346 and Minnesota Statutes, section 16B.61, subdivision 1.

Subp. 6. **Mechanical code.** References to the International Mechanical Code in this code mean the Minnesota Mechanical Code, adopted pursuant to chapter 1346 and Minnesota Statutes, section 16B.61, subdivision 1.

Subp. 7. **Plumbing code.** References to the International Plumbing Code in this code mean the Minnesota Plumbing Code, adopted pursuant to chapter 4715 and Minnesota Statutes, section 16B.61, subdivisions 1 and 2.

Subp. 8. **Private sewage disposal code.** References to the International Private Sewage Disposal Code in this code mean the Minnesota Pollution Control Agency's minimum standards and criteria for individual sewage treatment systems adopted pursuant to chapter 7080 and Minnesota Statutes, chapters 103F, 103G, 115, and 116.

Subp. 9. **Energy conservation code.** References to the International Energy Conservation Code in this code mean the Minnesota Energy Code, adopted pursuant to Minnesota Statutes, section 16B.617.

Subp. 10. **Property maintenance code.** References to the International Property Maintenance Code in this code do not apply.

Subp. 11. **Fire code.** References to the International Fire Code in this code mean the Minnesota State Fire Code, adopted pursuant to chapter 7510 and Minnesota Statutes, chapter 299F.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0030 ADMINISTRATIVE PROCEDURE CRITERIA.

Procedures relating to the administration and enforcement of this code under Minnesota Statutes, section 16B.57, are contained in chapter 1300, Minnesota Administration Code, which governs the application of this code.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0040 VIOLATION.

A violation of this code is a misdemeanor under Minnesota Statutes, section 16B.69.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0100 [Repealed, 19 SR 1340]

1305.0101 CHAPTER 1, ADMINISTRATION.

IBC Chapter 1 is deleted and replaced with the following:

CHAPTER 1
ADMINISTRATION

This code shall be administered in accordance with Minnesota Rules, chapter 1300.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0102 [Repealed, 27 SR 1474]

1305.0103 [Repealed, 27 SR 1474]

1305.0105 [Repealed, 27 SR 1474]

1305.0106 [Repealed, 27 SR 1474]

1305.0107 [Repealed, 27 SR 1474]

1305.0108 [Repealed, 27 SR 1474]

1305.0109 [Repealed, 27 SR 1474]

1305.0150 [Repealed, 19 SR 1340]

1305.0200 [Repealed, 19 SR 1340]

1305.0201 SECTION 201, GENERAL.

IBC Section 201.4 is amended to read as follows:

201.4 Terms not defined. Where terms are not defined through the methods authorized by this chapter, the Merriam-Webster Collegiate Dictionary, available at www.m-w.com, shall be considered as providing ordinarily accepted meanings. The dictionary is incorporated by reference, is subject to frequent change, and is available through the Minitex interlibrary loan system.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0202 SECTION 202, DEFINITIONS.

The definition of “agricultural building” in IBC Section 202 is amended to read as follows:

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AGRICULTURAL BUILDING. Pursuant to Minnesota Statutes, section 16B.60, an agricultural building means a structure on agricultural land as defined in Minnesota Statutes, section 273.13, subdivision 23, that is designed, constructed, and used to house farm implements, livestock, or agricultural produce or products used by the owner, lessee, and sublessee of the building and members of their immediate families, their employees, and persons engaged in the pickup or delivery of agricultural products.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0300 [Repealed, 15 SR 74]

1305.0301 [Repealed, 27 SR 1474]

1305.0302 SECTION 302, CLASSIFICATION.

IBC Section 302.3.3 is amended by adding an exception to read as follows:

5. The two-hour fire resistive occupancy separation required by Table 302.3.3 may be omitted between a child or adult day care use and a Group A-3 church building.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0305 [Repealed, 27 SR 1474]

1305.0308 [Repealed, 27 SR 1474]

1305.0310 SECTION 310 SMOKE DETECTORS.

IBC Section 310.1 is amended to read as follows:

310.1 Residential Group R. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping accommodations when not classed as an Institutional Group I. Residential occupancies shall include the following:

R-1 Residential occupancies where the occupants are primarily transient in nature (less than 30 days) including:

Boarding houses (transient)

Hotels (including motels)

Bed and breakfast facilities having an occupant load of 6 or more. (A facility with less than 6 occupants shall be classified as a Group R-3 occupancy.)

R-2 Residential occupancies containing more than two dwelling units where the occupants are primarily permanent in nature, including:

Apartment houses

Boarding houses (not transient)

Convents

Dormitories

Fraternities and sororities

Monasteries

R-3 Residential occupancies where the occupants are primarily permanent in nature and not classified as R-1, R-2, or I and where buildings do not contain more than two dwelling units, or adult and child care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.

R-4 Residential occupancies shall include buildings arranged for occupancy as Residential Care/Assisted Living Facilities including more than five but not more than 16 occupants, excluding staff.

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Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3 except for the height and area limitations provided in Section 503.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *20 SR 2290(NO. 43); 27 SR 1474*

1305.0400 [Repealed, 19 SR 1340]

1305.0402 SECTION 402, COVERED MALL BUILDINGS.

Subpart 1. **Section 402.7.3.** IBC Section 402.7 is amended by adding a subsection to read as follows:

402.7.3 Property lines. A covered mall building with attached anchor buildings may be divided by platted property lines without requiring the construction of a party wall, provided there are legal agreements recorded with the deed for each separate property. These recorded agreements shall require that buildings, as divided by property lines, conform with applicable provisions of the Minnesota State Building Code, as if the buildings were a single building on a single piece of property. In addition, the agreement must state that no individual building or property owner may modify any portion of the building in any way that would not comply with the Minnesota State Building Code.

Subp. 2. **[F] Section 402.8.1.** IBC [F] Section 402.8.1 is amended to read as follows:

402.8.1 Standpipe system. The covered mall building shall be provided throughout with a standpipe system in accordance with Section 905.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0403 SECTION 403, HIGH-RISE BUILDINGS.

IBC Section 403 is amended by adding a subsection to read as follows:

403.13 Post-fire smoke exhaust system. High-rise buildings shall be provided with a post-fire smoke exhaust system in compliance with Section 912.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0404 SECTION 404, ATRIUMS.

IBC Section 404.4 is amended to read as follows:

404.4 Smoke control. A smoke-control system shall be installed in accordance with Section 909.

Exceptions:

1. Smoke control is not required for a floor opening connecting only two floors meeting the requirements of Section 707.2, Exception 7. Covered mall buildings shall be provided with a post-fire smoke exhaust system in compliance with Section 912.

2. Smoke control is not required for floor openings meeting the requirements of Section 707.2, Exception 2, 8, or 9.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0405 [Repealed, 27 SR 1474]

1305.0406 SECTION 406, MOTOR VEHICLE-RELATED OCCUPANCIES.

IBC Section 406.3.8 is amended to read as follows:

406.3.8 Stairs and exits. Where persons other than parking attendants are permitted, stairs and exits shall meet the requirements of Chapter 10. Where no persons other than parking attendants are permitted, there shall not be less than two 36-inch wide (914 mm) stairs.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0407 SECTION 407, GROUP I-2.

IBC Section 407.2.1 is amended to read as follows:

407.2.1 Spaces of unlimited area. Spaces constructed as required for corridors shall not be open to a corridor, except where all the following criteria are met:

1. The spaces are not occupied for patient sleeping rooms, treatment rooms, hazardous or incidental use areas as defined in Section 302.1.1.
2. The open space is protected by an automatic fire detection system installed in accordance with Section 907.
3. The corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick response sprinklers in accordance with Section 903.3.2.
4. The space is arranged so as not to obstruct access to the required exits.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0408 SECTION 408, GROUP I-3.

Subpart 1. **Section 408.6.** IBC Section 408.6 is amended to read as follows:

408.6 Smoke barrier. Occupancies in Group I-3 shall have smoke barriers complying with Section 709 to divide every story occupied by residents for sleeping, or any other story having an occupant load of more than five persons, into at least two smoke compartments.

Exception: Spaces having direct exit to one of the following, provided that the locking arrangement of the doors involved complies with the requirements for doors at the compartment barrier for the use condition involved.

1. A public way.
2. A building separated from the resident housing area by a 2-hour fire-resistance-rated assembly or 50 feet (15,240 mm) of open space.
3. A secured yard or court having a holding space 50 feet (15,240 mm) from the housing area that provides 6 square feet (0.56 m²) or more of refuge area per occupant including residents, staff and visitors.

Subp. 2. **Section 408.9.** IBC Section 408 is amended by adding a subsection as follows:

408.9 Glazing.

408.9.1 Corridors. In restraint areas of fully sprinklered detention and correction facilities, the area of glazing in one-hour corridor walls is not restricted if one of the following conditions is met:

1. All glazing is approved 1/4-inch thick (6.4 mm) wired glass, has approved 1/4-inch thick (6.4 mm) wired glass in a security glazing assembly, or other approved fire-tested glazing material set in steel frames; or
2. Laminated security glazing may be used if the glass is protected on both sides by a sprinkler system equipped with listed quick-response sprinkler heads. The sprinkler system shall be designed to wet the surface of the glass wall when actuated.

408.9.2 Other. When necessary to maintain direct visual supervision by facility staff, laminated security glazing may be used in fire-resistive wall and door assemblies, up to a two-hour fire protection rating, if all of the following conditions are met:

1. The fire-resistive wall or door assembly is not part of a required fire wall. For vertical exit enclosure, refer to Section 408.3.6;
2. The glazing is protected on both sides by a sprinkler system equipped with listed quick-response sprinklers. The sprinkler system shall completely wet the entire surface of the glass wall when actuated;
3. The area of the glazing does not exceed 25 percent of the common wall of the area requiring supervision; and
4. The area of glazing in fire-resistive door assemblies is limited to 1,296 square inches (0.836 m²) per light.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0414 SECTION 414, HAZARDOUS MATERIALS.

Subpart 1. **Section 414.2.3.** IBC Section 414.2.3 is amended to read as follows:

414.2.3 Separation. The required fire-resistance rating for fire barrier assemblies shall be in accordance with Table 414.2.2.

Subp. 2. **Section 414.2.5.** IBC Section 414.2 is amended by adding a subsection to read as follows:

414.2.5 Hazardous materials above the third floor in laboratories in Group B, E, and I-2 occupancies. Control areas containing laboratories located above the third floor in Group B, E, or I-2 occupancies may be exempt from the provisions in Sections 414.2.1 through 414.2.3 if all of the following conditions are met:

1. Buildings containing the laboratories are equipped throughout with automatic sprinkler protection installed in accordance with Section 903.3.1.1;
2. Control areas containing laboratories located above the third floor are separated from each other and other portions of the building by a fire barrier having a fire-resistance rating of not less than two hours;
3. The maximum amount of hazardous materials in storage and in use in control areas containing laboratories does not exceed ten percent of the maximum allowable quantities listed in Tables 307.7(1) and 307.7(2) with all increases allowed in the footnotes of those tables; and
4. The maximum number of control areas containing laboratories shall not exceed 5 per floor.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0419 SECTION 419, GROUP E OCCUPANCIES.

IBC Chapter 4 is amended by adding a section to read as follows:

SECTION 419

GROUP E OCCUPANCIES

419.1 Applicability. This section applies to Group E school buildings containing uses described in this section. School buildings shall comply with this section and all other applicable provisions of this code, as intended by Minnesota Statutes, section 123B.51, subdivision 7.

419.2 Use of school buildings by lower grades. In addition to the occupancy and construction requirements in this code, this section applies to those special uses and occupancies described in this section.

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419.2.1 School buildings equipped with complete automatic fire sprinkler and fire alarm systems. Rooms used by preschool, kindergarten, and first and second grade students for classrooms, latchkey, day care, early childhood family education, teen parent, or similar programs may be located on any floor level below the fourth story if the following conditions exist:

1. The building is protected throughout with an approved automatic fire sprinkler system; and

2. The building is protected throughout with an approved automatic fire alarm system having automatic smoke detection devices installed throughout the exit system within every room or area used for purposes other than a classroom or office.

419.2.2 School buildings equipped with either a complete automatic fire sprinkler system or a fire alarm system. Rooms shall be located on the story of exit discharge when used for the purposes of classroom, latchkey, daycare, early childhood education, teen parent, or similar programs by preschool, kindergarten, or first grade students. Rooms shall be located on the story of exit discharge or one story above when used for any purpose by second grade students.

Rooms occupied by preschool, kindergarten, first, or second grade students, when used for the programs described in this section, may be located on floor levels other than those designated above if one of the following conditions is met:

1. An approved automatic fire sprinkler system is provided throughout the building and the use of the affected room or space is limited to one grade level at a time and exiting is provided from the room or space which is independent from the exiting system used by older students; or

2. A complete approved automatic fire alarm system is installed throughout the building consisting of automatic smoke detection installed throughout the exit system and within all rooms and areas other than classroom and office areas, and the use of the affected room or space is limited to one grade level at a time, and exiting is provided from the room or space which is independent from the exiting system used by older students.

For the purposes of this subpart, pupils from the second grade down are considered one grade level.

419.2.3 Accessory spaces. Accessory spaces, including spaces used for gymnasiums, cafeterias, media centers, auditoriums, libraries, and band and choir rooms, used on an occasional basis by preschool, kindergarten, first, and second grade students are permitted to be located one level above or one level below the story of exit discharge, if the building is protected throughout by an approved automatic sprinkler system or a complete approved corridor smoke detection system.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0500 [Repealed, 19 SR 1340]

1305.0501 SECTION 501, GENERAL.

IBC Section 501.1 is amended to read as follows:

501.1 Scope. The provisions of this chapter control the height and area of structures hereafter erected and additions to existing structures. An existing building plus additions shall comply with the height and area provisions of this chapter.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0507 SECTION 507, UNLIMITED AREA BUILDINGS.

IBC Section 507.4 is amended by adding a subsection to read as follows:

507.4.1 Property lines. Portions of an unlimited area building may be divided by platted property lines without requiring the construction of party walls if the whole building has:

1. Permanent open space on all sides as required by Section 507.1, 507.2, 507.3, or 507.4; and

2. Proper legal agreements recorded with the deed for each of the separate properties. These recorded agreements shall require that the buildings as divided by property lines, be in conformance with the applicable provisions of the Minnesota State Building Code, as if the buildings were a single building on a single piece of property. In addition, the agreement must state that no individual building or property owner may modify any portion of the building in any way that would not be in compliance with the Minnesota State Building Code.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0600 [Repealed, 19 SR 1340]

1305.0700 [Repealed, 19 SR 1340]

1305.0704 SECTION 704, EXTERIOR WALLS.

IBC Section 704.2.3 is amended to read as follows:

704.2.3 Combustible projections. Combustible projections located where openings are not permitted or where protection of openings is required shall be of at least 1-hour fire-resistance-rated construction, Type IV construction or as required by Section 1406.3. Openings necessary for attic ventilation where protection of openings is required shall not be located in eave overhangs unless the ventilation openings are protected or the attic is protected by an automatic fire suppression system. There shall be no openings for attic ventilation in eave overhangs where openings are not permitted.

Exception: Type V construction shall be allowed for R-3 occupancies, as applicable in Section 101.2.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *23 SR 683; 27 SR 1474*

1305.0707 SECTION 707, SHAFT AND VERTICAL EXIT ENCLOSURES.

Subpart 1. **Section 707.7.** IBC Section 707.7 is amended to read as follows:

707.7 Openings. Openings in a shaft enclosure shall be protected in accordance with Section 714 as required for fire barriers and listed in Table 714.2. Such openings shall restrict the movement of smoke through openings using smoke-control or draft-control assemblies in accordance with Section 714.2.3.2 and shall be self-closing or automatic closing by smoke detection.

Subp. 2. **Section 707.14.1.** IBC Section 707.14.1 is amended to read as follows:

707.14.1 Elevator lobby. Elevators opening into fire resistance-rated corridor as required by Section 1004.3.2.1 shall be provided with an elevator lobby at each floor containing such a corridor. The lobby shall completely separate the elevators from the corridor by fire barriers and the required opening protection. Elevator lobbies shall have at least one means of egress complying with Chapter 10 and other provisions within this code.

Exceptions:

1. In office buildings, separations are not required from a street floor elevator lobby provided the entire street floor is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.

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2. Elevators not required to be located in a shaft in accordance with Section 707.2.
3. Where additional fire or smoke rated doors are provided in accordance with Section 3002.6.
4. In other than Groups I-2 and I-3, and buildings more than four stories above the lowest level of fire department vehicle access, lobby separation is not required where the building, including the lobby and corridors leading to the lobby, is protected by an automatic sprinkler system installed throughout in accordance with Section 903.3.1.1 or 903.3.1.2.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0714 SECTION 714, OPENING PROTECTIVES.

IBC Section 714.2.3 is amended to read as follows:

714.2.3 Doors in corridors and smoke barriers. Fire doors in fire or smoke barrier walls having a fire resistance rating in accordance with Table 714.2 shall be tested in accordance with NFPA 252 or UL 10C.

714.2.3.1 Minimum fire-protection rating. Fire doors required to have a minimum fire-protection rating of 20 minutes where located in corridor walls or smoke barrier walls having a fire-resistance rating in accordance with Table 714.2 shall be tested in accordance with NFPA 252 or UL 10C without the hose stream test. If a 20-minute fire door or fire door assembly contains glazing material, the glazing material in the door itself shall have a minimum fire-protection rating of 20 minutes and be exempt from the hose stream test. Glazing material in any other part of the door assembly, including transom lites and sidelites, shall be tested in accordance with NFPA 257, including the hose stream test, in accordance with Section 714.3.

714.2.3.2 Smoke and draft control door assemblies. Fire doors shall also meet the requirements for smoke and draft control door assembly tested in accordance with UL 1784 with an artificial bottom seal installed across the full width of the bottom of the door assembly. The air leakage rate of the door assembly shall not exceed 3.0 cfm per square foot ($0.01524 \text{ m}^3/\text{s} \cdot \text{m}^2$) of door opening at 0.10 inch (24.9 Pa) of water for both the ambient temperature and elevated temperature tests. Louvers shall be prohibited.

Exceptions:

1. Viewports that require a hole not larger than one inch (25.4 mm) in diameter through the door, have at least a 0.25-inch-thick (6.4 mm) glass disc and the holder is of metal that will not melt out where subject to temperatures of 1,700°F (927°C).
2. Corridor doors in occupancies of Group I-2 shall be in accordance with Section 407.3.1.
3. Unprotected openings shall be permitted for corridors in multitheater complexes where each motion picture auditorium has at least one-half of its required exit or exit access doorways opening directly to the exterior or into an exit passageway.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0800 [Repealed, 19 SR 1340]

1305.0900 [Repealed, 19 SR 1340]

1305.0903 [F] SECTION 903, AUTOMATIC SPRINKLER SYSTEMS.

IBC [F] Section 903 is amended to read as follows:

Subpart 1. [F] **Section 903.2.8.** IBC [F] Section 903.2.8 is amended by adding a section to read as follows:

903.2.8.1 Area separation walls. For the purposes of Section 903.2.8, area separation walls or fire walls shall not define separate buildings.

Exception: Buildings not exceeding three stories in height and having area separation walls or fire walls of a four-hour fire resistance rating in conformance with the Minnesota State Building Code without openings, doors, or penetrations.

Subp. 2. [F] **Section 903.2.9.** IBC [F] Section 903.2.9 is amended by adding a section to read as follows:

903.2.9.1 Group R-4 residential hospice facilities. An automatic sprinkler system installed in accordance with NFPA 13 shall be provided throughout all buildings with a Group R-4 fire area containing a residential hospice facility.

Exception: An automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be allowed provided all habitable spaces and closets are sprinklered.

Subp. 3. [F] **Section 903.3.1.** IBC [F] Section 903.3.1 is amended by adding exceptions to read as follows:

Exceptions:

1. Automatic sprinkler systems may be connected to the domestic water supply main when approved by the fire chief, provided that the domestic water supply is of adequate pressure, capacity, and sizing for the combined domestic and sprinkler requirements. In such case, the sprinkler system connection shall be made between the public water main or meter and the building shutoff valve, and there shall be no intervening valves or connections. The fire department connection required by NFPA 13 may be omitted when approved by the fire chief.

2. When, in the opinion of the fire chief, an adequate alternate water supply for hose stream requirements is provided or available, the water supply requirements for the sprinkler system hose stream demands may be modified.

Subp. 4. [F] **Section 903.3.1.** IBC [F] Section 903.3.1 is amended by adding a section to read as follows:

903.3.1.4 Buildings of undetermined use. When fire sprinkler systems are required in buildings of undetermined use, they shall be designed and installed to have a sprinkler density of not less than that required for an Ordinary Hazard Group 2 use with a minimum design area of 3,000 square feet (279 m²).

Use is considered undetermined if not specified at the time a permit is issued.

Where a subsequent occupancy requires a system with greater capability, it shall be the responsibility of the owner to upgrade the system to the required density for the new hazard, use or occupancy.

Subp. 5. [F] **Section 903.3.1.** IBC [F] Section 903.3.1 is amended by adding a section to read as follows:

903.3.1.5 Special sprinkler design criteria. When fire sprinkler systems are required in areas containing the following uses, they shall be designed and installed to have a sprinkler density of not less than that required for an Ordinary Hazard Group 2 use:

1. Bowling alleys;
2. Chemistry labs in Group E Occupancies;
3. Gymnasiums;
4. Ice rinks and ice arenas;
5. Sports arenas; and
6. Wrestling rooms in Group E Occupancies.

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Subp. 6. [F] **Section 903.3.1.1.1.** IBC [F] Section 903.3.1.1.1 is amended by adding items to read as follows:

6. In the machine rooms of traction-type elevators which are located on top of the elevator shaft and are separated from other areas of the building, other than the shaft, by not less than a one-hour fire-resistive occupancy separation.

7. On the ceiling of rooms containing swimming pools when the pool area is used exclusively for swimming purposes and when sprinklers are provided around the perimeter of the pool area.

Subp. 7. [F] **Section 903.4.1.** IBC [F] Section 903.4.1 is amended by adding an exception to read as follows:

3. For existing sprinkler systems, monitoring is required when the number of sprinklers is 100 or more.

Subp. 8. [F] **Section 903.4.** IBC [F] Section 903.4 is amended by adding a section to read as follows:

903.4.4 Valve security. All valves controlling water supplies for automatic sprinklers shall be locked or secured in the open position.

Exception: Valves located in a room or space when access is limited to essential personnel only.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0904 [Repealed, 27 SR 1474]

1305.0905 [F] SECTION 905, STANDPIPE SYSTEMS.

Subpart 1. [F] **Section 905.2.** IBC [F] Section 905.2 is amended by adding a section to read as follows:

905.2.1 Modification to standards. In buildings four or less stories in height which are protected throughout by an automatic sprinkler system, a Class I or III standpipe system need only meet the pressure requirements for the sprinkler system.

Subp. 2. [F] **Section 905.3.3.** IBC [F] Section 905.3.3 is amended by adding a section to read as follows:

905.3.3.1 Group A exhibition. Class III automatic standpipes shall be provided in Group A-3 Occupancies over 12,000 square feet (1115 m²) in area used for exhibition.

Subp. 3. [F] **Section 905.3.4.** IBC [F] Section 905.3.4 is amended to read as follows:

905.3.4 Covered mall buildings. Covered mall buildings shall be equipped throughout with a Class I automatic wet standpipe system.

Subp. 4. [F] **Section 905.3.5.** IBC [F] Section 905.3.5 is deleted.

Subp. 5. [F] **Section 905.3.5.1.** IBC [F] Section 905.3.5.1 is deleted.

Subp. 6. [F] **Section 905.3.** IBC [F] Section 905.3 is amended by adding a section to read as follows:

905.3.7 Detention and correctional facilities. Regardless of the height of the building or number of stories, every building in a Group I-3 detention and correctional facility, where 50 or more persons are under restraint or security under Occupancy Conditions 3, 4 or 5, shall be provided with a Class III automatic wet or semiautomatic dry standpipe system.

Exception: Combined systems meeting the provisions of Section 905.2 may be used.

When acceptable to the fire chief, fire department connections may be located inside all security walls or fences on the property.

Standpipes shall be located in accordance with Section 905. In addition, standpipes shall be located so that it will not be necessary to extend hose lines through smoke barriers. When located in cell complexes, standpipes may be located in secured pipe chases.

Subp. 7. [F] **Section 905.5.1.** IBC [F] Section 905.5.1 is deleted.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: 27 SR 1474

1305.0907 [F] SECTION 907, FIRE ALARM AND DETECTION SYSTEMS.

Subpart 1. [F] **Section 907.2.** IBC [F] Section 907.2 is amended to read as follows:

907.2 Where required in new buildings and structures. An approved manual, automatic, or manual and automatic fire alarm system shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.24 and NFPA 72. For the purposes of Sections 907.2.1 through 907.2.24, area separation walls shall not define separate buildings.

Exception: In areas protected by an approved, supervised automatic sprinkler system, heat detectors required by Section 907.2 need not be provided.

Subp. 2. [F] **Section 907.2.1.** IBC [F] Section 907.2.1 is amended to read as follows:

907.2.1 Group A, general. A fire alarm system shall be installed in accordance with Sections 907.2.1 through 907.2.1.3 in Group A occupancies having an occupant load of 300 or more.

Exceptions:

1. Assembly areas used solely for worship purposes.
2. A fire alarm system is not required when an approved automatic fire extinguishing system is installed throughout the building.
3. Group A Occupancy portions of Group E Occupancies are allowed to have alarms as required for the Group E Occupancy.
4. Group A-5 Occupancies.

Also see Section 907.2.11.

Subp. 3. [F] **Section 907.2.1.1.** IBC [F] Section 907.2.1.1 is amended to read as follows:

907.2.1.1 Initiation. Initiation of the fire alarm system shall be by automatic means. Approved automatic fire detectors shall be installed in laundry rooms, boiler and furnace rooms, mechanical and electrical rooms, shops, kitchens, trash collection rooms, storage rooms, and similar areas.

Subp. 4. [F] **Section 907.2.1.2.** IBC [F] Section 907.2.1.2 is amended to read as follows:

907.2.1.2 Notification. The required fire alarm system shall activate an audible and visible notification appliance at a constantly attended location within the building for the purposes of initiating emergency action. A presignal feature and positive alarm sequencing in accordance with NFPA 72 are permitted.

Occupant notification shall be by means of voice announcements, either live or prerecorded, initiated by the person in the constantly attended location.

Exception: Where no constantly attended location exists, an automatic fire alarm system providing a general evacuation signal or an approved emergency voice/alarm communications system is permitted.

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Subp. 5. [F] **Section 907.2.1.** IBC [F] Section 907.2.1 is amended by adding a section to read as follows:

907.2.1.3 System initiation in Group A occupancies with an occupant load of 1,000 or more. Activation of the fire alarm system in Group A occupancies with an occupant load of 1,000 or more shall immediately initiate an approved prerecorded message announcement using an approved emergency voice/alarm communications system in accordance with NFPA 72.

Exception: Where approved, the prerecorded announcement is allowed to be manually deactivated for a period of time, not to exceed 3 minutes, for the sole purpose of allowing a live voice announcement from an approved constantly attended location.

Subp. 6. [F] **Section 907.2.2.** IBC [F] Section 907.2.2 is amended to read as follows:

907.2.2 Group B, general. A fire alarm system shall be installed in accordance with Sections 907.2.2 through 907.2.2.3 in Group B occupancies where:

1. The building has an occupant load of 500 or more persons; or
2. The building has an occupant load of more than 100 persons above or below the lowest level of exit discharge; or
3. The building contains an outpatient clinic.

When automatic sprinkler systems or automatic fire detectors are installed in outpatient clinics, such systems or detectors shall be connected to the building fire alarm system.

Exception: In other than outpatient clinics, a fire alarm system is not required when an approved automatic fire extinguishing system is installed throughout the building.

Subp. 7. [F] **Section 907.2.2.** IBC [F] Section 907.2.2 is amended by adding a section to read as follows:

907.2.2.1 Initiation. Initiation of the fire alarm system shall be by automatic means. Approved automatic fire detectors shall be provided in boiler and furnace rooms, shops, kitchens, mechanical and electrical rooms, trash collection rooms, storage rooms and similar areas. In outpatient clinics, initiation of the fire alarm system shall also be by manual means.

Subp. 8. [F] **Section 907.2.2.** IBC [F] Section 907.2.2 is amended by adding a section to read as follows:

907.2.2.2 Notification. Activation of the fire alarm system shall initiate a general evacuation signal.

Exception: In lieu of audible notification appliances, visible notification appliances shall be permitted to be used in patient care areas.

Subp. 9. [F] **Section 907.2.2.** IBC [F] Section 907.2.2 is amended by adding a section to read as follows:

907.2.2.3 Outpatient clinics. Corridors in outpatient clinics and spaces open to the corridors shall be protected by an automatic smoke detection system.

Subp. 10. [F] **Section 907.2.3.** IBC [F] Section 907.2.3 is amended to read as follows:

907.2.3 Group E, general. A fire alarm system shall be installed in accordance with Sections 907.2.3 through 907.2.3.3 in Group E occupancies having an occupant load of 50 or more. When automatic sprinkler systems are installed or automatic fire detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Subp. 11. [F] **Section 907.2.3.** IBC [F] Section 907.2.3 is amended by adding a section to read as follows:

907.2.3.1 Initiation. Initiation of the fire alarm system shall be by manual and automatic means. Approved automatic fire detectors shall be provided in laundry rooms, boiler and furnace rooms, mechanical and electrical rooms, shops, laboratories, kitchens, locker rooms, janitors' closets, trash collection rooms, storage rooms, lounges and similar areas.

Exceptions:

1. In buildings protected throughout by an approved, supervised fire sprinkler system, manual fire alarm boxes are only required in the main office and in a custodial area.
2. Where all corridors are protected by an approved automatic fire alarm system having smoke detection with alarm verification, manual fire alarm boxes are only required near exits serving shops, chemistry and physics laboratories, boiler rooms, industrial technology and industrial arts rooms, kitchens, custodian's offices, and main offices.

Subp. 12. [F] **Section 907.2.3.** IBC [F] Section 907.2.3 is amended by adding a section to read as follows:

907.2.3.2 Travel through adjoining rooms. Where the only means of egress travel from an interior room or rooms having an aggregate occupant load of more than 10 occupants is through an adjoining or intervening room, automatic smoke detectors shall be installed throughout the common atmosphere through which the path of egress travel passes.

Subp. 13. [F] **Section 907.2.3.** IBC [F] Section 907.2.3 is amended by adding a section to read as follows:

907.2.3.3 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a general evacuation signal.

Subp. 14. [F] **Section 907.2.4.** IBC [F] Section 907.2.4 is amended to read as follows:

907.2.4 Group F, general. A fire alarm system shall be installed in accordance with Sections 907.2.4 through 907.2.4.2 in Group F occupancies that are two or more stories in height and have an occupant load of 500 or more above or below the lowest level of exit discharge.

Exception: A fire alarm system is not required when an approved automatic fire extinguishing system is installed throughout the building.

Subp. 15. [F] **Section 907.2.4.** IBC [F] Section 907.2.4 is amended by adding a section to read as follows:

907.2.4.1 Initiation. Initiation of the fire alarm system shall be by manual and automatic means. Approved automatic fire detectors shall be provided in boiler and furnace rooms, trash collection rooms, kitchens, mechanical and electrical rooms, and similar areas.

Subp. 16. [F] **Section 907.2.4.** IBC [F] Section 907.2.4 is amended by adding a section to read as follows:

907.2.4.2 Notification. Activation of the fire alarm system shall initiate a general evacuation signal.

Subp. 17. [F] **Section 907.2.5.** IBC [F] Section 907.2.5 is amended to read as follows:

907.2.5 Group H, general. A fire alarm system shall be installed in accordance with Sections 907.2.5 through 907.2.5.2 in Group H-5 occupancies, occupancies used for the

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manufacture of organic coatings, and, when required by Chapters 37, 39 and 40, the following locations:

1. Rooms or areas where highly toxic compressed gases are stored or used;
2. Rooms or areas where Class I, II or III organic peroxides are stored; and
3. Liquid and solid oxidizer storage areas.

Subp. 18. [F] **Section 907.2.5.** IBC [F] Section 907.2.5 is amended by adding a section to read as follows:

907.2.5.1 Initiation. Initiation of the fire alarm system in Group H-5 Occupancies and in occupancies used for the manufacture of organic coatings shall be by manual means. Initiation of fire alarm systems installed for highly toxic gases, organic peroxides and oxidizers shall be by automatic means, as specified in Chapters 37, 39 and 40.

Subp. 19. [F] **Section 907.2.5.** IBC [F] Section 907.2.5 is amended by adding a section to read as follows:

907.2.5.2 Notification. Activation of the fire alarm system in Group H-5 Occupancies and in occupancies used for the manufacture of organic coatings shall initiate a general evacuation signal. Activation of the automatic detection systems installed for highly toxic gases, organic peroxides, and oxidizers shall sound a local alarm.

Subp. 20. [F] **Section 907.2.6.** IBC [F] Section 907.2.6 is amended to read as follows:

907.2.6 Group I, general. A fire alarm system shall be installed in accordance with Sections 907.2.6 through 907.2.6.4.3 in Group I occupancies.

Subp. 21. [F] **Section 907.2.6.** IBC [F] Section 907.2.6 is amended by adding a section to read as follows:

907.2.6.1 Initiation. Initiation of the fire alarm system shall be by manual and automatic means. Approved automatic fire detectors shall be installed in laundry and soiled linen rooms, boiler and furnace rooms, mechanical and electrical rooms, shops, laboratories, kitchens, locker rooms, janitors' closets, trash collection rooms, storage rooms, lounges, gift shops and similar areas. Automatic smoke detectors shall be provided in waiting areas that are open to corridors.

Exception: Manual fire alarm boxes in patient sleeping areas of Group I-1 and I-2 occupancies shall not be required at exits if located at all nurses' stations or other constantly attended staff locations, provided such fire alarm boxes are visible and continuously accessible and that travel distances required by Section 907.4.1 are not exceeded.

Subp. 22. [F] **Section 907.2.6.** IBC [F] Section 907.2.6 is amended by adding sections to read as follows:

907.2.6.3 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a general evacuation signal. In addition, activation of the fire alarm system shall immediately transmit an alarm to an approved central station or remote station service.

Exceptions:

1. In lieu of audible notification appliances, visible notification appliances shall be allowed to be used in critical care areas.
2. Where occupants are incapable of evacuating themselves because of age, physical/mental disabilities, or physical restraint, only the attendants or other personnel required to evacuate occupants from a zone, area, floor or building shall be required to be notified. This notification shall include means to readily identify the zone, area, floor or building in need of evacuation.

907.2.6.4 Group I-2 Occupancies. Corridors in hospitals, nursing homes (both intermediate care and skilled nursing facilities), board and care homes and detoxification

facilities and spaces open to the corridors shall be protected by an automatic smoke detection system.

907.2.6.4.1 Patient room smoke detectors. Smoke detectors that receive their primary power from the building wiring shall be installed in patient sleeping rooms of hospitals and nursing homes. Actuation of such detectors shall cause a visual display on the corridor side of the room in which the detector is located and shall cause an audible and visual alarm at the nurse's station attending the room.

907.2.6.5 Group I-3 Occupancies. Group I-3 occupancies shall be provided with a fire alarm system installed for alerting staff.

907.2.6.5.1 Initiation. Initiation of the fire alarm system shall be by manual and automatic means. Approved automatic fire detectors shall be installed in laundry and soiled linen rooms, boiler and furnace rooms, mechanical and electrical rooms, shops, laboratories, kitchens, locker rooms, janitors' closets, trash collection rooms, storage rooms, lounges, gift shops, commissaries and similar areas. Actuation of an automatic fire extinguishing system, a manual fire alarm box or a fire detector shall initiate an approved fire alarm signal, which automatically notifies staff. Presignal systems shall not be used.

907.2.6.5.2 Manual fire alarm boxes. Manual fire alarm boxes are not required to be located in accordance with Section 907.4 where the fire alarm boxes are provided at staff-attended locations having direct supervision over areas where manual fire alarm boxes have been omitted.

Manual fire alarm boxes shall be permitted to be locked in areas occupied by detainees, provided that staff members are present within the subject area and have keys readily available to operate the manual fire alarm boxes.

907.2.6.5.3 Smoke detectors. An approved automatic smoke detection system shall be installed throughout resident housing areas, including sleeping areas and contiguous day rooms, group activity spaces and other common spaces normally accessible to residents.

Exceptions:

1. Other approved smoke-detection arrangements providing equivalent protection, such as placing detectors in exhaust ducts from cells or behind protective grills, are allowed when necessary to prevent damage or tampering.
2. Smoke detectors are not required in sleeping rooms with four or fewer occupants in smoke compartments that are equipped throughout with an approved automatic sprinkler system.

Subp. 23. [F] **Section 907.2.7.** IBC [F] Section 907.2.7 is deleted.

Subp. 24. [F] **Section 907.2.7.1.** IBC [F] Section 907.2.7.1 is deleted.

Subp. 25. [F] **Section 907.2.8.** IBC [F] Section 907.2.8 is amended to read as follows:

907.2.8 Group R-1, general. A fire alarm system shall be installed in accordance with Sections 907.2.8 through 907.2.8.3 in Group R-1 occupancies.

Exceptions:

1. A fire alarm system is not required in buildings not over two stories in height where all individual guest rooms and contiguous attic and crawl spaces are separated from each other and public or common areas by at least one-hour fire partitions and each guest room has an exit directly to a public way, exit court or yard.
2. Buildings containing five or less guest rooms shall be allowed to be equipped with approved multiple-station smoke detectors installed as required for Group R-3 Occupancies. Installation shall be in accordance with Section 907.2.10.

907.2.8.1 Initiation. Initiation of the fire alarm system shall be by automatic means. Approved automatic fire detectors shall be provided in boiler and furnace rooms, shops, laundry rooms, mechanical and electrical rooms, trash collection rooms, storage rooms, gift shops, locker rooms and similar areas. Automatic smoke detectors shall be provided in all common areas and interior corridors serving as required means of egress.

Exception: System fire and smoke detectors are not required when an approved automatic fire extinguishing system is installed throughout the building and manual activation is provided at a constantly attended location.

907.2.8.2 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a general evacuation signal.

907.2.8.3 Guest room detectors. Guest room smoke detectors required by Section 907.2.10 shall not be connected to a fire alarm system.

Exception: Connection of such detectors for annunciation only.

Subp. 26. [F] **Section 907.2.9.** IBC [F] Section 907.2.9 is amended to read as follows:

907.2.9 Group R-2, general. A fire alarm system shall be installed in accordance with Sections 907.2.9 through 907.2.9.2 in Group R-2 occupancies where:

1. Any guest room or dwelling unit is located three or more stories above the lowest level of exit discharge;
2. Any guest room or dwelling unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit;
3. The building contains more than 16 dwelling units or guest rooms; or
4. The building has a occupant load of 20 or more.

Exception: A fire alarm system is not required in buildings not over two stories in height where all dwelling units and contiguous attic and crawl spaces are separated from each other and public or common areas by at least one-hour fire partitions and each dwelling unit has an exit directly to a public way, exit court or yard.

907.2.9.1 Initiation. Initiation of the fire alarm system shall be by automatic means. Automatic fire detectors shall be provided in boiler and furnace rooms, trash collection rooms, shops, laundry rooms, mechanical and electrical rooms, storage rooms, and similar areas. Automatic smoke detectors shall be provided in all common areas and interior corridors serving as required means of egress.

Exception: System fire and smoke detectors are not required when an approved automatic fire extinguishing system is installed throughout the building.

907.2.9.2 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a general evacuation signal.

Subp. 27. [F] **Section 907.2.10.2.** IBC [F] Section 907.2.10.2 is amended by adding an exception to read as follows:

3. Smoke alarms are not required to be equipped with battery backup in Group R-2 Occupancies equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Subp. 28. [F] **Section 907.2.** IBC [F] Section 907.2 is amended by adding sections to read as follows:

907.2.24 Residential hospices. A fire alarm system shall be installed in accordance with Section 907.2.24 in residential hospices. When automatic sprinkler systems or automatic fire detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

907.2.24.1 Initiation. Initiation of the fire alarm system shall be by manual and automatic means. Approved automatic fire detectors shall be provided in boiler and furnace rooms, kitchens, laboratories, shops, gift shops, commissaries, laundry and soiled linen rooms, mechanical and electrical rooms, locker rooms, storage rooms, janitors' closets, trash collection rooms, lounges and similar areas. Automatic smoke detectors shall be provided in sleeping rooms, corridors and spaces open to the corridors.

Exception: Manual fire alarm boxes are not required at exits if manual fire alarm boxes are located at all nurses' stations or other continuously attended staff locations, provided such fire alarm boxes are visible and continuously accessible and that travel distances required by Section 907.4.1 are not exceeded.

907.2.24.2 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a general evacuation signal. In addition, the fire alarm system shall be monitored by an approved central station service in accordance with Section 903.4.1.

Exception: In lieu of audible notification appliances, visible notification appliances shall be allowed to be used in sleeping areas.

Subp. 29. [F] **Section 907.3.1.** IBC [F] Section 907.3.1 is amended by deleting the exception.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0910 [F] SECTION 910, SMOKE AND HEAT VENTS.

IBC [F] Section 910 is amended to read as follows:

[F] SECTION 910

SMOKE AND HEAT VENTS

Subpart 1. [F] **Section 910.1.** IBC [F] Section 910.1 is amended by adding sections to read as follows:

910.1.1 Required venting method. Required smoke and heat venting shall be accomplished with mechanical smoke exhaust according to Section 910.4.

Exceptions:

1. Calculated engineering design of mechanical smoke exhaust in accordance with Section 910.5 shall be permitted for buildings sprinklered throughout.
2. For nonsprinklered buildings, smoke and heat vents as specified in Section 910.3 shall be permitted.
3. Where approved by the code official, smoke and heat vents as specified in Section 910.3 shall be permitted in sprinklered buildings.

910.1.2 Listing. Smoke and heat vents and mechanical smoke exhaust fans shall be listed for the intended purpose.

910.1.3 Curtain boards. When mechanical smoke exhaust is provided in accordance with Section 910.4 or 910.5, curtain boards are only required at the separation between areas protected with early suppression fast response (ESFR) sprinklers and conventional sprinkler systems.

Subp. 2. [F] **Section 910.4.** IBC [F] Section 910.4 is amended to read as follows:

910.4 Mechanical smoke exhaust. Mechanical smoke exhaust shall be in accordance with Sections 910.4.1 through 910.4.6.

Subp. 3. [F] **Section 910.4.3.** IBC [F] Section 910.4.3 is amended to read as follows:

910.4.3 Operation. Mechanical smoke exhaust fans shall be automatically activated upon sprinkler system water flow. A 5 to 10 minute delay shall be provided between the

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sprinkler water flow signal and activation of the exhaust fans. In addition, individual manual controls of each fan unit shall also be provided.

Exception: When required by the code official, initiation of mechanical smoke exhaust fans shall be only through manual activation.

Subp. 4. [F] **Section 910.4.5.** IBC [F] Section 910.4.5 is amended to read as follows:

910.4.5 Supply air. Supply air for exhaust fans shall be sized to provide a minimum of 50 percent of the required exhaust. Air velocity at each supply air opening shall not exceed an average of 200 feet per minute when measured 4 feet (1219 mm) in front of the opening. Openings for supply air shall be uniformly distributed around the periphery of the area served and be located or ducted to a position not more than one-half the storage height above the floor. Supply air openings shall open automatically upon operation of the smoke exhaust system and shall not require a manual action at each supply opening for operation. Supply air openings shall be kept clear of storage or obstructions to airflow for at least four feet (1219 mm) in front of the opening. Supply air openings shall be separated from exhaust fans and exterior combustibles to prevent introduction of smoke into the building.

Subp. 5. [F] **Section 910.1.** IBC [F] Section 910 is amended by adding sections to read as follows:

910.5 Calculated engineering design of mechanical smoke exhaust. Calculated engineering design of mechanical smoke exhaust shall be in accordance with Sections 910.5.1 through 910.5.5.

910.5.1 Methodology. An engineering analysis shall be conducted based on a design fire with a minimum heat release rate as specified in Section 910.5.2.1. The engineering analysis shall include the characteristics of the fuel load, commodity classification, commodity storage arrangements, fan spacing, make-up air requirements and building parameters.

Mechanical smoke exhaust systems shall be designed to remove smoke after a fire is extinguished and to assist the fire department during suppression operations or during marginal sprinkler control situations. They are not considered life safety systems and are not designed for occupant safety.

910.5.2 Calculation method. Volumetric flow rate calculations for the engineering design of mechanical smoke exhaust systems shall be in accordance with Sections 910.5.2.1 through 910.5.2.7.

910.5.2.1 Heat release rate. The minimum heat release rate for calculated design of engineered mechanical smoke removal shall be based on either Section 910.5.2.1.1 or 910.5.2.1.2.

910.5.2.1.1 Heat release rate for suppression mode (ESFR) sprinklers. For high-piled storage or occupancies protected with suppression mode (ESFR) sprinklers, a minimum convective heat release rate, Q_c , of 4,200 BTU/sec (4,430 kW) shall be used for all occupancies or commodities permitted by NFPA 13 to be protected by ESFR sprinklers.

910.5.2.1.2 Heat release rate for all other configurations. For high-piled storage protected with control mode (non-ESFR) sprinklers, a minimum convective heat release rate, Q_c , shall be in accordance with Table 910.5.2.1.2.

TABLE 910.5.2.1.2

MINIMUM HEAT RELEASE RATES FOR CONTROL MODE SPRINKLERS

Classification	Minimum convective heat release rate, Q_c , in BTU/sec (kW)
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High-Piled Storage - Commodity Class I	4,200 BTU/sec (4,430 kW)
High-Piled Storage - Commodity Class II	4,900 BTU/sec (5,170 kW)
High-Piled Storage - Commodity Class III	5,600 BTU/sec (5,900 kW)
High-Piled Storage - Commodity Class IV	7,000 BTU/sec (7,380 kW)
High-Piled Storage - High Hazard	10,500 BTU/sec (11,070 kW)
F-1 and S-1 occupancies without high-piled storage	5,600 BTU/sec (5,900 kW)
Group H occupancies	10,500 BTU/sec (11,070 kW)

910.5.2.2 Sprinkler effectiveness. A calculated engineering exhaust system shall be based on a heat release rate not less than that given in Section 910.5.2.1. The fire growth rate shall not be halted until a heat release rate equal to or exceeding that given in Section 910.5.2.1 is reached.

910.5.2.3 Smoke layer height. For input to the calculations in Section 909.8.2, the height from top of fuel surface to bottom of smoke layer is defined as the smoke layer height, z . For mechanical smoke exhaust of high-piled storage, z shall not be less than the distance from the floor to the top of the commodity storage. For Group F-1, Group S-1, and Group H occupancies, z , shall not be less than one-half the ceiling height.

910.5.2.4 Volumetric flow rate. The aggregate capacity of smoke exhaust fans shall be determined using the method for an axisymmetric plume given in Section 909.8.2. For input to the calculations in Section 909.8.2, the convective heat release rate, Q_c , shall be as required by Section 910.5.2.1. The height of the smoke layer shall be maintained at least above z as defined in Section 910.5.2.3.

Exception: When approved by the code official, fire modeling programs are allowed to calculate the required volumetric flow rate for mechanical smoke exhaust. For input to the modeling program, the convective heat release rate shall be as required by Section 910.5.2.1. The height of the smoke layer shall be maintained at least above z as defined in Section 910.5.2.3.

910.5.2.5 Smoke density. Equation 9-4 shall be used to convert from the calculated plume mass flow rate to a volumetric flow rate and the density of air at the temperature of the smoke layer shall be used. The temperature shall be based on either an average upper layer temperature or sprinkler activation temperature. It need not be based on the fire plume centerline temperature.

910.5.2.6 Safety factor. A calculated engineering mechanical smoke exhaust system design shall include a ten percent safety factor to the final calculated exhaust rate. No safety factor need be applied to the minimum system size required by Section 910.5.2.7.

910.5.2.7 Minimum system size. In no case shall a calculated engineering exhaust system be permitted that provides less than 3 air changes per hour. When only a portion of a space is used for high-piled storage requiring smoke exhaust, the volume to be extracted shall be based on the ceiling height multiplied by the actual gross area for storage.

910.5.3 Operation. Mechanical smoke exhaust fans shall be automatically activated upon sprinkler system water flow. A 5 to 10 minute delay shall be provided between the

sprinkler water flow signal and activation of the exhaust fans. In addition, individual manual controls of each fan unit shall also be provided.

Exception: When required by the code official, initiation of mechanical smoke exhaust fans shall be only through manual activation.

910.5.4 Supply air. Supply air for exhaust fans shall be sized to provide a minimum of 50 percent of the required exhaust. Air velocity at each supply air opening shall not exceed an average of 200 feet per minute when measured 4 feet (1219 mm) in front of the opening. Openings for supply air shall be uniformly distributed around the periphery of the area served and be located or ducted to a position not more than one-half the storage height above the floor. Supply air openings shall open automatically upon operation of the smoke exhaust system and shall not require a manual action at each supply opening for operation. Supply air openings shall be kept clear of storage or obstructions to airflow for at least 4 feet (1219 mm) in front of the opening. Supply air openings shall be separated from exhaust fans and exterior combustibles to prevent introduction of smoke into the building.

910.5.5 Equipment. Wiring and control shall be as required in Section 910.4.4. Interlocks shall be as required in Section 910.4.6. Exhaust fans shall be uniformly spaced and each fan shall have a maximum individual capacity of 30,000 cfm.

910.6 Testing and maintenance. Mechanical smoke exhaust systems shall be tested and maintained as required by Sections 910.6.1 through 910.6.4.

910.6.1 Acceptance testing. Mechanical smoke exhaust systems shall be acceptance tested as required by Sections 909.18.2 through 909.18.5 and 909.19.

910.6.1.1 Controls. For testing purposes, each smoke exhaust system equipped for automatic activation shall be put into operation by the actuation of the automatic initiating device. Control sequences shall be verified throughout the system, including verification of override from the firefighter's control panel when systems are equipped for automatic activation.

910.6.2 Special inspections. Special inspections for mechanical smoke exhaust shall be conducted according to Section 909.18.8.

910.6.3 Maintenance. Mechanical smoke exhaust systems, including exhaust fans, supply air openings and controls, shall be maintained and unobstructed.

910.6.4 Operational testing. Operational testing of the smoke exhaust system shall include all equipment such as initiating devices, fans, dampers, controls, and supply air openings. Mechanical smoke exhaust systems shall be operated and tested under each control sequence at least annually.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.0912 SECTION 912, POST FIRE EXHAUST SYSTEM.

IBC Chapter 9 is amended by adding a section to read as follows:

SECTION 912

POST FIRE SMOKE EXHAUST SYSTEM

912.1 Scope and purpose. This section applies to post fire smoke exhaust systems when they are required by other provisions of this code. The purpose of this section is to establish minimum requirements for the design and installation of smoke exhaust systems that are intended for the timely restoration of operations and overhaul activities once a fire is extinguished.

912.2 General design requirements. Post fire smoke exhaust systems are not intended or designed as life safety systems and are not required to meet the provisions of Section 909. These systems are permitted to use dedicated equipment, the normal building HVAC system or other openings and shall have the capability to exhaust smoke from occupied spaces. Smoke removal may be by either mechanical or natural ventilation, but shall be capable of removing cold smoke. Smoke exhaust shall be

permitted through elevator shafts. Smoke removed from a space must be discharged to a safe location outside the building and may not be recirculated into the building in accordance with the mechanical code.

912.3 Exhaust capability. The system shall have an air supply and smoke exhaust capability that will provide a minimum of three air changes per hour or remove smoke to less than a 5 percent concentration within one hour of operation. The system need not exhaust from all areas at the same time, but is permitted to be zoned based on the largest fire area served. For the purpose of calculating system size, the height of a compartment shall be considered to run from slab to slab and include the volume above suspended ceilings.

912.4 Operation. The smoke exhaust system shall be operated by manual controls that are readily accessible to the fire department at an approved location and shall incorporate an approved control diagram. When a system is zoned into areas of operation less than the entire building, each zone shall have an individual control. Fire department manual controls of post fire smoke exhaust systems shall have the highest priority of any control point within the building.

912.5 Inspection and testing. Post fire smoke exhaust systems shall be inspected and tested annually.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1000 [Repealed, 19 SR 1340]

1305.1000 [Repealed, 27 SR 1474]

1305.1002 SECTION 1002, DEFINITIONS.

IBC Section 1002.1 is amended by adding or replacing the following definitions:

AISLE. That portion of an exit access that connects an aisle accessway to an exit access doorway, corridor, or an exit.

CORRIDOR. An interior passageway having a length at least three times its width, having walls, partitions, or other obstructions to exit travel over 6 feet (1829 mm) in height on two opposing sides, and having openings from rooms or similar spaces.

ROOM. A space or area bounded by any obstruction over 6 feet in height which at any time encloses more than 80 percent of the perimeter of the area. In computing the unobstructed perimeter, openings less than 3 feet (914 mm) in clear width and less than 6 feet 8 inches (2032 mm) in height shall not be considered. Aisles and corridors shall not be construed to form rooms.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1003 SECTION 1003, GENERAL MEANS OF EGRESS.

Subpart 1. **Section 1003.2.12.** IBC Section 1003.2.12 is amended by adding an exception to read as follows:

8. In accordance with the Minnesota Bleacher Safety Act, Minnesota Statutes, section 16B.616, guards are not required on bleachers 55 inches and less in height.

Subp. 2. **Section 1003.2.12.1.** IBC Section 1003.2.12.1 is amended by adding an exception to read as follows:

1003.2.12.1 Height. Guards shall form a protective barrier not less than 42 inches (1067 mm) high, measured vertically above the leading edge of the tread, adjacent walking surface or adjacent seatboard.

Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, both as applicable in Section 101.2, guards whose

top rail also serves as a handrail shall have a height not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from the leading edge of the stair tread nosing.

2. The top of a guard for a Group R-3 occupancy, a Group U occupancy that is accessory to a Group R-3, and within dwelling units or guest rooms of Group R-2 occupancies shall be constructed not less than 36 inches (914 mm) in height.

Subp. 3. **Section 1003.2.13.** IBC Section 1003.2.13 is amended to read as follows:

1003.2.13 Accessibility. For requirements on accessible means of egress, refer to the Minnesota State Accessibility Code, Minnesota Rules, chapter 1341.

Subp. 4. **Section 1003.3.1.3.6.** IBC Section 1003.3.1.3 is amended by adding a section to read as follows:

1003.3.1.3.6 Special egress control devices. Where the clinical needs of the patients require specialized security measures for their safety, door locking arrangements are permitted in Group I-1 occupancies (this includes use groups as described in Group I-1 occupancies that are identified as either Group R-3 or Group R-4 occupancies because of occupant load) and Group I-2 occupancies provided that:

1. Keys or devices that function like keys are carried by staff at all times;
2. In at least one egress path, not more than one such arrangement is located;
3. The building or fire area is protected by an approved automatic sprinkler system in accordance with IBC Section 903.3.1.1 (NFPA 13) and an approved fire alarm system having smoke detection, installed throughout the exit corridor system and areas open to the exit corridor;
4. Locking devices shall automatically unlock upon activation of any of the following:
 - a. Automatic sprinkler system;
 - b. Automatic smoke detection system;
 - c. Automatic fire alarm system; or
 - d. Loss of electrical power;
5. Locking devices can be remotely unlocked from an approved location within the secured area;
6. There is no public assembly space within the secured area;
7. 24-hour patient supervision is provided within the secured area;
8. Relocking of the locking device is by manual means from an approved location within the secured area;
9. Locking devices are designed to fail in the open position;
10. Special egress control devices are not permitted in buildings of type III-B or V-B construction, and shall not exceed one story in height when in type III-A, IV-HT, or type V-A construction;
11. Floor levels within the building or portion thereof with the special egress control devices shall be divided into at least two compartments by smoke barriers meeting the requirements of IBC Section 709; and
12. Substitution of the automatic sprinkler system for 1-hour fire-resistance-rated construction (pursuant to Table 601, footnote d) shall be permitted.

Subp. 5. **Section 1003.3.1.8.2.** IBC Section 1003.3.1.8.2 is amended to read as follows:

1003.3.1.8.2 Delayed egress locks. Approved, listed, delayed egress locks shall be permitted to be installed on doors serving any occupancy except Group A and H occupancies in buildings which are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke detection

system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.

2. The doors unlock upon loss of power controlling the lock or lock mechanism.

3. The door locks shall have the capability of being unlocked by a signal from the fire command center.

4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 second to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.

Exception: Where approved, a delay of not more than 30 seconds is permitted.

5. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 SECONDS.

6. Emergency lighting shall be provided at the door.

Subp. 6. **Section 1003.3.3.3.** IBC Section 1003.3.3.3 is amended to read as follows:

1003.3.3.3 Stair treads and risers. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. Stair tread depths shall be 11 inches (279 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at right angle to the tread's leading edge.

Exceptions:

1. Circular stairways in accordance with Section 1003.3.3.7.

2. Winders in accordance with Section 1003.3.3.8.

3. Spiral stairways in accordance with Section 1003.3.3.9.

4. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1008.9.2.

5. Private stairs and steps serving Group R-3 occupancies, Group U occupancies which are accessory to Group R-3, and within dwelling units of Group R-2 occupancies may be constructed with an 8 inch (203 mm) maximum rise and a 9 inch (229 mm) minimum tread.

6. See Section 3402.4 for the replacement of existing stairways.

Subp. 7. **Section 1003.3.3.3.2.** IBC Section 1003.3.3.3.2 is amended to read as follows:

1003.3.3.3.2 Profile. The radius of curvature at the leading edge of the tread shall be not greater than 0.5 inch (12.7 mm). Beveling of nosings shall not exceed 0.5 inch (12.7 mm). Risers shall be solid and vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.52 rad) from the vertical. The leading edge (nosings) of treads shall project not more than 1.25 inches (32 mm) beyond the tread below and all projections of the leading edges shall be of uniform size, including the leading edge of the floor at the top of a flight.

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Exceptions:

1. Solid risers are not required for stairways that are not required to comply with Section 1003.2.13.2, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3.
3. Private stairs and steps serving Group R-3 occupancies, Group U occupancies which are accessory to Group R-3, and within dwelling units of Group R-2 occupancies may be constructed without beveled tread nosings, tread nosing extensions or solid vertical or sloped risers.

Subp. 8. **Section 1003.3.3.5.2.** IBC Section 1003.3.3.5.2 is amended to read as follows:

1003.3.3.5.2 Outdoor conditions. Outdoor stairways, landings and platforms, and outdoor approaches to stairways shall be designed so that water will not accumulate on walking surfaces.

Subp. 9. **Section 1003.3.3.7.** IBC Section 1003.3.3.7 is amended to read as follows:

1003.3.3.7 Circular stairways. Circular stairways shall have a minimum tread depth and a maximum riser height in accordance with Section 1003.3.3.3 and the smaller radius shall not be less than twice the width of the stairway. The minimum tread depth measured 12 inches (305 mm) from the narrower end of the tread shall be not less than 11 inches (279 mm). The minimum tread depth at the narrow end shall be not less than 10 inches (254 mm).

Exception: For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, both as applicable in Section 101.2, the minimum tread depth measured 12 inches (305 mm) from the narrower end of the tread shall be not less than 10 inches (254 mm). The minimum tread depth at the narrow end shall not be less than 6 inches (152 mm).

Subp. 10. **Section 1003.3.3.8.** IBC Section 1003.3.3.8 is amended to read as follows:

1003.3.3.8 Winders. Winders are not permitted in means of egress stairways except within a dwelling unit. Winders shall have a tread depth of not less than 9 inches (228 mm) at a point not more than 12 inches (305 mm) from the narrow edge. The minimum tread depth shall not be less than 6 inches (152 mm).

Subp. 11. **Section 1003.3.3.11.** IBC Section 1003.3.3.11 is amended to read as follows:

1003.3.3.11 Handrails. Stairways shall have handrails on each side. Handrails shall be adequate in strength and attachment in accordance with Section 1607.7.

Exceptions:

1. Aisle stairs provided with a center handrail need not have additional handrails.
2. Stairways having less than 4 risers in Group R-3 occupancies, Group U occupancies which are accessory to Group R-3, and stairways within or serving an individual dwelling unit of a Group R-2 occupancy may be constructed without handrails.
3. Stairways having 4 risers or more in Group R-3 occupancies, Group U occupancies which are accessory to Group R-3, and stairways within or serving one dwelling unit of a Group R-2 occupancy may be constructed with a handrail on one side only.
4. Aisle stairs serving seating only on one side are permitted to have a handrail on one side only.
5. Spiral stairways are permitted to have a handrail on one side only.
6. Decks, patios, and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require handrails.

7. Changes in room elevations of up to 3 risers within dwelling units in Group R-2 and R-3 occupancies do not require handrails.

Subp. 12. **Section 1003.3.3.11.5.** IBC Section 1003.3.3.11.5 is amended to read as follows:

1003.3.3.11.5 Handrail extensions. Handrails shall return to a wall, guard, or the walking surface or shall be continuous to the handrail of an adjacent stair flight. Where handrails are not continuous between flights, the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser.

Exceptions:

1. Handrail extensions for private stairs or steps serving Group R-3 occupancies, Group U occupancies which are accessory to Group R-3, and within dwelling units of Group R-2 occupancies are not required.
2. Aisle handrails in Group A occupancies in accordance with Section 1008.11.

Subp. 13. **Section 1003.3.3.12.2.** IBC Section 1003.3.3.12 is amended by adding a new section as follows:

1003.3.3.12.2 Press box roof access. Press box roofs used as camera, video or security platforms or similar uses having an occupant load of 9 or less shall have access to not less than one means of egress designed in accordance with Section 1003.3.3. Press box roofs having an occupant load of more than 9 shall have access to not less than two means of egress designed in accordance with Chapter 10. When only one stairway to the roof is required, access may be by means of a roof hatch, scuttle, or bulkhead having an area not less than 20 square feet (1.898 m²) in area and having a minimum dimension of 36 inches (914.4 mm). Occupied press box roofs shall be provided with guards in accordance with Section 1003.2.12.

Subp. 14. **Section 1003.3.4.6.2.** IBC Section 1003.3.4.6.2 is amended to read as follows:

1003.3.4.6.2 Outdoor conditions. Outdoor ramps, walks, landings, and accessible approaches that are part of a building's exit discharge or exterior exit access shall be designed so that water will not accumulate on walking surfaces.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1004 [Renumbered 1305.1000, subpart 1]

1305.1004 SECTION 1004, EXIT ACCESS.

Subpart 1. **Section 1004.2.1.** IBC Section 1004.2.1 is amended to read as follows:

1004.2.1 Exit or exit access doorways required. Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds the values in Table 1004.2.1;
2. The common path of egress travel exceeds the limitations of Section 1004.2.5; or
3. In buildings used for educational purposes, laboratories containing hazardous materials and having a floor area in excess of 500 square feet shall be provided with not less than two exit access doorways.

Subp. 2. **Section 1004.2.3.3.** IBC Section 1004.2.3 is amended by adding a new section to read as follows:

1004.2.3.3 Group E. Where exit access for more than 10 occupants from an interior room or rooms have a single path of egress travel through an adjoining or intervening room in a Group E occupancy, smoke detectors shall be installed throughout the common atmosphere through which the path of egress travel passes. Such smoke

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detectors shall actuate alarms audible in the interior room and shall be connected to the building's fire alarm system.

Subp. 3. **Section 1004.3.1.1.** IBC Section 1004.3.1.1 is amended to read as follows:

1004.3.1.1 Public areas Group B and M. In public areas of Group B and M occupancies, the minimum clear aisle width shall be 36 inches (914 mm) where seats, tables, furnishings, displays and similar fixtures or equipment are placed on only one side of the aisle and 44 inches (1118 mm) where such fixtures or equipment are placed on both sides of the aisle.

Exception: Aisle accessways complying with Sections 1004.3.1.3.2 and 1004.3.1.3.3 are permitted.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1008 SECTION 1008, ASSEMBLY.

Subpart 1. **Section 1008.5.4.** IBC Section 1008.5 is amended by adding a new section to read as follows:

1008.5.4 Width of means of egress for bleacher facilities. Aisles for bleachers shall not be required to be more than 66 inches (167 cm) in width when calculated in accordance with Section 1008.5.1 or 1008.5.3 when the following conditions are satisfied:

1. The seating area served by such aisles is composed entirely of bleachers;
2. The row-to-row dimension is 28 inches (71 cm) or less; and
3. Front egress is not limited.

Subp. 2. **Section 1008.7.5.** IBC Section 1008.7.5 is amended to read as follows:

1008.7.5 Assembly aisle termination. Each end of an aisle shall terminate at cross aisle, foyer, doorway, vomitory or concourse having access to an exit.

Exceptions:

1. Dead-end aisles shall not be greater than 20 feet (6096 mm) in length.
2. Dead-end aisles longer than 20 feet (6096 mm) are permitted where seats beyond the 20-foot (6096 mm) dead-end aisle are no more than 24 seats from another aisle, measured along a row of seats having a minimum clear width of 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row.
3. For smoke-protected assembly seating, the dead-end aisle length of vertical aisles shall not exceed a distance of 21 rows.
4. For smoke-protected assembly seating, a longer dead-end aisle is permitted where seats beyond the 21-row dead-end aisle are not more than 40 seats from another aisle, measured along a row of seats having an aisle accessway with a minimum clear width of 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat above seven in the row.
5. Aisles serving bleachers in compliance with Section 1008.5.4.

Subp. 3. **Section 1008.12.** IBC Section 1008.12 is amended to read as follows:

1008.12 Assembly guards. Assembly guards shall comply with Sections 1008.2.1 through 1008.12.4.

Exception: In accordance with the Minnesota Bleacher Safety Act, Minnesota Statutes, section 16B.616:

1. Guards are not required on bleachers 55 inches and less in height; and

2. Bleachers must have vertical perimeter guards or other approved guards that address climbability and are designed to prevent accidents.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1009 [Renumbered 1305.1000, subps 3 and 4]

1305.1009 SECTION 1009, EMERGENCY ESCAPE AND RESCUE.

IBC Section 1009.1 is amended to read as follows:

1009.1 General. In addition to the means of egress required by this chapter, provisions shall be made for emergency escape and rescue in Group R as applicable in Section 101.2 and Group I-1 occupancies. Basements and sleeping rooms below the fourth story shall have at least one exterior emergency escape and rescue opening in accordance with this section. Such opening shall open directly into a public street, public alley, yard or court.

Exceptions:

1. In other than Group R-3 occupancies as applicable in Section 101.2, buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. In other than Group R-3 occupancies as applicable in Section 101.2, sleeping rooms provided with a door to a fire-resistance-rated corridor having access to two remote exits in opposite directions.

3. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of Section 404 provided the balcony provides access to an exit and the dwelling unit or sleeping room has a means of egress that is not open to the atrium.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1019 [Renumbered 1305.1000, subp 5]

1305.1100 [Repealed, 19 SR 1340]

1305.1101 CHAPTER 11, ACCESSIBILITY.

IBC Chapter 11 is amended to read as follows:

CHAPTER 11
ACCESSIBILITY

Buildings or portions of buildings shall be accessible to persons with disabilities as required by Minnesota Rules, chapter 1341.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *19 SR 1340; 23 SR 2042; 27 SR 1474*

1305.1200 [Repealed, 19 SR 1340]

1305.1202 SECTION 1202, VENTILATION.

IBC Section 1202.1 is amended to read as follows:

1202.1 General. Buildings shall be provided with natural or mechanical ventilation in accordance with this code.

Exceptions:

1. Buildings, or portions thereof, that are not intended for normal human occupancy, or where the primary purpose is not associated with human comfort.

2. Group U occupancies.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *19 SR 1340; 20 SR 2290(NO. 43); 27 SR 1474*

1305.1203 SECTION 1203, TEMPERATURE CONTROL.

IBC Section 1203.1 is amended to read as follows:

1203.1 Equipment and systems. Interior spaces intended for human occupancy shall be provided with space-heating systems capable of maintaining a minimum indoor temperature of 68°F (20° C) at a point 3 feet (914 mm) above the floor on the design heating day.

Exception: Buildings, or portions thereof, that are not intended for normal occupancy, or where the primary purpose is not associated with human comfort.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1204 SECTION 1204, LIGHTING.

IBC Section 1204.4 is amended to read as follows:

1204.4 Stairway illumination. Stairways within dwelling units and exterior stairways shall be illuminated. Stairs in other occupancies shall be governed by chapter 10.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1207 SECTION 1207, INTERIOR SPACE DIMENSIONS.

IBC Section 1207.2 is amended to read as follows:

1207.2 Minimum ceiling heights. Habitable spaces shall have a ceiling height of not less than 7 feet 6 inches (2286 mm). Bathrooms, toilet rooms, kitchens, storage rooms and laundry rooms shall be permitted to have a ceiling height of not less than 7 feet (2134 mm).

Exceptions:

1. In one- and two-family dwellings, beams or girders spaced not less than 4 feet (1219 mm) on center and projecting not more than 6 inches (152 mm) below the required ceiling height.
2. Basement rooms in one- and two-family dwellings having a ceiling height of not less than 6 feet 8 inches (2033 mm) with not less than 6 feet 4 inches (1932 mm) of clear height under beams, girders, ducts and similar obstructions.
3. If any room in a building has a sloping ceiling, the prescribed ceiling height for the room is required in one-half the area thereof. Any portion of the room measuring less than 5 feet (1524 mm) from the finished floor to the finished ceiling shall not be included in any computation of the minimum area thereof.
4. Mezzanines constructed in accordance with Section 505.1.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1209 SECTION 1209, SURROUNDING MATERIALS.

IBC Section 1209.1 is amended to read as follows:

1209.1 Floors. In other than dwelling units, toilet, shower, and bathing room floors shall have a smooth, hard, nonabsorbent surface, such as portland cement, concrete,

ceramic tile, sheet vinyl or other approved floor covering material that extends upward onto the walls at least 5 inches (127 mm).

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1300 [Repealed, 19 SR 1340]

1305.1350 [Repealed, 19 SR 1340]

1305.1355 [Repealed, 11 SR 1405]

1305.1370 [Repealed, 19 SR 1340]

1305.1400 [Repealed, 19 SR 1340]

1305.1404 SECTION 1404, MATERIALS.

IBC Section 1404.2 is amended to read as follows:

1404.2 Water-resistive barrier. A minimum of one layer of No. 15 asphalt felt, complying with ASTM D 226 for Type 1 felt, or other approved water-resistive barrier shall be attached to the sheathing, with flashing as described in Section 1405.3, in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1405 SECTION 1405, INSTALLATION OF WALL COVERINGS.

Subpart 1. **Section 1405.3.2.** IBC Section 1405.3.2 is amended to read as follows:

1405.3.2 Masonry. Flashing and weepholes shall be located above finished ground level above the foundation wall or slab, and other points of support, including structural floors, shelf angles and lintels where anchored veneers are designed in accordance with Section 1405.5.

Subp. 2. **Section 1405.5.1.** IBC Section 1405.5.1 is deleted.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1500 [Repealed, 19 SR 1340]

1305.1502 SECTION 1502, DEFINITIONS.

IBC Section 1502.1 is amended by modifying the definition of "Roof Covering" to read as follows:

ROOF COVERING. The covering applied to the roof deck for weather resistance, fire classification or appearance. Roof covering materials consist of two basic types: (1) roofing systems, and (2) prepared materials.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1503 SECTION 1503, WEATHER PROTECTION.

IBC Section 1503.4 is amended to read as follows:

1503.4 Roof drainage. Design and installation of roof drainage systems shall comply with Minnesota Rules, chapter 4715, Minnesota Plumbing Code.

1503.4.1 Where required. All roofs shall drain into a separate storm sewer system or to an approved place of disposal. For one- and two-family dwellings, and where approved, storm water is permitted to discharge onto flat areas, such as streets or lawns, provided that the storm water flows away from the building.

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1503.4.2 Roof design. Roofs shall be designed for the maximum possible depth of water that will pond thereon as determined by the relative levels of roof deck and overflow weirs, scuppers, edges, or serviceable drains in combination with the deflected structural elements. In determining the maximum possible depth of water, all primary roof drainage means shall be assumed to be blocked.

1503.4.3 Secondary (emergency) roof drains.

1503.4.3.1 Secondary drainage required. Secondary (emergency) roof drains or scuppers shall be provided where the roof perimeter construction extends above the roof in such a manner that water will be entrapped if the primary drains allow buildup for any reason.

1503.4.3.2 Separate systems required. Secondary (emergency) roof drain systems shall have piping and point of discharge separate from the primary system. Discharge shall be above grade in a location which would normally be observed by the building occupants or maintenance personnel.

1503.4.3.3 Sizing of secondary drains. Secondary (emergency) roof drain systems shall be sized in accordance with the Minnesota State Plumbing Code based on the rainfall rate for which the primary system is sized by two. Scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1503.4.2. Scuppers shall not have an opening dimension of less than 4 inches (102 mm). The flow through the primary system shall not be considered when sizing the secondary roof drainage system.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1505 TABLE 1505.1, MINIMUM ROOF COVERING CLASSIFICATION FOR TYPES OF CONSTRUCTION.

IBC Table 1505.1 is amended by deleting a footnote as follows:

For SI: 1 foot = 304.8 mm, 1 square foot = 0.929 m².

- a. Nonclassified roof coverings shall be permitted on buildings of Group R-3 as applicable in Section 101.2 and U occupancies, where there is a minimum fire-separation distance of 6 feet measured from the leading edge of the roof.
- b. Buildings that are not more than two stories in height and having not more than 6,000 square feet of projected roof area and where there is a minimum 10-foot fire-separation distance from the leading edge of the roof to a lot line on all sides of the building, except for street fronts or public ways, shall be permitted to have roofs of No. 1 cedar or redwood shakes and No. 1 shingles constructed in accordance with Section 1505.6.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1506 [Repealed, 27 SR 1474]

1305.1507 SECTION 1507, REQUIREMENTS FOR ROOF COVERINGS.

Subpart 1. **Section 1507.2.9.2.** IBC Section 1507.2.9.2 is amended to read as follows:

1507.2.9.2 Valleys. Valley linings shall be installed in accordance with the manufacturer's installation instructions before applying shingles. Valley lining underlayment may consist of self-adhering polymer modified bitumen sheet complying with ASTM D 1970. Valley linings of the following types shall be permitted:

1. For open valleys (valley lining exposed) lined with metal, the valley lining shall be at least 16 inches (406 mm) wide and of any of the corrosion-resistant metals in Table 1507.2.9.2.

2. For closed valleys (valley covered with shingles), valley lining of one ply of smooth roll roofing complying with ASTM D 224 and at least 36 inches (914 mm) wide or types (1) and (2) above shall be permitted. Specialty underlayment shall comply with ASTM D 1970.

Subp. 2. **Section 1507.3.9.** IBC Section 1507.3.9 is amended to read as follows:

1507.3.9 Flashing. At the juncture of the roof vertical surfaces, flashing and counterflashing shall be provided in accordance with the manufacturer's installation instructions, and where of metal, shall not be less than 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal. The valley flashing shall extend at least 11 inches from the centerline each way and have a splash diverter rib not less than 1 inch (25.4 mm) high at the flow line formed as part of the flashing. Sections of flashing shall have an end lap of not less than 4 inches (102 mm). For roof slopes of three units vertical in 12 units horizontal (25-percent slope) and over, the valley flashing shall have a 36-inch-wide (914 mm) underlayment of either one layer of Type I underlayment running the full length of the valley, in addition to other required underlayment, or a self-adhering polymer modified bitumen sheet complying with ASTM D 1970. In areas where the average daily temperature in January is 25°F (-4°C) or less or where there is a possibility of ice forming along the eaves causing a backup of water, the metal valley flashing Type I underlayment shall be solid cemented to the roofing underlayment for slopes under seven units vertical in 12 units horizontal (58-percent slope).

Subp. 3. **Section 1507.8.7.** IBC Section 1507.8.7 is amended to read as follows:

1507.8.7 Flashing. At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be provided in accordance with the manufacturer's installation instructions, and where of metal, shall not be less than 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal. The valley flashing shall extend at least 11 inches (279 mm) from the centerline each way and have a splash diverter rib not less than 1 inch (25.4 mm) high at the flow line formed as part of the flashing. Sections of flashing shall have an end lap of not less than 4 inches (102 mm). For roof slopes of three units vertical in 12 units horizontal (25-percent slope) and over, the valley flashing shall have a 36-inch-wide (914 mm) underlayment of either one layer of Type I underlayment running the full length of the valley, in addition to other required underlayment, or a self-adhering polymer modified bitumen sheet complying with ASTM D 1970. In areas where the average daily temperature in January is 25°F (-4°C) or less or where there is a possibility of ice forming along the eaves causing a backup of water, the metal valley flashing Type I underlayment shall be solid cemented to the roofing underlayment for slopes under seven units vertical in 12 units horizontal (58-percent slope).

Subp. 4. **Section 1507.9.8.** IBC Section 1507.9.8 is amended to read as follows:

1507.9.8 Flashing. At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be provided in accordance with the manufacturer's installation instructions, and where of metal, shall not be less than 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal. The valley flashing shall extend at least 11 inches (279 mm) from the center-line each way and have a splash diverter rib not less than 1 inch (25.4 mm) high at the flow line formed as part of the flashing. Sections of flashing shall have an end lap of not less than 4 inches (102 mm). For roof slopes of three units vertical in 12 units horizontal (25-percent slope) and over, the valley flashing shall have a 36-inch-wide (914 mm) underlayment of either one layer of Type I underlayment running the full length of the valley, in addition to other required underlayment, or a self adhering polymer modified bitumen sheet complying with ASTM D 1970. In areas where the average daily temperature in January is 25°F (-4°C) or less or where there is a possibility of ice forming along the eaves causing a backup of water, the metal valley flashing Type I underlayment shall be solid cemented to the roofing underlayment for slopes under seven units vertical in 12 units horizontal (58-percent slope).

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Subp. 5. **Section 1507.10.1.** IBC Section 1507.10.1 is amended to read as follows:

1507.10.1 Slope. Unless designed for water accumulation in accordance with Section 1611.2, built-up roofs shall have a design slope of a minimum of one-fourth unit vertical in 12 units horizontal (2-percent slope) for drainage, except for coal-tar built-up roofs that shall have a design slope of a minimum one-eighth unit vertical in 12 units horizontal (1-percent slope).

Subp. 6. **Section 1507.11.1.** IBC Section 1507.11.1 is amended to read as follows:

1507.11.1 Slope. Unless designed for water accumulation in accordance with Section 1611.2, modified bitumen membrane roofs shall have a design slope of a minimum of one-fourth unit vertical in 12 units horizontal (2-percent slope) for drainage.

Subp. 7. **Section 1507.12.1.** IBC Section 1507.12.1 is amended to read as follows:

1507.12.1 Slope. Unless designed for water accumulation in accordance with Section 1611.2, thermoset single-ply membrane roofs shall have a design slope of a minimum of one-fourth unit vertical in 12 units horizontal (2-percent slope) for drainage.

Subp. 8. **Section 1507.13.1.** IBC Section 1507.13.1 is amended to read as follows:

1507.13.1 Slope. Unless designed for water accumulation in accordance with Section 1611.2, thermoplastic single-ply membrane roofs shall have a design slope of a minimum of one-fourth unit vertical in 12 units horizontal (2-percent slope) for drainage.

Subp. 9. **Section 1507.14.1.** IBC Section 1507.14.1 is amended to read as follows:

1507.14.1 Slope. Unless designed for water accumulation in accordance with Section 1611.2, sprayed polyurethane foam roofs shall have a design slope of a minimum of one-fourth unit vertical in 12 units horizontal (2-percent slope) for drainage.

Subp. 10. **Section 1507.15.1.** IBC Section 1507.15.1 is amended to read as follows:

1507.15.1 Slope. Unless designed for water accumulation in accordance with Section 1611.2, liquid-applied roofs shall have a design slope of a minimum of one-fourth unit vertical in 12 units horizontal (2-percent slope).

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1509 SECTION 1509, ROOFTOP STRUCTURES.

IBC Section 1509.2 is amended to read as follows:

1509.2 Penthouses. A penthouse or other projections above the roof in structures of other than Type I construction shall not exceed 28 feet (8534 mm) above the roof. The aggregate area of penthouses and other rooftop structures shall not exceed one-third the area of the supporting roof. A penthouse, bulkhead, or any other similar projection above the roof shall not be used for purposes other than shelter of mechanical equipment or shelter of vertical shaft openings in the roof. Provisions, such as louvers, louver blades or flashing, shall be made to protect the mechanical equipment and the building interior from the elements. Penthouses or bulkheads used for purposes other than permitted by this section shall conform to the requirements of this code for an additional story. The restrictions of this section shall not prohibit the placing of wood flagpoles or similar structures on the roof of any building.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1510 SECTION 1510, REROOFING.

IBC Section 1510.5 is amended to read as follows:

1510.5 Reinstallation of materials. Existing slate, clay or cement tile shall be permitted for reinstallation, except that damaged, cracked or broken slate or tile shall not be

reinstalled. Existing vent flashing, metal edging, drain outlets, collars and metal counterflashings shall not be reinstalled where rusted, damaged or deteriorated. Aggregate surfacing materials shall not be reinstalled unless such aggregate complies with the gradation requirements of ASTM C-33 Standard Specification for Concrete Aggregate.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1590 [Repealed, 19 SR 1340]

1305.1600 [Repealed, 19 SR 1340]

1305.1604 SECTION 1604, GENERAL DESIGN REQUIREMENTS.

Subpart 1. **Section 1604.5.** IBC Section 1604.5 is amended to read as follows:

1604.5 Importance factors. The value for snow load and wind load shall be 1.0.

Subp. 2. **Table 1604.5.** IBC Table 1604.5 Classification of Buildings and Other Structures for Importance Factors is deleted in its entirety.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1607 SECTION 1607, LIVE LOADS.

Subpart 1. **Section 1607.11.1.** IBC Section 1607.11.1 is deleted.

Subp. 2. **Section 1607.12.2.** IBC Section 1607.12.2 is amended to read as follows:

1607.12.2 Vertical impact force. The maximum wheel loads of the crane shall be increased by the percentages shown below to determine the induced vertical impact or vibration force. Impact load shall be applied to one hoist system at a time for multiple hoist or bridge systems.

Monorails, underhung bridge cranes and pendant operated top running bridge cranes:

15 percent minimum for hoist lift speeds of less than 30 feet per minute.

Percentage equivalent to 0.5 times the hoist lift speed, for lift speeds of 30 to 100 feet per minute.

50 percent maximum for hoist lift speeds greater than 100 feet per minute.

50 percent for magnetic pickup or vacuum lift type systems.

No impact load is required for hand chain (non-powered) hoists.

Cab operated or remotely operated top running bridge cranes:

25 percent minimum.

Subp. 3. **Section 1607.12.3.** IBC Section 1607.12.3 is amended to read as follows:

1607.12.3 Lateral force.

Top running powered bridge cranes. The lateral force on top running crane runway beams with powered trolleys shall be calculated as 20 percent of the sum of the rated capacity of the crane and the weight of the hoist and trolley. The lateral force shall be assumed to act horizontally at the traction surface of a runway beam, in either direction perpendicular to the beam, and shall be distributed according to the lateral stiffness of the runway beam and supporting structure. The runway beams shall be designed for the lateral and torsional loads, as well as for the maximum lateral deflection limit of Span/800.

Monorails and underhung bridge cranes.

The bridge girder, underhung bridge crane runway beam and monorails shall be designed with sufficient strength and rigidity to prevent detrimental lateral deflection.

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The lateral deflection should not exceed span/800 based on 5 percent of maximum wheel load(s) without vertical impact factor.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1608 SECTION 1608, SNOW LOADS.

Subpart 1. **Section 1608.2.** IBC Section 1608.2 is amended to read as follows:

1608.2 Ground snow loads. The ground snow loads to be used in determining the design snow loads for buildings and other structures are given in Minnesota Rules, chapter 1303.

Subp. 2. **Figure 1608.2.** IBC Figure 1608.2 on GROUND SNOW LOADS, p_g , FOR THE UNITED STATES (PSF) is deleted.

Subp. 3. **Section 1608.5.** IBC Section 1608.5 is deleted.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1614 [Renumbered 1305.1616]

1305.1616 [Renumbered 1305.1618]

1305.1616 [Repealed, 27 SR 1474]

1305.1618 [Repealed, 27 SR 1474]

1305.1623 [Renumbered 1305.1625]

1305.1625 [Repealed, 27 SR 1474]

1305.1700 [Repealed, 19 SR 1340]

1305.1701 [Repealed, 27 SR 1474]

1305.1702 SECTION 1702, DEFINITIONS.

The definition of “approved agency” in IBC Section 1702.1 is amended to read as follows:

APPROVED AGENCY. An established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved. The structural engineer of record, that engineer’s employee or that engineer’s agent may conduct tests or furnish inspection services for types of work for which the engineer, employee, or agent is qualified.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1704 SECTION 1704, SPECIAL INSPECTIONS.

Subpart 1. **Section 1704.4.** IBC Section 1704.4 is amended by modifying Exception 4 to read as follows:

4. Concrete foundation walls constructed in accordance with Table 1805.5(2), Table 1805.5(3) or Table 1805.5(4).

Subp. 2. **Table 1704.4.** IBC Table 1704.4 is amended by modifying item 6 in the table to read as follows:

TABLE 1704.4 REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

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VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REF- ERENCED STANDARD	IBC REF- ERENCE
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(Items 1-5 remain unchanged)

6. Inspection of concrete and shotcrete placement for proper application techniques.	X	X ^a	ACI 318: 5.9, 5.10	1905.9, 1905.10, 1914.6, 1914.7, 1914.8
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(Items 7-10 remain unchanged)

a. Exception: Inspection can be periodic when acceptable to the structural engineer of record and the building official.

Subp. 3. Section 1704.5. IBC Section 1704.5, exception 2, is amended to read as follows:

2. Masonry foundation walls constructed in accordance with Table 1805.5(2), 1805.5(3), or 1805.5(4).

Subp. 4. Table 1704.5.1. IBC Table 1704.5.1, item 4, is amended to read as follows:

TABLE 1704.5.1
LEVEL 1 SPECIAL INSPECTION

INSPECTION TASK	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA		
	Continuous during task listed	Periodically during task listed	IBC Section	ACI 530/ASCE 5/TMS 402 ^a	ACI 530.1/ASCE 6/TMS 602 ^a

(Items 1-3 remain unchanged)

4. Grout placement shall be verified to ensure compliance with code and construction document provisions.

	X	X ^b	-	-	Art. 3.5
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(Items 5-6 remain unchanged)

For SI: °C = (°F - 32)/1.8.

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- a. The specific standards referenced are those listed in Chapter 35.
- b. Exception: Inspection can be periodic when acceptable to the structural engineer of record and the building official.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *19 SR 1340; 20 SR 2290(NO. 43); 27 SR 1474*

1305.1750 [Repealed, 19 SR 1340]

1305.1775 [Repealed, 19 SR 1340]

1305.1790 [Repealed, 15 SR 74]

1305.1795 [Repealed, 19 SR 1340]

1305.1800 [Repealed, 19 SR 1340]

1305.1805 SECTION 1805, FOOTINGS AND FOUNDATIONS.

Subpart 1. **Section 1805.5.** IBC Section 1805.5 is amended to read as follows:

1805.5 Foundation Walls. Concrete and masonry foundation walls shall be designed in accordance with Chapter 19 or 21. Foundation walls that are laterally supported at the top and bottom and within the parameters of Tables 1805.5(2) through 1805.5(4) are permitted to be designed and constructed in accordance with Sections 1805.5.1 through 1805.5.4. If foundation walls are parallel to floor framing, solid blocking or diagonal bracing must be installed at the anchor bolt locations in the first two floor joist or truss spaces.

Subp. 2. **Table 1805.5(1).** IBC Table 1805.5(1), Plain Masonry and Plain Concrete Foundation Walls, is deleted.

Subp. 3. **Section 1805.5.1.2.** IBC Section 1805.5.1.2 is amended to read as follows:

1805.5.1.2 Thickness based on soil loads, unbalanced backfill height and wall height. The thickness of foundation walls shall comply with the requirements of Table 1805.5(2), 1805.5(3) or 1805.5(4) for reinforced concrete and masonry walls. When using the tables, masonry shall be laid in running bond and the mortar shall be Type M or S.

Unbalanced backfill height is the difference in height of the exterior and interior finish ground levels. Where an interior concrete slab is provided, the unbalanced backfill height shall be measured from the exterior finish ground level to the top of the interior concrete slab.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1806 SECTION 1806, DAMPPROOFING AND WATERPROOFING.

IBC Section 1806.4.3 is amended to read as follows:

1806.4.3 Drain discharge. The floor base and foundation perimeter drain shall discharge by gravity or mechanical means into a trapped area drain, sump, dry well, or other approved location above the ground.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.1900 [Repealed, 19 SR 1340]

1305.1907 SECTION 1907, DETAILS OF REINFORCEMENT.

IBC Section 1907.7.5 is amended to read as follows:

1907.7.5 Corrosive environments. In corrosive environments or other severe exposure conditions, the amount of concrete protection shall be suitably increased, and dense-

ness and nonporosity of protecting concrete shall be considered, or other protection shall be provided. In corrosive environments of parking garages and parking ramps, industrial buildings, or similar environments, a minimum concrete cover of reinforcement steel must be one and one-half inches (38.1 mm) for top surfaces and three-quarter inch (19.05 mm) for bottom surfaces. All bonded reinforcement steel located within the depth of the slab must be epoxy coated in conformance with the applicable standards referenced in ACI 318-99 Sections 3.5.3.7 and 3.5.3.8.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *19 SR 1340; 27 SR 1474*

1305.1918 [Repealed, 27 SR 1474]

1305.1928 [Repealed, 27 SR 1474]

1305.2000 [Repealed, 19 SR 1340]

1305.2050 [Repealed, 19 SR 1340]

1305.2100 [Repealed, 15 SR 74]

1305.2109 SECTION 2109, EMPIRICAL DESIGN OF MASONRY.

IBC Table 2109.4.1 is amended to read as follows:

TABLE 2109.4.1 WALL LATERAL SUPPORT REQUIREMENTS

CONSTRUCTION	MAXIMUM WALL LENGTH TO THICKNESS OR WALL HEIGHT TO THICKNESS
Bearing walls	
Solid units or fully grouted	20
All others	18
Nonbearing walls	
Exterior	18
Interior	28

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *19 SR 1340; 27 SR 1474*

1305.2200 [Repealed, 19 SR 1340]

1305.2300 [Repealed, 19 SR 1340]

1305.2304 SECTION 2304, GENERAL CONSTRUCTION REQUIREMENTS.

IBC Section 2304.12 is amended to read as follows:

2304.12 Wood supporting masonry or concrete. Wood members shall not be used to permanently support the dead load of any masonry or concrete.

Exceptions:

1. Masonry or concrete nonstructural floor or roof surfacing not more than 4 inches (102 mm) thick is permitted to be supported by wood members.
2. Any structure is permitted to rest upon wood piles constructed in accordance with the requirements of Chapter 18.
3. Veneer of brick, concrete, or stone applied as specified in Section 1405.5 having installed weight of 40 pounds per square foot (195 kg/m²) or less are

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permitted to be supported by an approved treated wood foundation when the maximum height of veneer does not exceed 30 feet (9144 mm) above the foundation. Such veneer used as an interior wall finish is permitted to be supported on wood floor construction and is limited in height to 12'8" (3,860.8 mm). The wood floor construction shall be designed to support the additional weight of the veneer plus any other loads and designed to limit the deflection and shrinkage to 1/600 of the span of the supporting members.

4. Glass unit masonry having an installed weight of 20 pounds per square foot (97.6 kg/m²) or less is permitted to be installed in accordance with the provisions of Section 2110. The wood construction supporting the glass unit masonry shall be designed for dead and live loads to limit deflection and shrinkage to 1/600 of the span of the supporting members.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.2320 [Repealed, 27 SR 1474]

1305.2326 [Renumbered 1305.2320]

1305.2400 [Repealed, 15 SR 74]

1305.2500 [Repealed, 19 SR 1340]

1305.2600 [Repealed, 19 SR 1340]

1305.2700 [Repealed, 19 SR 1340]

1305.2702 SECTION 2702, EMERGENCY AND STANDBY POWER SYSTEMS.

IBC Section 2702.1 is amended to read as follows:

2702.1 Installation. Emergency and standby power systems shall be installed in accordance with Minnesota Rules, chapter 1315.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.2800 [Repealed, 19 SR 1340]

1305.2900 [Repealed, 19 SR 1340]

1305.2902 SECTION 2902, MINIMUM PLUMBING FACILITIES.

Subpart 1. **Section 2902.1.** IBC Section 2902.1 is amended to read as follows:

2902.1 Minimum number of fixtures. Plumbing fixtures shall be provided for the type of occupancy and in the minimum number shown in Table 2902.1. Types of occupancies not shown in Table 2902.1 shall be considered individually by the building official. The number of occupants shall be determined by this code. Occupancy classification shall be determined in accordance with Chapter 3.

Exception: When approved by the building official, buildings or structures that are normally unoccupied, such as picnic shelters, amphitheatres, small transit stop stations, cold-storage buildings, utility sheds, warming houses, kiosks, concession stands and similar structures, need not be provided with restroom facilities.

Subp. 2. **Table 2902.1.** IBC Table 2902.1 is amended by modifying the table and footnotes as follows:

Add footnote "g" to the "Stadiums" designation in the table:

Stadiums^g (less than 3,000 seats)

Stadiums^g (3,000 seats or greater)

- a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by this code.
- b. Fixtures located in adjacent buildings under the ownership or control of the church shall be made available during periods when the church is occupied.
- c. Toilet facilities for employees shall be separate from facilities for inmates or patients.
- d. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient rooms shall be permitted where such room is provided with direct access from each patient room and with provisions for privacy.
- e. For day nurseries, a maximum of one bathtub shall be required.
- f. For attached one- and two-family dwellings, one automatic clothes washer connection shall be required per 20 dwelling units.
- g. Permanent facilities located either on site or available in an adjacent building or portable temporary facilities available on site during times when the stadium or grandstand is in use may be used.

Subp. 3. **Section 2902.2.** IBC Section 2902.2 is amended by adding an exception to read as follows:

2902.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

- 1. Separate facilities shall not be required for private facilities.
- 2. Separate employee facilities shall not be required in occupancies in which 15 or less people are employed.
- 3. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or less.
- 4. Separate facilities shall not be required in structures or tenant spaces of a Group B or M occupancy not exceeding 2,000 gross square feet (185.8 m²) of floor area. The individual unisex restroom shall have not less than one watercloset, one urinal, and one lavatory.

Subp. 4. **Section 2902.6.** IBC Section 2902.6 is amended by adding a section to read as follows:

2902.6.3 Controlled access to required facilities. Sanitation facilities required by this chapter may have controlled access, but in all cases shall be maintained available for utilization by those employees, customers, or patrons used to calculate the minimum required facilities.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.3000 [Repealed, 15 SR 74]

1305.3001 [Repealed, 27 SR 1474]

1305.3030 CHAPTER 30, ELEVATORS AND CONVEYING SYSTEMS.

IBC Chapter 30 is amended to read as follows:

CHAPTER 30

ELEVATORS AND CONVEYING SYSTEMS

The design, construction, installation, operation, alteration, and repair of elevators and related devices shall be in accordance with Minnesota Rules, chapter 1307.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

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1305.3100 [Repealed, 15 SR 74]

1305.3109 SECTION 3109, SWIMMING POOL ENCLOSURES.

IBC Section 3109 is deleted.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.3200 [Repealed, 15 SR 74]

1305.3300 [Repealed, 15 SR 74]

1305.3302 SECTION 3302, CONSTRUCTION SAFEGUARDS.

IBC Section 3302 is amended by adding a subsection to read as follows:

3302.3 Construction barriers. Where construction, remodeling, or demolition is taking place involving the use of cutting and welding, temporary heating with open flames, or flammable liquid fueled equipment, such areas shall be separated from occupied areas of a building by materials that will resist the spread of fire and smoke as specified for draftstopping materials in Section 716.3.1.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.3305 SECTION 3305, SANITARY.

IBC Section 3305 is deleted.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

1305.3400 [Repealed, 19 SR 1340]

1305.3401 CHAPTER 34, EXISTING STRUCTURES.

IBC Chapter 34 is amended to read as follows:

CHAPTER 34

EXISTING STRUCTURES

The standards for a change of occupancy, alteration, and repair of existing buildings and structures with historical significance, shall be in accordance with Minnesota Rules, Chapter 1311.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *23 SR 683; 27 SR 1474*

1305.3500 [Repealed, 11 SR 1405]

1305.3500 CHAPTER 35, REFERENCED STANDARDS.

IBC Chapter 35 is amended by modifying certain referenced standards as follows:

ASME B31.3-99 Process Piping Code

ASME B31.9-96 Building Services Piping Code

NFPA 13-99 Installation of Sprinkler Systems

NFPA 13D-99 Installation of Sprinkler Systems in One- and Two-Family Dwelling and Manufactured Homes

NFPA 13R - 1999 Installation of Sprinkler Systems in Residential Occupancies Up To and Including Four-Stories in Height

NFPA 72 - 1999 National Fire Alarm Code

NFPA 96 - 2001 Ventilation Control and Fire Protection of Commercial Cooking Operations

UL 555 - 1999 Fire Dampers

UL 555S - 1999 Smoke Dampers

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64*

History: *27 SR 1474*

- 1305.3600 [Repealed, 15 SR 74]
- 1305.3700 [Repealed, 15 SR 74]
- 1305.3800 [Repealed, 19 SR 1340]
- 1305.3850 [Repealed, 11 SR 1405]
- 1305.3860 [Repealed, 19 SR 1340]
- 1305.3900 [Repealed, 19 SR 1340]
- 1305.3970 [Repealed, 11 SR 1405]
- 1305.4000 [Repealed by amendment, 9 SR 1557]
- 1305.4100 [Repealed, 19 SR 1340]
- 1305.4200 [Repealed, 15 SR 74]
- 1305.4300 [Repealed, 11 SR 1405]
- 1305.4313 [Repealed, 27 SR 1474]
- 1305.4332 [Repealed, 27 SR 1474]
- 1305.4415 [Repealed, 27 SR 1474]
- 1305.4416 [Repealed, 27 SR 1474]
- 1305.4429 [Repealed, 27 SR 1474]
- 1305.4500 [Repealed, 15 SR 74]
- 1305.4600 [Repealed, 19 SR 1340]
- 1305.4700 [Repealed, 19 SR 1340]
- 1305.4800 [Repealed, 19 SR 1340]
- 1305.4850 [Repealed, 19 SR 1340]
- 1305.4900 [Repealed, 15 SR 74]
- 1305.5000 [Repealed, 11 SR 1405]
- 1305.5100 [Repealed, 11 SR 1405; 19 SR 1340]
- 1305.5101 [Renumbered 1307.0010]
- 1305.5102 [Renumbered 1307.0015]
- 1305.5103 [Renumbered 1307.0020]
- 1305.5104 [Renumbered 1307.0025]
- 1305.5105 [Renumbered 1307.0030]
- 1305.5106 [Renumbered 1307.0035]

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- 1305.5107 [Renumbered 1307.0040]
- 1305.5108 [Renumbered 1307.0045]
- 1305.5109 [Renumbered 1307.0050]
- 1305.5110 [Renumbered 1307.0055]
- 1305.5111 [Renumbered 1307.0060]
- 1305.5112 [Renumbered 1307.0065]
- 1305.5114 [Renumbered 1307.0070]
- 1305.5115 [Renumbered 1307.0075]
- 1305.5116 [Renumbered 1307.0080]
- 1305.5117 [Renumbered 1307.0085]
- 1305.5118 [Renumbered 1307.0090]
- 1305.5200 [Repealed, 19 SR 1340]
- 1305.5300 [Repealed, 15 SR 74]
- 1305.5310 [Repealed, 15 SR 74]
- 1305.5320 [Repealed, 19 SR 1340]
- 1305.5340 [Repealed, 19 SR 1340]
- 1305.5360 [Repealed, 19 SR 1340]
- 1305.5380 [Repealed, 19 SR 1340]
- 1305.5385 [Repealed, 19 SR 1340]
- 1305.5400 [Repealed, 19 SR 1340]
- 1305.5500 [Repealed, 15 SR 74]
- 1305.5700 [Repealed, 19 SR 1340]
- 1305.5710 [Repealed, 19 SR 1340]
- 1305.5720 [Repealed, 19 SR 1340]
- 1305.5730 [Repealed, 19 SR 1340]
- 1305.5740 [Repealed, 19 SR 1340]
- 1305.5750 [Repealed, 19 SR 1340]
- 1305.5800 [Repealed, 15 SR 74]
- 1305.5900 [Repealed, 19 SR 1340]
- 1305.5910 [Repealed, 11 SR 1405]
- 1305.6000 [Repealed, 19 SR 1340]
- 1305.6200 [Repealed, 19 SR 1340]
- 1305.6250 [Repealed, 19 SR 1340]

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- 1305.6260 [Repealed, 11 SR 1405]
- 1305.6270 [Repealed, 11 SR 1405]
- 1305.6280 [Repealed, 19 SR 1340]
- 1305.6300 [Repealed, 19 SR 1340]
- 1305.6400 [Repealed by amendment, 9 SR 1557]
- 1305.6425 [Repealed, 19 SR 1340]
- 1305.6430 [Repealed, 19 SR 1340]
- 1305.6500 [Repealed by amendment, 9 SR 1557]
- 1305.6525 [Repealed, 19 SR 1340]
- 1305.6550 [Repealed, 15 SR 74]
- 1305.6600 [Repealed, 15 SR 74]
- 1305.6700 [Repealed, 19 SR 1340]
- 1305.6800 [Repealed, 19 SR 1340]
- 1305.6900 [Repealed, 15 SR 74]
- 1305.6901 [Repealed, 19 SR 1340]
- 1305.6902 [Repealed, 19 SR 1340]
- 1305.6905 [Repealed, 19 SR 1340]
- 1305.6910 [Repealed, 19 SR 1340]
- 1305.6920 [Repealed, 19 SR 1340]
- 1305.7000 [Repealed, 27 SR 1474]
- 1305.7100 [Repealed, 27 SR 1474]