

HEALTH/LIFE SAFETY GLOSSARY

For Existing Public School Buildings in Illinois

[Excluding Chicago Public Schools-Part 180.10(b)]



and



**Illinois
State Board of
Education**

In cooperation with



***OFFICE OF THE ILLINOIS
STATE FIRE MARSHAL***

Fiscal Year 2027 School Year 2026-2027

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NOTE: This glossary is to be used as a guide only. The user should always confirm requirements in the applicable code, standard or ISBE Parts 175, 180 or 185.

**NOTE: For buildings approved for design after July 1, 1965, but before March 25, 1995 Part 175.110 states:
“Buildings with approved automatic sprinkler systems may be designed with the area limitations, reduced fire resistance requirements and distance-to-exit limitations provided for such buildings by any one of the accepted model codes listed herein.”**

Building Codes for Pre-K through 12 Illinois Public Schools (excluding CPS)

(Part 180.Appendix A)

BUILDING CODES	RETROACTIVE CODES
2024 IBC. For new construction contracted for design on or after January 1, 2025	Retroactive 2024 IFC/IPMC requirements apply to construction contracted for design on or after January 1, 2025
2015 IBC. For new construction contracted for design on or after July 1, 2016 but before January 1, 2025.	Retroactive 2015 IFC/IPMC requirements apply to construction contracted for design on or after July 1, 2016, but before January 1, 2025.
For construction contracted for design before July 1, 2016, allows compliance with IBC 2009.	Retroactive ICC 300-12 requirements apply to bleachers contracted for design on or after July 1, 2016.
2009 IBC. For new construction contracted for design on or after January 1, 2010, but before July 1, 2016.	Retroactive 2009 IFC/IPMC requirements apply to construction contracted for design on or after January 1, 2010, but before July 1, 2016.
For construction contracted for designed before January 1, 2010, allows compliance with IBC 2006.	Retroactive ICC 300-07 requirements apply to bleachers contracted for design on or after January 1, 2010, but before July 1, 2016.
2006 IBC. For construction contracted for design on or after September 25, 2007, but before January 1, 2010.	Retroactive 2006 IFC/IPMC requirements apply to construction contracted for design on or after September 25, 2007, but before January 1, 2010.
For construction contracted for design before September 25, 2007, with IBC 2003.	Retroactive ICC 300-02 requirements apply to bleachers contracted for design on or after October 3, 2005, but before January 1, 2010.
2003 IBC. For construction contracted for design on or after October 3, 2005, but before September 25, 2007.	Retroactive 2003 IFC/IPMC requirements apply to facilities designed on or after October 3, 2005, but before September 25, 2007.
For construction contracted for design before October 3, 2005, allows compliance with BOCA 1996.	Retroactive ICC 300-02 requirements apply to bleachers contracted for design on or after October 3, 2005, but before January 1, 2010.
1996 BOCA. For construction contracted for design on or after July 6, 1998, but before October 3, 2005.	Retroactive 1996 BOCA Fire Prevention/Property Maintenance Code requirements apply to construction contracted for design on or after July 6, 1998, and before October 3, 2005.
For construction contracted for designed before October 3, 2005, allows compliance with BOCA 1993.	NFPA 102-1995 requires biennial by architect or engineer for bleachers contracted for design on or after July 6, 1998, and before October 3, 2005.
1993 BOCA. For construction contracted for design on or after March 24, 1995, and before July 6, 1998.	Retroactive 1993 BOCA Fire Prevention/Property Maintenance Code requirements apply to facilities contracted for design before July 6, 1998.
For construction designed before March 24, 1995, allows compliance with Part 175 or 1993 BOCA.	NFPA 102-1992 requires biennial by architect or engineer for bleachers contracted for design on or after July 6, 1998.

Part 175. For construction contracted for design on or after July 1, 1965, but before March 24, 1995.	Retroactive 1993 BOCA Fire Prevention/Property Maintenance Code requirements apply to facilities contracted for design before July 6, 1998 , unless Part 175 has something more stringent in those buildings contracted for design on or after July 1, 1965 but before March 24, 1995.
For construction contracted for design before July 1, 1965 , allows compliance with Part 185.	Retroactive 1993 BOCA Fire Prevention Code (Section 106.4) inspection requirements may be applied to bleachers contracted for design on or after July 1, 1965, but before March 24, 1995 where an approved agency or individual shall conduct the inspections and provide a written report regarding compliance with NFPA 102 – 1967.
Part 185. For construction contracted for design before July 1, 1965.	Retroactive 1993 BOCA Fire Prevention/Property Maintenance Code requirements apply to facilities contracted for design before July 6, 1998 , unless Part 185 has something more stringent in those buildings contracted for design before July 1, 1965.
For construction contracted for design before July 1, 1965 , requires compliance with Part 185.	Retroactive 1993 BOCA Fire Prevention Code (Section 106.4) inspection requirements may be applied to bleachers contracted for design before July 1, 1965 ; an approved agency or individual shall conduct the inspections and provide a written report re: compliance with NFPA 102–1957.

Facility: In accordance with Part 180.30, “facility” means land, buildings, structures and improvements other than buildings, and permanent, fixed equipment attached to or incorporated in any building owned or used for school purposes by a school district subject to this Part. This definition excludes facilities owned by a school district but not used for public school purposes, which shall be subject to local building codes [and possibly the Office of the State Fire Marshal’s adoption of NFPA 101-*Life Safety Code*]. Private facilities serving special education students where the public school district has certified that it is unable to serve said students—Health and Life Safety Code no longer applies; under Section 401.220(a), either Office of the State Fire Marshal will enforce its fire code or the local enforcement authority will enforce its local codes.

If the private organization is located in a public school building that is owned or leased by the school district and the program serves public school students, that facility must comply with the ISBE Health/Life Safety Code.

If a private organization leases from a public school district building, but does not serve public school students, that facility (the area of the building where the private organization is housed only) must comply with the OSFM’s adoption of NFPA 101-*Life Safety Code* and the locally adopted code.

ADMINISTRATION and GENERAL BUILDING REQUIREMENTS

1. Safety Reference Plans (180.330)

A complete set of up-to-date safety reference plans should be available at each school and should include a site plan, schematic floor plans, utility information, and an attic plan.

2. School Safety Drills (105 ILCS 128)

During each academic year, schools must conduct the following drills: Three (3) evacuation drills to prepare for fire incidents (with at least one with local fire official present), one (1) bus evacuation drill that includes instruction in safe bus riding practices for all students, one (1) shelter-in-place drill to prepare for tornado incidents, and one (1) law enforcement drill to prepare for lock-downs, shootings, bomb threats, or hazardous materials or other incidents. **Fire:** Upon the participation of the local fire service, the appropriate local fire official shall certify that the school evacuation drill was conducted. If the fire official does not select one of the four (4) offered dates in October or set another date by mutual agreement, the requirement that the school include the local fire service in one of its mandatory school evacuation drills shall be waived. The local fire department may keep their own records, but ultimately it is the responsibility of the school district to make sure documentation is submitted to the ROE or the ISC. **Law Enforcement:** During each calendar year, the appropriate local law enforcement agency shall contact the appropriate school administrator to request to participate in a law enforcement drill and may actively participate on-site in a drill. Upon the participation of a local law enforcement agency in a law enforcement drill that occurs within the first 90 days of the school year, the appropriate local law enforcement official shall certify that the law enforcement drill was conducted.

3. Annual Review of Crisis Plans (105 ILCS 128/25; 29 Ill. Adm. Code 1500)

Annual review shall be conducted by the local emergency responders and the school board or designee and shall encompass the components of the plan enumerated in the Act. An annual review report is required to be submitted to the Regional Superintendent to document the review and update of emergency and crisis response plans, protocols, and procedures and the school drill program. Drill Documentation Forms, Annual Review Report Forms and Minimum Component Checklists are provided on the ISBE website.

4. Hold-Open Devices (IFC24: 705.2.3; IFC15/09/06/03: 703.2; BOCA-F: 303; 175.290; 185.370m)

Hold-open devices are prohibited on all doors described as “self-closing.” **IFC only:** Opening protectives shall be maintained in an operative condition in accordance with applicable the edition of NFPA 80. Hold-open devices and automatic door closers, where provided, shall be maintained. Doors that are automatic-closing (e.g., held open with magnetic hold-open devices) are required to close only upon activation of the assigned smoke detectors or upon power loss. During the period that such device is out of service for repairs, the door it operates shall remain in the closed position. **BOCA-F only:** Fire doors shall be self-closing or automatic closing in accordance with the requirements of the applicable edition of NFPA 80. Fire doors which are not self-closing and which protect openings in horizontal exits, exits, or exit access corridors required to be of fire resistance rated construction shall be automatic-closing by the actuation of smoke detectors or by loss of power to the smoke detector or the hold-open device. **Part 175/185 only:** Where doors are required to be self-closing such as in opening protectives in enclosures for vertical openings, horizontal exits, limiting wall of open plan buildings, and smoke-stop

partitions approved self-closing devices shall be used while the building is occupied or shall be arranged to be automatic-closing upon actuation of the building's fire alarm system.

5. Door and Windows Inspection, Testing, and Maintenance (IFC24: 705.2, IFC24: 705.2.6, 705.2.7, IFC15/09/06/03: 703.4, BOCA-F: 303.4; NFPA 80: 5.2.4.2)

Horizontal and vertical sliding and rolling fire doors shall be inspected and tested annually to confirm proper operation and full closure. Records of inspections and testing shall be maintained. **IFC 24 only (NFPA 80-2022):** For rolling steel doors and counter service counter fire doors periodic inspections and testing shall be performed by a trained rolling steel fire door systems technician. **IFC24 only:** Opening protectives in fire-resistance-rated assemblies shall be inspected and maintained in accordance with NFPA 80. Opening protectives in smoke barriers shall be inspected and maintained in accordance with NFPA 80 and NFPA 105. Openings in smoke partitions shall be inspected and maintained in accordance with NFPA 105. **BOCA and IFC only:** Horizontal and vertical sliding and rolling fire doors shall be inspected and tested annually in accordance with applicable provision of NFPA 80 to confirm proper operation and full closure. Records of inspections and testing shall be maintained.

6. Unobstructed Exits (IFC24: 1032; IFC15: 1031; IFC09: 1030.3; IFC06: 1028.3; IFC03: 1027.3; BOCA-F: 605)

Safe, reliable and unobstructed means of access travel shall be provided from any location in an occupied room or space to the doorways required as either a part of an exit or which provide a path of travel from a room or space to an exit. Unlatching of doors shall not take more than one motion. Any additional locking devices that impede opening of doors are not permitted. [See Appendix N for more information]

7. Emergency Lighting Equipment and Illuminated Exit Signs (IFC24/15: 1008; IFC15: 1013; IFC09/06/03: 1006; IFC09/06/03 1011; BOCA-F 610.1; BOCA-F: 610.2)

Rooms and spaces requiring two means of egress shall be equipped with emergency lighting, including assembly areas. In all buildings, rooms or spaces required to have more than one exit or exit access, all required means of egress shall be indicated with approved signs reading "Exit" visible from the exit access and, where necessary, supplemented by directional signs in the exit access corridors indicating the direction and way of egress. All "exit" signs shall be located at exit doors or exit access areas, so as to be readily visible. Sign placement shall be such that any point in the exit access shall not be more than 100 feet from the nearest visible sign. Main exterior exit doors which are obviously and clearly identifiable as exits are not required to have "Exit" signs where approved. Approved self-luminous signs are permitted to be installed in schools. UL 924 is the appropriate standard to reference for internally illuminated, self-luminous, and photoluminous exit signs. **IBC 2024 only:** A graphical symbol exit sign that includes the "running man symbol and arrow" in accordance with UL 924 is also permitted to be used.

8. Periodic Testing of Emergency Lighting Equipment and Battery Back-up Exit Signs (IFC24: 1032.10; IFC15: 604.6; IPMC: 605.1; BOCA-F96: 611.2; BOCA-F93: 610.1.1; NFPA 70: 700.4)

All required emergency lighting and exit signs using battery back-up power shall be tested for proper operation. Exit signs, exit lights, and emergency lights need to be tested. [See Appendix F for requirements]

9. Proper Storage and Use of Flammable and Combustible Liquids and Other Chemicals/Portable Gasoline Containers (IFC24/15: Part V; IFC09/06/03: 3404.3; BOCA-F: 3203.2; BOCA-PM: 703.2)

Flammable and combustible liquids and other chemicals shall be stored in accordance with applicable codes. Only approved gasoline containers shall be used. Plastic containers meeting the requirements of and used for petroleum products within the scope of one or more of the specifications listed in Appendix B shall be acceptable. Where storage cabinets are utilized to establish the exempt amounts in accordance with the provisions of the BOCA or ICC codes, such cabinets shall comply with the applicable requirements for storage cabinets in BOCA or ICC. [See Appendix B for more general information on storage and use of chemicals and flammable and combustible liquids].

10. Fire Alarm System (IFC 24/15/09: 907.2.3; IFC06/03: 907.3.1.1; BOCA-F: 503.5)

All educational occupancies shall be equipped with a fire alarm system. **IFC 24/15/09 only:** Educational occupancies shall be provided with a fire alarm system except for those with an occupant load of less than 50 persons. **IFC 06/03 only:** Educational occupancies shall be provided with a fire alarm system except for those that contain only one classroom and less than 1,000 ft² and are greater than 50 ft from another building. Additionally, any educational occupancy with an occupant load of less than 50 persons is not required to have a fire alarm system. **BOCA-F only:** All educational occupancies shall be provided with a fire alarm system. **175/185 only:** Every school with over 5,000 ft² gross area or with more than one occupied floor level shall be provided with an approved fire alarm system complying with NFPA 72A. A “power on” light for both the operating circuits and supervisory circuits (audible trouble signals) shall be permanently labeled and placed at each of two locations: One in or near the chief custodian’s office and the other in or near the principal’s office or other similar location attended during school hours. For manual pull station locations, see Appendix J.

11. Fire Alarm Audibility (IFC 24/15: 907.5; IFC09: 907.6.2.1; IFC06/03: 907.3.1.1; IFC: 907.10.2; BOCA-F: 503.5; 175.470e; 185.395d4)

The inspector should think about fire alarm audibility in the rooms found in a school that normally could be rather noisy. The inspector is not expected to measure sound pressure levels of all alarm notification appliances during the time of inspection, but if there is a concern that the ambient noises of a room might prevent a horn from being heard, there are simple, inexpensive methods that can be used subsequent to the inspection to determine if additional occupant notification devices are required in the room in question.

The same signal shall be used for drills as for actual alarms.

12. Unobstructed Manual Fire Alarm Station (NFPA 72-2022: 17.15.9.2; NFPA 72-2013: 17.14.8.2; NFPA 72-2007: 5.13; NFPA 72-2002: 5.12; NFPA 72-1999: 2-8; NFPA 72-1996: 5-8; NFPA 72-1990: 3-2)

Manual fire alarm stations shall be clear and unobstructed and not damaged.

13. Inspection, Testing and Maintenance of Fire Alarm Systems (IFC 24/15: 907.8; IFC09: 907.9.5; IFC06/03: 907.20.5; BOCA-F96: 513.1; BOCA-F93: 512.1)

The district shall provide evidence that the fire alarm system is being inspected, tested and maintained in accordance with the applicable edition of NFPA 72 or NFPA 72A. **ICC and BOCA-F96 only:** Service personnel shall be qualified and experienced in the inspection, testing, and maintenance of fire alarm systems. Examples of qualified personnel shall be permitted to include, but shall not be limited to, individuals with the following qualifications: (1) Factory trained and certified (2) National Institute for Certification in Engineering Technologies fire alarm certified (3) International Municipal Signal Association fire alarm certified (4) Trained and qualified personnel employed by an organization listed by a national testing laboratory for the servicing of fire alarm systems. A copy of such records shall be made available to the Regional Superintendent. **BOCA-F 93 and 175, 185only:** All systems shall be under the supervision of qualified persons. These persons shall cause proper tests and inspections to be made at prescribed intervals. The AHJ shall be notified of such testing. (See Appendix C)

14. Functional Sprinkler System (225 ILCS 317/5; 23 Ill. Adm. Code 180.250; 41 Ill. Adm. Code 109.10; IFC: 903.5; BOCA-F: 506.1)

Where installed, proof of required maintenance and testing shall be provided to inspector. Inspection and testing shall be performed by a contractor licensed by the Office of the State Fire Marshal.

15. Clearance Above Storage (IFC 24/15: 315.3.1; IFC09/06/03: 315.2.1; BOCA-F: 2103.2; BOCA-PM: 705.2.2; NFPA 13)

Storage shall be maintained 2 ft or more below the ceiling in nonsprinklered areas of a building. The clearance between the sprinkler deflector and the top of storage shall be 18 in or greater. If special sprinkler heads are used, (which is not common in educational occupancies) such as ESFR and Large Drop sprinklers the clearance between the sprinkler deflector and the top of storage shall be 36 in. [See Appendix M]

16. Functional Standpipe Systems and Private Fire Hydrants (225 ILCS 317/10; IFC: 901.6; BOCA-F: 506.1)

Where installed, proof of required maintenance and testing shall be provided to inspector. Inspection shall be performed annually on pipe and hoses and appropriately tagged. Inspection of standpipes that serve as supply for sprinkler systems shall be inspected and tested by a contractor licensed by the Office of the State Fire Marshal. Private fire hydrant systems shall be inspected, tested, and maintained in accordance with the NFPA 25.

Note: This does not apply to fire hydrants owned by a municipality or a water district.

17. Fire Extinguishers (41 Ill. Adm. Code 251.90; IFC: 906; BOCA-F96: 519; BOCA-F93: 518)

A class ABC fire extinguisher is required to be installed in schools in accordance with NFPA 10. The fire extinguisher must be inspected annually by a contractor licensed by the Office of the State Fire Marshal and the fire extinguisher shall display a current inspection tag. The most commonly used fire extinguisher is a five-pound ABC extinguisher which has a rating of 2A:10B:C. [See Appendix D for requirements]

18. Safety Glazing (430 ILCS 60/)

Installations made after January 1, 1973, shall comply with the requirements of the Safety Glazing Materials Act, which requires that only safety glazing meeting the requirements of ANSI Z97.1 be installed in hazardous locations. [From the Act]: "Hazardous locations" means those installations, glazed or to be glazed in commercial and public buildings, known as framed or unframed glass entrance doors; and those installations, glazed or to

be glazed in residential buildings and other structures used as dwellings, commercial buildings, and public buildings, known as sliding glass doors, storm doors, shower doors, bathtub enclosures and fixed glazed panels adjacent to entrance and exit doors which because of their location present a barrier in the normal path traveled by persons going into or out of these buildings, and because of their size and design may be mistaken as means of ingress or egress; and any other installation, glazed or to be glazed, where the use of other than safety glazing materials would constitute an unreasonable hazard as the Department of Labor may determine after notice and hearings as required by Sections 6 and 6.1 of this Act. Whether the glazing in such doors, panels, enclosures and other installations is transparent has no relevance towards the meaning of "hazardous locations". The glass should have a small etch or label of sort that identifies "ANSI Z97.1 (year)" if it is in compliance. If wired glass is found in a hazardous location as defined by the act, the ROE Health and Life Safety inspector should note the glazing and the district should follow through to determine if the glazing is in compliance with the Act or if it is even required to comply with the ACT (installed pre-January 1, 1973).

19. Emergency Shower and Eye Wash Stations (29 CFR 1910.151c)

Emergency showers and eye wash stations shall be maintained and inspected in accordance with ANSI Z358.1. [See www.osha.gov]

20. Wall-Mounted Alcohol Hand-Rub Dispensers IFC24 Table 5003.1.1(5); IFC15: 5707.5; IFC09/06: 3405.5)

Per ISBE legal in new and existing buildings, alcohol hand-rub dispensers shall be installed in accordance with the International Fire Code. This applies to all schools. [See Appendix H for requirements]

21. Decorative Vegetation (IFC 24/15/09/06: 806)

Per ISBE legal in new and existing buildings, except in areas protected throughout with sprinklers, natural cut trees shall be prohibited. In sprinklered areas natural cut trees shall be displayed in accordance with Section 806 of the International Fire Code. This applies to all schools. [See Appendix I for requirements]

22. Space Heaters (IFC 24: 4103.1; IFC 15/09/06/03: 603.4; IFC: 603.5; BOCA-F: 308)

Unvented, fuel-fired heating appliances shall be prohibited. Heating appliances shall be listed. (e.g., UL listed).

23. Curtains, Draperies, and Decorations (See also Corridors-New Artwork) (IFC: Chapter 8; BOCA-F: 306.1; 175.430; 185.290k)

Definition of Decorative Material: All materials applied over the building interior finish for decorative, acoustical, or other effect (such as curtains, draperies, fabrics, streamers, and surface coverings), and all other materials utilized for decorative effect (such as batting, cloth, cotton, hay, stalks, straw, vines, leaves, trees, moss, and similar items), including foam plastics and materials containing foam plastics. Decorative materials do not include floor coverings, ordinary window shades, interior finish, and materials 0.025 inch (0.64 mm) or less in thickness applied directly to and adhering tightly to a substrate.

IFC

IFC24 only: All curtains, draperies, and decorations in schools approved for design on or after January 1, 2025 shall comply with the applicable provisions of Chapter 8 of the International Fire Code (2015).

IFC15 only: All curtains, draperies, and decorations in schools approved for design on or after July 1, 2016 but before January 1, 2025 shall comply with the applicable provisions of Chapter 8 of the International Fire Code (2015).

IFC09 only: All curtains, draperies, and decorations in schools approved for design on or after January 1, 2010 but before July 1, 2016 shall comply with the applicable provisions of Chapter 8 of the International Fire Code (2009).

IFC06 only: All curtains, draperies, and decorations in schools approved for design before January 1, 2010 but on or after September 25, 2007 shall comply with applicable provisions of Chapter 8 of the International Fire Code (2006).

IFC03 only: All curtains, draperies, and decorations in schools approved for design before September 25, 2007 but on or after October 3, 2005 shall comply with Chapter 8 of the International Fire Code (2003).

BOCA

BOCA-F only: All curtains, draperies, and decorations in schools approved for design on or after March 24, 1995 but before October 3, 2005 shall comply with Section F-306 of the BOCA Fire Prevention Code (1996/1993). Electric light bulbs shall not be decorated with paper or other combustible materials unless flame-resistant in accordance with NFPA 701.

Part 175

175 only: *(This does not include wall and ceiling finishes as described in 175.420).* No curtains, draperies, and decorations, wall coverings, paints, etc., shall be used which are of a highly flammable character or which, in the amounts used, will endanger egress due to rapid spread of fire or formation of heavy smoke or toxic gases. Draperies, curtains, loosely attached wall coverings, cloth hangings, and similar materials shall be noncombustible or flameproofed in corridors, exitways, and assembly occupancies. In other areas, up to 10% of the wall area may have combustible coverings and hangings. Methods of flameproofing, tests, and acceptability shall be in accordance with NFPA 701. A flameproofing certificate, identifying agent used, and material protected shall be kept on file in the school. Additionally, the requirements of BOCA Fire Prevention Code (1993), Section F-306 also apply to these schools.

Part 185

185 only: *(185.220 "Contents": Those materials, furnishings and equipment located within buildings which are not permanently or rigidly affixed to the building construction. The word "contents," as used in this Part primarily refers to materials or furnishings of a movable nature serving functional, decorative or maintenance purposes. This does include interior finish as described in 185.390j).* All decorative materials shall be noncombustible or flameproof in accordance with these provisions, where located in a required exit; in a required primary path of travel thereto; in an Assembly Occupancy room or space; and in those Educational Occupancy and Special Educational Occupancy rooms or spaces having a capacity of more than 60 persons if unsprinklered and 100 persons, if sprinklered. The flame proofing of decorative materials and the tests for determining the rate of spread of flaming or smoldering combustion shall be carried out in accordance with the NFPA 701-1951 or with other accepted standards. Unless the applied flame proofing has been approved by an accepted testing laboratory as being of a permanent nature, the flame proofed material shall be tested annually and the flame proofing treatment renewed as necessary in a manner acceptable to the Enforcing Authority. A dated certificate, signed by the flame proofing applicator and identifying the flame proofing agent used and the material protected, shall be maintained on file and available for reference at all times. Additionally, the requirements of BOCA Fire Prevention Code (1993), Section F-306 also apply to these schools.

24. Interior Wall, Ceiling and Floor Finishes

Newly installed interior wall, ceiling, and floor finishes need to comply with the requirements found in Appendix L. Painting ceiling tiles is not permitted unless the required interior finish classification will not be affected.

25. Extension Cords/Multiple Plug Adaptors (IFC24 603.6; IFC 15/09/06/03 605.4; IFC 605.5; BOCA-F: 310.4; BOCA-F: 310.5)

Multiplug adaptors not complying with NFPA 70 shall be prohibited. Extension cords and flexible cords shall not be a substitute for permanent wiring. Extension cords and flexible cords shall not be affixed to structures; extended through walls, ceilings or floors or under doors or floor coverings; nor shall such cords be subject to environmental damage or physical impact.

26. Electrical Systems (IFC24 603.1; IFC 15/09/06/03: 605.1; BOCA-F: 310.1; NFPA 70 Article 590)

All identified electrical hazards shall be abated. Electrical installations shall comply with the applicable edition of the National Electrical Code, including temporary electrical lighting. Temporary electric power and lighting installations shall be permitted for a period not to exceed 90 days for holiday decorative lighting and similar purposes. Decorative lighting used for holiday lighting and similar purposes shall be listed and shall be labeled on the product. Temporary lighting shall not be used in lieu of permanent lighting.

27. Carbon Monoxide Detection (105 ILCS 5/10-20.57, 41 Ill. Adm. Code 111.230)

All schools must have carbon monoxide detection located within 20 feet of a carbon monoxide emitting device. Schools designed before January 1, 2016, may use carbon monoxide alarms powered by batteries. For public schools designed on or after January 1, 2016, any carbon monoxide alarm installed must be monitored by any required fire alarm system and must be permanently powered by the building's electrical system. Alarms or detectors must be in operating condition and be inspected annually. A school is exempt from the requirements of this requirement if it does not have or is not close to any sources of carbon monoxide. A school must require plans, protocols, and procedures in response to the activation of a carbon monoxide alarm or carbon monoxide detection system. The local school boards are responsible for this program and further clarification for compliance should be taken up with them. OSFM will assist with appropriateness of equipment but will not discuss installation location of CO devices. It is recommended that the local fire department and the school board be contacted regarding protocols, procedures, and response plans for CO activation.

28. Security Locking (105 ILCS 5/10-20.72)

Additional locking on classroom doors is permitted as long as the locking device complies with all of the following requirements:

1. The door security locking means can be engaged without opening the door.
2. The unlocking and unlatching of the door security locking means from the occupied side of the door can be accomplished without the use of a key or tool.
3. The door security locking means complies with all applicable State and federal accessibility requirements.
4. Locks, if remotely engaged, can be unlocked from the occupied side.
5. The door security locking means is capable of being disengaged from the outside by school district employees, and school district employees may use a key or other credentials to unlock the door from the outside.
6. The door security locking means does not modify the door-closing hardware, panic hardware, or fire exit hardware.

7. Any bolts, stops, brackets, or pins employed by the door security locking means do not affect the fire rating of a fire door assembly.
8. School district employees are trained in the engagement and release of the door security locking means, from within and outside the room, as part of the emergency response plan.
9. For doors installed before July 1, 2019, only, the unlocking and unlatching of a door security locking means requires no more than 2 releasing operations. For doors installed on or after July 1, 2019, the unlocking and unlatching of a door security locking means requires no more than one releasing operation. If doors installed before July 1, 2019, are replaced on or after July 1, 2019, the unlocking and unlatching of a door security locking means on the replacement door requires no more than one releasing operation.
10. The door security locking means is no more than 48 inches above the finished floor.
11. The door security locking means otherwise complies with the school building code prepared by the State Board of Education under Section 2-3.12.
12. Under these provisions, a school can fit an ADA compliant deadbolt and use two motions to first unlock, then unlatch an existing door. Any locking mechanisms installed in new construction or when replacing doors must comply with the single motion unlocking and unlatching.

Schools are permitted the option to use a device that does not comply with requirements #3 and #10 above upon written agreement of the local fire department, local law enforcement, and local school district. The remainder of the requirements must be complied with. This device placement is limited to doors in place prior to July 1, 2019. (See Appendix N).

29. Panic Hardware (IBC15 1010.1.10, IBC24 1010.2.8)

Panic hardware shall immediately release the lock on any door and not be obstructed in any fashion except that electromagnetic locks are permitted on doors with panic hardware in accordance with Section 1010.1.9.9 which requires, among other things, that upon operation of the panic hardware the electromagnetic lock is released allowing immediate egress. Electromagnetic locks are not the same as delayed-egress locking. There are separate requirements for delayed-egress locking.

AGRICULTURAL LABS

See individual sections for those special processes that might exist in an agricultural lab, i.e. green houses, automotive shops, industrial shops, or science labs

ARTS AND CRAFTS ROOMS

These requirements apply to the larger rooms generally found in high schools or possibly middle schools that have large quantities of art supply storage, kilns, painting using flammable or combustible paints, thinners, etc. This is not meant to apply to elementary classrooms which happen to teach art.

79. Maintenance of Fire-Rated Construction (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

80. Fire Detection (175.460a1; 185.395c2B)

175/185 only: A fire detector is required in arts and crafts rooms not protected by an automatic sprinkler system.

81. Spray Finishing Operations Using Flammable Finishes (IFC24/15: 2404; IFC 09/06: 1504.1; BOCA-F: 1303.1; 175.552; 175.660; 185.460; 185.510a; NFPA 13-Section 6.2.6.4.2 [2013])

Spray finishing operations shall be installed in accordance with applicable codes. Spray finishing operations conducted in buildings used for educational occupancies shall be located in a spray room. Automatic sprinklers are required for protection within spray rooms. Sprinkler protection in spray areas shall be protected against overspray residue so that they will operate quickly in the event of a fire. If sprinkler heads are covered to protect from overspray*, coverings shall be replaced frequently so that heavy deposits of residue do not accumulate. Sprinklers that have been painted or coated, except by the sprinkler manufacturer, shall be replaced with new listed sprinklers having the same characteristics.

Mechanical ventilation shall be provided as per applicable codes and the system shall meet the requirements for handling flammable vapors. Welding or other spark producing processes shall not be permitted near this area and a sign warning of same should be installed.

Note on bags covering sprinklers heads

Only cellophane bags having a thickness of ≤ 0.003 " or a thin paper bag are permitted to be used. Polypropylene bags such as "Glad", "Baggies", or "Ziploc" bags are included in this prohibition because they shrink prior to development of temperatures needed to ensure sprinkler activation and can interfere with proper operation. True cellophane bags and thin paper bags degrade rather than melt.

82. Limited Spraying Spaces (IFC24: 2404.11; IFC15: 2404.9; IFC09/06: 1504.9; IFC03: 1504.1.4; BOCA-F: 1303.1)

For Limited Spraying spaces where the aggregate surface area to be sprayed does not exceed 9 ft² and spraying is only for touch-up or spot painting and operations are not continuous in nature, sprinkler protection is not required. Mechanical ventilation shall be provided as per applicable codes and the system shall meet the requirements for handling flammable vapors. Welding or other spark producing processes shall not be permitted near this area and a sign warning of same should be installed. **BOCA-F only:** Section 1303.1 references NFPA 33 (1989/1995) for spray finishing processes. NFPA 33 does not address "Limited Spraying Spaces" except to say "this standard shall not apply to the use of small portable spraying equipment or aerosol products that are not used repeatedly in the same location." It further clarifies, though that the fundamental safeguards pertaining to cleanliness, care of flammable liquids, dangerous vapor-air or powder-air mixtures (i.e. appropriate ventilation) and sources of ignition should be followed where applicable (i.e. welding in the area and explosion proof fixtures).

83. Electrical Wiring and Equipment (IFC24: 2404.8; IFC15: 2403.2.1; IFC09/06/03: 1503.2; BOCA-F: 1304.5; 175.660f; 185.460d; 185.510a)

Wiring and electrical fixtures used in, or adjacent to, paint spray booths shall comply with the applicable requirements of NFPA 70.

84. Kiln Exhaust (IPMC: 403.4; BOCA-PM: 404.4; 175.564d; 185.460b)

An exhaust hood evacuating fumes to the outside must be provided above all kilns unless the manufacturer's directions indicate otherwise, e.g., downward exhausting kilns. In every case, the fumes may not be exhausted into the building HVAC system.

85. Kiln Fuel Switch (175.536b3; 185.440b2)

178/185 only: In rooms or spaces containing fuel-fired equipment, emergency fuel-burner disconnect switches are required. The emergency switch shall be located adjacent to primary entrance door, between 6 ft and 7 ft above the floor; shall be painted red and labeled "Emergency Fuel Burner Switch." This switch is not required for electric kilns.

86. Safety Glasses (105 ILCS 115; 23 Ill. Adm Code 1.420s)

Protective eye devices shall be provided to and worn by all students, teachers, and visitors when participating in or observing dangerous vocational arts and chemical-physical courses of laboratories as specified in 105 ILCS 115/1. Eye protection shall comply with ANSI Z87.1.

AUDITORIUMS

111. Posted Occupant Load (IFC24: 1004.9; IFC 15/09/06/03: 1004.3; BOCA-F: 601.7)

Any assembly occupancy (greater than 50 persons) must have an approved occupancy load sign posted in a visible location, preferably near the main exit or exit access doorway from the room or space.

112. Number of Exits (IFC 24/15: 1006; IFC09: 1021; IFC06: 1019; IFC03: 1018; BOCA-F: 604.1; BOCA-F: 606.2; 175.410; 185.360c)

Exits shall not be obstructed and number of exits shall not be reduced.

113. Means of Egress Arrangement (IFC24: 1030; IFC15: 1029; IFC09: 1028; IFC06: 1025; IFC03: 1024; BOCA-F: 607.3; 175.310; 185.810)

Means of egress from auditoriums, including aisle and aisle accessway width, and aisle and aisle accessway design shall be designed in accordance with applicable codes.

114. Illuminated Exit Signs (IFC24: 1008; IFC15: 1013; IFC09/06/03: 1011; BOCA-F: 610.2)

In all buildings, rooms or spaces required to have more than one exit or exit access, all required means of egress shall be indicated with approved signs reading "Exit" visible from the exit access and, where necessary, supplemented by directional signs in the exit access corridors indicating the direction and way of egress. All "exit" signs shall be located at exit doors or exit access areas, so as to be readily visible. Sign placement shall be such that any point in the exit access shall not be more than 100 ft from the nearest visible sign. Main exterior exit doors which are obviously and clearly identifiable as exits are not required to have "Exit" signs where approved.

115. Emergency Lighting (IFC24/15: 1008; IFC09/06/03: 1006; BOCA-F: 610.1)

All means of egress shall be equipped with emergency lighting, including all assembly areas.

116. Maintenance of Fire-Rated Construction (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

117. Fire Detection (185.395c)

Part 185 only: Smoke or heat detectors are required in auditoriums areas if the room or area has interior finish with flame spread greater than 75 and is not protected with sprinklers.

AUTOMOTIVE SHOPS

142. Maintenance of Fire-Rated Construction (IFC24 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

143. Fire Detection (175.460a2; 185.395c2B)

175/185 only: Fire detectors are required in automotive shops not protected by an automatic sprinkler system.

144. Spray Finishing Operations Using Flammable Finishes (IFC 24/15: 2404; IFC09/06/03: 1504.1; BOCA-F: 1303.1; 175.552; 175.660; 185.460; 185.510a)

Spray finishing operations shall be installed in accordance with applicable codes. Spray finishing operations conducted in buildings used for educational occupancies shall be located in a spray room. Automatic sprinklers are required for protection within spray rooms. Sprinkler protection in spray areas shall be protected against overspray residue so that they will operate quickly in the event of a fire. If sprinkler heads are covered to protect from overspray* Coverings shall be replaced frequently so that heavy deposits of residue do not accumulate. Sprinklers that have been painted or coated, except by the sprinkler manufacturer, shall be replaced with new listed sprinklers having the same characteristics.

Mechanical ventilation shall be provided as per applicable codes and the system shall meet the requirements for handling flammable vapors. Welding or other spark producing processes shall not be permitted near this area and a sign warning of same should be installed.

Note on bags covering sprinklers heads

Only cellophane bags having a thickness of ≤ 0.003 " or a thin paper bag are permitted to be used. Polypropylene bags such as "Glad", "Baggies", or "Ziploc" bags are included in this prohibition because they shrink prior to development of temperatures needed to ensure sprinkler activation and can interfere with proper operation. True cellophane bags and thin paper bags degrade rather than melt.

145. Limited Spraying Spaces (IFC24: 2404.11; IFC15: 2404.9; IFC09/06: 1504.9; IFC03: 1504.1.4; BOCA-F: 1303.1)

For limited spraying spaces where the aggregate surface area to be sprayed does not exceed 9 ft² and spraying is only for touch-up or spot painting and operations are not continuous in nature, sprinkler protection is not required. Mechanical ventilation shall be provided as per applicable codes and the system shall meet the requirements for handling flammable vapors. Welding or other spark producing processes shall not be permitted near this area and a sign warning of same should be installed. **BOCA-F only:** Section 1303.1 references NFPA 33 (1989/1995) for spray finishing processes. NFPA 33 does not address “Limited Spraying Spaces” except to say “this standard shall not apply to the use of small portable spraying equipment or aerosol products that are not used repeatedly in the same location.” It further clarifies, though that the fundamental safeguards pertaining to cleanliness, care of flammable liquids, dangerous vapor-air or powder-air mixtures (i.e. appropriate ventilation) and sources of ignition should be followed where applicable (i.e. welding in the area and explosion proof fixtures).

146. Electrical Wiring and Equipment (IFC24: 2404.8; IFC15: 2403.2.1; IFC09/06/03: 1503.2; BOCA-F: 1304.5; 175.660f; 185.460d; 185.510a)

Wiring and electrical fixtures used in, or adjacent to, paint spray booths shall comply with the applicable requirements of NFPA 70. Electrical wiring within 10 ft of the floor and 20 ft horizontally of any Spray Booth or Limited Spraying Space shall be designed for Class I-Division 2.

147. Welding Booth Exhaust (IPMC: 403.4; BOCA-PM: 404.4; 175.552; 185.460a3)

The air to be exhausted from the welding booth shall be in accordance with applicable code requirements. Such contaminated air must be exhausted to the outside and not re-circulated.

148. Safety Glasses (105 ILCS 115; 23 Ill. Adm Code 1.420s)

Protective eye devices shall be provided to and worn by all students, teachers, and visitors when participating in or observing dangerous vocational arts and chemical-physical courses of laboratories as specified in 105 ILCS 115/1. Eye protection shall comply with ANSI Z87.1.

BLEACHERS AND GRANDSTANDS

See “Building codes for Pre-K through 12 Illinois Public Schools (excluding CPS)” *at the beginning of the Glossary for code references related to the inspection and maintenance of bleachers.*

173. Installation, Inspection and Maintenance (IBC24: 1030.1.1; IBC15: 1029.1.1; IBC09/06/03: 3401.1; ICC 300-12/07/02; BOCA-F: 106.4; NFPA 102)

Bleachers or telescoping/folding seating designed on or after July 1, 2016 and installed into an existing building or new construction or outdoor assembly area shall comply with the applicable provisions of the IBC and Chapters 1-4 of ICC 300. Alterations to any existing tiered seating shall conform to the requirements for new construction. Portions of the structure not altered and not affected by the alteration are not required to comply with the requirements for a new structure. All existing tiered seating, including bleachers, folding and telescopic seating and grandstands shall be inspected and evaluated at least once a year by a qualified person in order to verify that the structure is maintained in

compliance with the provisions of Chapters 5 of ICC 300. All folding and telescopic seating shall also be inspected to evaluate compliance with the manufacturer's installation and operational instructions, including an inspection during the opening and closing of such seating. This inspection and evaluation shall be performed by a qualified person. **Low seating only:** Tiered seating where the top of footboards, seat boards, aisles and cross aisles are not more than 30 in above the floor or grade below, unless judged by the code official to represent a distinct hazard, are not required to have an annual inspection.

174. Combustible Storage and Waste Accumulation (IPMC 24/15/09: 308; IPMC06/03: 307; BOCA-F: 2101.4; BOCA-F: 2101.5)

IPMC only: All exterior property and premises, and the interior of every structure, shall be free from an accumulations of rubbish or garbage. **BOCA-F only:** Accumulation of wastepaper, wood, hay, straw, weeds, litter or combustible or flammable waste or rubbish of any type shall not be permitted to remain beneath a grandstand. Spaces underneath grandstand seats shall be kept free of all combustible and flammable materials and shall not be occupied or utilized for anything (such as storage) other than means of egress (if applicable) except where enclosed by not less than 1-hour fire-rated construction. (*See also requirements for Storage Rooms when storage areas are constructed under bleachers or grandstands*)

175. Structures Underneath Grandstands such as Concession Stands, Snack Bars, Toilet Rooms, and Storage (IBC 24: 1030.1.1.1; IBC 15/09/06/03: 1029.1.1.1; NFPA 102)

IBC 03/06/09/15 only: Where spaces under grandstands or bleachers are used for purposes other than ticket booths less than 100 ft² and toilet rooms, such spaces shall be separated by fire barriers with not less than 1-hour fire-rated construction. **IBC24 only:** Where spaces under grandstands or bleachers are used for purposes other than ticket booths less than 100 ft², toilet rooms, or accessory areas 1,000 ft² or less; such spaces shall be separated by fire barriers with not less than 1-hour fire-rated construction.

BOCA, 175, and 185 only: Accessory uses such as ticket booths, toilet facilities, or concession booths shall be permitted in such spaces where of noncombustible or fire-resistive construction. Concession booths of any construction are permitted if protected throughout with sprinklers or constructed using 1-hour fire-rated construction.

BOILER ROOM

200. Door Swing (175.285b; 185.390e2E)

175/185 only: Interior doors to heater and boiler rooms shall open into the room.

201. Maintenance of Fire-Rated Construction (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

202. Housekeeping (IFC 24/15: 315.3.3; IFC: 315.2.3; 41 Ill Adm Code-2120.20)

The boiler room shall be kept free of all material and equipment not necessary to the operations of the heating system. **IFC only:** Combustible storage of any kind is not permitted in boiler rooms.

203. Fire Detection (175.460a6; 185.395c2A)

175/185 only: Fire detectors are required in boiler rooms not protected by an automatic sprinkler system.

204. Emergency Fuel Burner Switch (175.536b3; 185.440b2)

175/185 only: In rooms or spaces containing fuel-fired equipment, emergency fuel burner disconnect switches are required. The emergency switch shall be located adjacent to primary entrance door, between 6 ft and 7 ft above the floor; shall be painted red and labeled "Emergency Fuel Burner Switch."

205. Certificate of Inspection Posted (430 ILCS 75/11)

Every boiler and each pressure vessel over the minimum capacity must have a current inspection certificate issued by the Office of the Illinois State Fire Marshal posted in the boiler room.

CAFETERIA (If classified as an Assembly Occupancy)

230. Posted Occupant Load (IFC24: 1004.9; IFC 15/09/06/03: 1004.3; BOCA-F: 601.7)

Any assembly occupancy (greater than 50 persons) must have an approved occupancy load sign posted in a visible location.

231. Number of Exits (IFC 24/15: 1006; IFC09: 1021; IFC06: 1019; IFC03: 1018; BOCA-F: 606.2; BOCA-G: 604.1; 175.410; 185.360c)

Exits shall not be obstructed and number of exits shall not be reduced.

232. Means of Egress Arrangement (IFC24: 1030; IFC15: 1029; IFC09: 1028; IFC06: 1025; IFC03: 1024; BOCA-F: 607.3; 175.310; 185.810)

Means of egress from cafeterias, including aisle and aisle accessway width, and aisle and aisle accessway design shall be designed in accordance with applicable codes.

233. Illuminated Exit Signs (IFC24: 2008; IFC15: 1013; IFC09/06/03: 1011; BOCA-F: 610.2)

In all buildings, rooms or spaces required to have more than one exit or exit access, all required means of egress shall be indicated with approved signs reading "Exit" visible from the exit access and, where necessary, supplemented by directional signs in the exit access corridors indicating the direction and way of egress. All "exit" signs shall be located at exit doors or exit access areas, so as to be readily visible. Sign placement shall be such that any point in the exit access shall not be more than 100 ft from the nearest visible sign. Main exterior exit doors which are obviously and clearly identifiable as exits are not required to have "Exit" signs where approved.

234. Emergency Lighting (IFC 24/15: 1008; IFC09/06/03: 1006; BOCA-F: 610.1)

All means of egress shall be equipped with emergency lighting, including all assembly areas.

235. Maintenance of Fire-Rated Construction (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

236. Fire Detection (175.460a1; 185.395c2D)

175 and 185 only: Smoke or heat detectors are required in cafeterias if the room or area has interior finish with flame spread greater than 75 and is not protected with sprinklers.

CLASSROOMS

261. Inside of Classroom Doors Unlocked (IFC24: 1010.2; IFC15: 1031.2; IFC09: 1030.2; IFC06/03: 1027; BOCA-F: 605)

Classroom egress doors must be easily and readily openable by pupils from the inside without the use of a key or special knowledge or effort. Bolt locks are not permitted. Unlatching of the door should not require more than one motion. Any additional locking devices that impede opening of doors are not permitted. [See #27 and Appendix N related to Security Locking for more information]

262. Maintenance of Fire-Rated Construction (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]. Classroom doors must meet the required fire rating of the corridor wall. If the corridor wall is required to have a fire rating then door closers and latches are required. If the corridor wall is required to have a fire rating then louvers are not permitted in doors unless they are kept closed or will close using an approved automatically closing device.

263. Door Glass-Vision Panel (IFC24: 701.3; IFC15/09: 703; IFC06: 1027.17.1; IFC03: 1026.17.1, BOCA-F: 303; BOCA-PM: 704; 175.285; 185.370m6Biv)

Classroom vision panels are not required to be present, but if present it must meet applicable codes for the required fire-rating. **185 only:** All interior exit doors which serve as required means of exit for more than 20 persons or are subject to frequent travel in both directions, shall be provided with clear wired glass vision panels not less-than 100 in² in area, except those doors that comply with the exception to 185.370m6Biv. (See Appendix O, P, or Q for applicable requirements)

264. Classroom Door Swing (IFC 24/15: 1010.1.2.1; IFC: 1008.1.2; BOCA-B: 1017.4; BOCA-F: 608.4; 175.410i; 185.380c10C; 185.380d4A)

IFC/BOCA only: Doors shall swing in the direction of egress travel when serving more than 50 persons. **175/185 only:** Doors shall swing in the direction of egress travel when serving more than 20 persons.

265. Artwork in Classrooms (IFC 24/15: 807.5.2.3)

Cloth shall not be used to cover bulletin boards, walls, or ceilings except when the cloth complies with the interior finish requirements for the classroom.

For school buildings constructed on or after July 1, 2016 only: Artwork and teaching materials shall be limited on walls of classrooms to not more than 50% of the specific wall area to which they are attached.

CORRIDORS

290. Number of Exits (IFC 24/15: 1006; IFC09: 1021; IFC06: 1019.1; IFC06: 1027.1; IFC03: 1018.1; IFC03: 1026.1; BOCA-F: 606.2; 175.410; 185.360c)
Exits shall not be obstructed and number of exits shall not be reduced.

291. Dead-End Travel (IFC24: 1020.5; IFC15: 1020.4; IFC09: 1018.4; IFC06: 1017.3; IFC03: 1016.3; BOCA-F: 607.2; 175.410g; 185.380.c9)

All corridors that serve more than one exit shall provide direct connection to such exits. Dead-end corridor shall comply with applicable code depending upon the age of the building. When closed, corridor gates shall comply with this section. (See Appendix G)

292. Illuminated Exit Signs (IFC24: 1008; IFC15: 1013; IFC09/06/03: 1011; BOCA-F: 610.2)

In all buildings, rooms or spaces required to have more than one exit or exit access, all required means of egress shall be indicated with approved signs reading "Exit" visible from the exit access and, where necessary, supplemented by directional signs in the exit access corridors indicating the direction and way of egress. All "exit" signs shall be located at exit doors or exit access areas, so as to be readily visible. Sign placement shall be such that any point in the exit access shall not be more than 100 ft from the nearest visible sign. Main exterior exit doors which are obviously and clearly identifiable as exits are not required to have "Exit" signs where approved.

293. Emergency Lighting (IFC 24/15: 1008; IFC09/06/03: 1006; BOCA-F: 610.1)
All means of egress shall be equipped with emergency lighting.

294. Maintenance of Fire-Rated Construction (IFC24: 701.3; IFC 15/09/06/03: 703; IFC09: 1018.1; IFC06: 1027.17; IFC03: 1026.17.1; IPMC: 703; BOCA-F: 303; BOCA-PM: 704)

Required fire-rated construction shall be maintained. Doors are required to be self-closing and shall meet relevant codes for fire rating of the corridor. [See Appendix O, P, or Q for requirements] **Part 175, BOCA, and ICC buildings only:** Fully sprinklered buildings are not required to have fire-rated corridors. **Part 175 only:** One story Part 175 buildings are not required to have fire-rated corridors.

295. Capacity and Width of Corridors (IFC24: 1020.3; IFC15: 1020.2; IFC09: 1018.2; IFC06: 1017.2; IFC03: 1016.2; IFC06: 1028; IFC03: 1027; BOCA-F: 604.1; BOCA-F: 605.1; 175.410l; 185.380c7A)

The minimum clear width of each corridor shall be maintained and shall not be obstructed by chairs, tables, or other objects. **IFC/BOCA-F only:** Corridors in a school with more than 100 occupants shall have a clear width of 72 in. **185/175 only:** Corridors serving occupant loads greater than 200 shall have a clear width of 96 in. Corridors servicing occupant loads greater than 100 but not more than 200 shall have a clear width of 84 in. No obstructions into required width, except during evening, vacation and similar "other than normal" occupancy periods shall be permitted.

296. Storage in Corridors and Lobbies (IFC 24/15: 807.5.2.1; IFC09/06: 807.4.3.1; IFC03: 1027; BOCA-F: 604.1; BOCA-F: 605.1; 175.410m; 185.380c11)

Storage in lobbies and corridors is not permitted except when the corridors and lobbies are protected with sprinklers or smoke detectors. Metal lockers may be used as long as the required width for means of egress is maintained. Coats or other clothing may be hung open in the corridor only under prescribed conditions. **175 only:** Permits coats or other clothing to be hung in an open corridor under certain prescribed conditions. Where this is done, the width of the corridor shall be increased 15 inches on each side where cloaks are hung. **185 only:** Permits students' cloaks to be hung in the open on the side walls of corridors as long as the following criteria are met:

- The resulting clear width of such corridors is not less than 85% of the minimum allowable clear width established by 185, and
- The uninterrupted length of cloaks hung along any corridor wall is not more than 25 ft. in an unsprinklered building or 40 ft. in a sprinklered building:

Such length shall be measured horizontally from one end of the cloak hanging hooks or bars to the other end. Continuity can be interrupted by a fire break consisting of a doorway or blank wall area not less than 36 in. in width or of a partition extending outward perpendicularly from the corridor wall not less than 12 inches and upwards from the floor to an elevation not less than 24 inches above the top of the cloaks. This fire break partition, if provided, shall be considered in determining compliance with the limitations of the preceding paragraph.

297. Artwork (IFC 24/15: 807.5.2.2; IFC15: 807.5.2.3; IFC09/06: 807.4.3.2)

For schools contracted for design on or after September 25, 2007 only: Artwork and teaching materials shall be limited on the walls of corridors to not more than 20% of the wall area. Cloth shall not be used to cover bulletin boards, walls, or ceilings except when the cloth complies with the interior finish requirements for the classroom.

COURTYARDS

322. Means of Egress

Means of egress from occupiable courtyards shall comply with applicable code requirements. Locking hardware shall comply with applicable code requirements. Means of egress from inside the school building shall not discharge into a courtyard. "Not an Exit" signs shall be installed on the egress side of the doors leading into a courtyard.

ELEVATORS AND CONVEYING SYSTEMS

347. Does Not Obstruct Egress (IFC24: 1032; IFC15: 1031; IFC09: 1030; IFC06: 1028; IFC03: 1027; BOCA-F: 605.1)

No obstructions are allowed to reduce the clear width of required paths of exit travel.

348. Certificate of Inspection (41 II Admin Code 1000.150(e))

The Certificate of Operation or a copy of the certificate shall be clearly displayed on or in each conveyance.

EXTERIOR ITEMS

373. Properly Installed and Maintained Exterior Stairs (IFC24: 1032; IFC15: 1031; IFC09: 1030; IPMC09: 304.10; IFC06: 1028; IFC03: 1027; BOCA-F: 605.1)

All exterior stairways shall properly installed and maintained in good working order and be kept free of snow and ice and any other obstructions.

374. Fire Lanes (IFC: Section 503; BOCA-F: Section F-311)

Fire lanes that have been required by the Regional Office of Education or ISBE shall be maintained, kept clear of obstructions and marked with appropriate signage.

375. Fire Department Connection (41 Ill. Adm. Code 109; NFPA 13)

Fire department connections shall be unobstructed and easily accessible.

376. Fire Hydrants (425 ILCS 20)

No object shall be constructed, maintained or installed within 48 inches of a fire hydrant. It shall be unlawful to install, maintain, construct or enlarge any barriers, trees, bushes, walls, or other obstacles which may hide or impede the use of a fire hydrant. Any fire hydrant installed or replaced after the effective date of this Act [1990] shall have a discharge that is maintained at least 14 inches, but not more than 26 inches, from the surface from which the hydrant protrudes.

FIRE ESCAPE STAIRS

401. Existing Fire Escapes (IFC 24/15: 1104.16; IBC09: 3406; IBC06/03: 3404.1.3; IFC06: 1027.16.1; IFC03: 1026.16.1; BOCA-B: 1025; 185.370k; 185 Appendix Table J)

Existing fire escape stairs shall be permitted in existing buildings but shall not constitute more than 50% of the required exit capacity. **185 only:** Fire escape stairs shall be permitted as an approved means of exit only for those students above second grade and only where specifically approved by the authority having jurisdiction.

402. Access to Fire Escapes (IFC 24/15: 1104.16.4; IFC06: 1027.16.4; IFC03: 1026.16.4)

Where access to the fire escape is through a window, such window shall be located with the sill not more than 18 in above the level of the exterior balcony or landing nor more than 36 in above the interior floor level. Each such window shall be easily openable and accessible. **IFC only:** Access to fire escape stairs from a corridor shall not be through an intervening room.

403. Protection of Openings (IFC 24/15: 1104.16.2; IFC09: 3406.5; IFC06: 1027.16.2; IFC03: 1026.16.2; 185.370k9)

Except in buildings protected throughout with a sprinkler system, openings within 10 feet of fire escape stairs shall be protected by fire assemblies having a minimum ¾-hour fire-resistance rating. **IFC09 only:** Door and windows along the fire escape shall be protected with ¾-hour opening protectives. **185 only:** ¼-inch wired glazing can be used or if the building is protected throughout with sprinklers, ¼-inch plate glass can be used.

404. Testing (IPMC24: 304.1.1(11); IPMC15/09: 304.1.1(12); IPMC15/09: 304.10; IFC06: 1027.16.5; IFC03: 1026.16.5; 185.370k15)

The AHJ is authorized to require testing or other satisfactory evidence that an existing fire escape stair meets the requirements of the code under which they were installed.

GREENHOUSES

This does not apply to the “greenhouse windows” commonly found in science laboratories that are installed as a window system. This applies to separate greenhouse buildings or rooms that are glass- or Plexiglas-enclosed permanent spaces with a controlled environment for growing plants, vegetables, and fruits out of season.

429. Maintenance of Fire-Rated Construction (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

430. Fire Alarm Systems

Most greenhouses used at a school are considered a classroom setting and would therefore be required to have a fire alarm system with pull stations and occupant notification. The fire alarm system in the greenhouse is not required to be connected to the main school building's fire alarm system. If the greenhouse is not used at all as a classroom setting (students have no need to enter the greenhouse), then a fire alarm system is not required, as long as it is an independent building. If the greenhouse that is a separate building has a fire alarm signal, it is required to send a signal to the monitoring service, same as what is required for the main school building.

431. Fire Detection (185.395c2B; 175.460a1)

175/185 only: Fire detectors are required in greenhouses which have heaters and are not protected by an automatic sprinkler system. The code does not require the use of heaters to trigger the requirement for detectors, but there are no smoke detectors and heat detectors that are listed for use in freezing environments.

GYM AND MULTIPURPOSE ROOMS

456. Posted Occupant Loads (IFC24: 1004.9; IFC 15/09/06/03: 1004.3; BOCA-F: 601.7)

Any assembly occupancy (greater than 50 persons) must have an approved occupancy load sign posted in a visible location.

457. Number of Exits (IFC 24/15: 1006; IFC09: 1021; IFC06: 1019; IFC03: 1018; BOCA 604.1; BOCA-F: 606.2; 175.410; 185.360c)

Exits shall not be obstructed and number of exits shall not be reduced.

458. Means of Egress Arrangement (IFC24: 1030; IFC15: 1029; IFC09: 1028; IFC06: 1025; IFC03: 1024; BOCA-F: 607.3; 175.310; 185.810)

Means of egress from auditoriums, including aisle and aisle accessway width, and aisle and aisle accessway design shall be designed in accordance with applicable codes.

459. Illuminated Exit Signs (IFC24: 2008; IFC15: 1013; IFC09/06/03: 1011; BOCA-F: 610.2)

In all buildings, rooms or spaces required to have more than one exit or exit access, all required means of egress shall be indicated with approved signs reading “Exit” visible from the exit access and, where necessary, supplemented by directional signs in the exit access corridors indicating the direction and way of egress. All “exit” signs shall be located at exit doors or exit access areas, so as to be readily visible. Sign placement shall be such that any point in the exit access shall not be more than 100 ft from the nearest visible sign. Main exterior exit doors which are obviously and clearly identifiable as exits are not required to have “Exit” signs where approved.

460. Emergency Lighting (IFC 24/15: 1008; IFC09/06/03: 1006; BOCA-F: 610.1)

Emergency lighting is required for means of egress illumination including all assembly areas.

461. Maintenance of Fire-Rated Construction (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

HOME ECONOMICS AND FAMILY SERVICES ROOMS

486. Maintenance of Fire-Rated Construction (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

487. Fire Detection (175.460a1; 185.395c2B)

175/185 only: Fire detectors are required in home economics/family services rooms not protected by an automatic sprinkler system.

488. Exhaust Fan (175.550c)

An exhaust fan must be provided in any home economics/family services rooms where objectionable odors or fumes are produced.

INDUSTRIAL TECHNOLOGY LABS AND METAL WORKING SHOPS

513. Maintenance of Fire-Rated Construction (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

514. Fire Detection (175.460a1; 185.395c2B)

175/185 only: Fire detectors are required in all industrial technology and metal working shops not protected by an automatic sprinkler system.

515. Welding Booth Exhaust (IPMC: 403; BOCA-PM: 404.4; 175.552; 185.460a3)

An exhaust fan must be provided in every welding booth. Such contaminated air must be exhausted to the outside and not re-circulated.

516. Safety Glasses (105 ILCS 115; 23 Il Admin Code 1.420s)

Protective eye devices shall be provided to and worn by all students, teachers, and visitors when participating in or observing dangerous vocational arts and chemical-physical courses of laboratories as specified in 105 ILCS 115/1. Eye protection shall comply with ANSI Z87.1.

KITCHENS

This does not apply to Home Economic Kitchens or non-commercial cooking operations.

541. Maintenance of Fire-Rated Construction and Door Closers (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]. **175/185 only:** Parts 175 and 185 still require a fire-rated separation even if the commercial kitchen is designed pursuant to the applicable edition of NFPA 96, *Standard on Ventilation Control and Fire Protection for Commercial Kitchens*.

542. Fire Detection (175.460a1; 185.395c2B)

175/185 only: Fire detectors are required in kitchens not protected by an automatic sprinkler system.

543. Fire Extinguishers (41 Il Admin Code 251.25; IFC09-904.11.5; NFPA 96-10.9.1; NFPA 10-6.6)

Portable fire extinguishers shall be provided within a 30-foot travel distance of commercial-type cooking equipment. Cooking equipment involving solid fuels (whether under a hood or not) or vegetable or animal oils and fats (including deep fat fryers) shall be protected by a Class K rated portable extinguisher.

544. Cooking Hood Exhaust (IFC24: 606; IFC15/09/06: 609; IFC03: 610; BOCA-F: 309.1; 175.550; 185.460a2)

Each existing commercial cooking appliance and domestic cooking appliance utilized for commercial purposes shall be protected with an approved commercial kitchen exhaust hood and duct system.

545. Regular Inspection and Cleaning of Cooking Hood Exhaust System (IFC24: 606.3.3; IFC15/09: 609.3.3; IFC06/03: 904.11.6.3; BOCA-F: 309.2)

Kitchen cooking hood exhaust and filters shall be cleaned on a frequency that will prevent the accumulation of grease. **IFC09 only:** Kitchen hoods, grease-removal devices, fans, ducts and other appurtenances shall be inspected at 6 month intervals by qualified individuals. If cooking operations involve solid-fuel burning cooking appliances inspections shall be at 1 month intervals. If cooking operations involve charbroiling or wok cooking inspections shall be at 3 month intervals. If during the inspection it is found that hoods, grease-removal devices, fans, ducts or other appurtenances have an accumulation of grease, such components shall be cleaned.

546. Filter Installation and Maintenance (IFC24: 606.3.2; IFC15/09/06: 609.3.2; IFC03: 610; BOCA-F: 309.1)

Filters shall be provided, cleaned and maintained and listed for use in commercial kitchen exhaust systems.

547. Cooking Hood Extinguishing Systems (NFPA 96, Section 10.2.3, Title 41 Ill. Adm. Code 251.40)

Fire extinguishing systems installed for the protection of commercial cooking operations that produce grease-laden vapors shall comply with the UL 300. Automatic fire-extinguishing systems shall be serviced at least every 6 months and after activation of the system. One current inspection tag shall be displayed on the remote manual pull station and the system agent cylinder. Inspections shall be performed by contractors or personnel licensed by the Illinois Office of the State Fire Marshal for these types of systems. After January 1, 2011, licensed contractor will not be able to perform inspection, testing or maintenance on non-UL 300 listed systems.

LIBRARY AND MEDIA CENTERS (If classified as an Assembly Occupancy)

572. Posted Occupant Loads (IFC24: 1004.9; IFC 15/09/06/03: 1004.3; BOCA-F: 601.7)

Any assembly occupancy (greater than 50 persons) must have an approved occupancy load sign posted in a visible location.

573. Number of Exits (IFC 24/15: 1006; IFC09: 1021; IFC06: 1019; IFC03: 1018; BOCA 604.1; BOCA-F: 606.2; 175.410; 185.360c)

Exits shall not be obstructed and number of exits shall not be reduced.

574. Means of Egress Arrangement (IFC24: 1030; IFC15: 1029; IFC09: 1028; IFC06: 1025; IFC03: 1024; BOCA-F: 607.3; 175.310; 185.810)

Means of egress from auditoriums, including aisle and aisle accessway width, and aisle and aisle accessway design shall be designed in accordance with applicable codes.

575. Illuminated Exit Signs (IFC24: 2008; IFC15: 1013, IFC09/06/03: 1011; BOCA-F: 610.2)

In all buildings, rooms or spaces required to have more than one exit or exit access, all required means of egress shall be indicated with approved signs reading "Exit" visible from the exit access and, where necessary, supplemented by directional signs in the exit access corridors indicating the direction and way of egress. All "exit" signs shall be located at exit doors or exit access areas, so as to be readily visible. Sign placement shall be such that any point in the exit access shall not be more than 100 ft from the nearest visible sign. Main exterior exit doors which are obviously and clearly identifiable as exits are not required to have "Exit" signs where approved.

576. Emergency Lighting (IFC 24/15: 1008; IFC09/06/03: 1006; BOCA-F: 610.1)

All means of egress shall be equipped with emergency lighting, including all assembly areas.

577. Maintenance of Fire-Rated Construction and Door Closers (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

578. Fire Detection (175.460a1; 185.395c2D)

175 and 185 only: Smoke or heat detectors are required in libraries and media centers if the room or area has interior finish with flame spread greater than 75 and is not protected with sprinklers.

LITHIUM-ION TECHNOLOGY

603. Lithium-Ion Batteries

(Reserved)

See Appendix T for general information.

MECHANICAL AND FURNACE ROOMS

628. Maintenance of Fire-Rated Construction and Door Closers (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

629. Fire Detection (175.460a; 185.395c2A)

175/185 only: Fire detectors are required in mechanical rooms which are not protected by an automatic sprinkler system.

630. Storage of Combustibles (IFC 24/15: 315.3.3; IFC09/06/03: 315.2.3; BOCA-F: 308.1; 175.532; 185.435; NFPA 54)

Clearances to combustible materials shall be maintained so the operation of furnaces and other gas appliances will not create a hazard to persons or property, but a minimum clearance is required to permit maintenance and inspection of equipment. **IFC only:** Combustible materials shall not be stored in mechanical rooms. A mechanical room is defined by the IMC as a room or space in which nonfuel-fired mechanical equipment and appliances are located.

MUSIC PRACTICE ROOMS

655. Sound Proofing Used As Wall Covering (IFC 24/15/09/06: Chapter 8; IFC03: 806; BOCA-F: 305)

Interior finish in music practice rooms shall comply with the applicable requirements for flame spread and smoke development.

PHOTO DEVELOPING LABS

This applies only to labs that are still using film and chemicals. This does not apply to digital photo processing.

680. Maintenance of Fire-Rated Construction and Door Closers (IFC24: 701.3; IFC: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

681. Fire Detection (175.460a1; 185.395c2B)

175/185 only: Fire detectors are required in photo developing rooms not protected by an automatic sprinkler system.

682. Exhaust Fan (IPMC: 403; BOCA-PM: 404.4; 175.564; 185.460c)

An exhaust fan must be provided in any photo developing lab where objectionable odors or fumes are produced. Such contaminated air must be exhausted to the outside and not re-circulated.

683. Proper Storage and Use of Flammable and Combustible Liquids and Other Chemicals/Portable Gasoline Containers (IFC 24/15: Part V; IFC: 2701.1; BOCA-F: 3203.2; BOCA-PM: 703.2)

Flammable and combustible liquids and other chemicals shall be stored in accordance with applicable codes. Only approved gasoline containers shall be used. Plastic containers meeting the requirements of and used for petroleum products within the scope of one or more of the specifications listed in Appendix B shall be acceptable. [See Appendix B for information]

SCIENCE LABORATORIES

708. Maintenance of Fire-Rated Construction and Door Closers (IFC24: 701.3; IFC: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

709. Fire Detection (175.460a1; 185.395c2B)

175/185 only: Fire detectors are required in science laboratories not protected by an automatic sprinkler system.

710. Exhaust Fan (IPMC: 403; BOCA-PM: 404.4; 175.564; 185.460a6)

An exhaust fan must be provided in science laboratories where objectionable odors or fumes are produced.

711. Fume Hood Exhaust (IPMC: 403; BOCA-PM: 404.4; 175.564; 185.460a5)

A fume hood exhaust for mixing chemicals is to be provided with a separate system which is exhausted to the outside and not re-circulated. Fume exhaust hoods shall not be used for storage.

712. Safety Glasses (105 ILCS 115; 23 II Admin Code 1.420s)

Protective eye devices shall be provided to and worn by all students, teachers, and visitors when participating in or observing dangerous vocational arts and chemical-

physical courses of laboratories as specified in 105 ILCS 115/1. Eye protection shall comply with ANSI Z87.1.

713. Proper Storage and Use of Flammable and Combustible Liquids and Other Chemicals/Portable Gasoline Containers (IFC 24/15: Part V; IFC: 2701.1; BOCA-F: 3203.2; BOCA-PM: 703.2)

Flammable and combustible liquids and other chemicals shall be stored in accordance with applicable codes. Only approved gasoline containers shall be used. Plastic containers meeting the requirements of and used for petroleum products within the scope of one or more of the specifications listed in Appendix B shall be acceptable. [See Appendix B for information]

714. Emergency Fuel Burner Switch (IFGC 24/15/09: 409.6)

Applies only to schools approved for design on or after January 1, 2010: Where provided with two or more gas outlets, including table-, bench-, and hood-mounted outlets, each laboratory space in educational, research, commercial, and industrial occupancies shall be provided with a single dedicated shutoff valve through which all such gas outlets shall be supplied. The dedicated shutoff valve shall be readily accessible, located within the laboratory space served, located adjacent to the egress door from the space, and shall be identified by approved signage stating "Gas Shutoff".

SHOWER AND LOCKER ROOMS

739. Number of Exits (IFC 24/15: 1006; IFC09: 1021; IFC06: 1019; IFC03: 1018; BOCA 604.1; BOCA-F: 606.2; 175.410; 185.360c)

Exits shall not be obstructed and number of exits shall not be reduced.

740. Illuminated Exit Signs (IFC24: 1008; IFC15: 1013; IFC09/06/03: 1011; BOCA-F: 610.2)

In all buildings, rooms or spaces required to have more than one exit or exit access, all required means of egress shall be indicated with approved signs reading "Exit" visible from the exit access and, where necessary, supplemented by directional signs in the exit access corridors indicating the direction and way of egress. All "exit" signs shall be located at exit doors or exit access areas, so as to be readily visible. Sign placement shall be such that any point in the exit access shall not be more than 100 ft from the nearest visible sign. Main exterior exit doors which are obviously and clearly identifiable as exits are not required to have "Exit" signs where approved.

741. Emergency Lighting (IFC 24/15: 1008; IFC09/06/03: 1006; BOCA-F: 610.1)

All means of egress shall be equipped with emergency lighting, including all assembly areas.

742. Exhaust Fan/Ventilation (IMC: 403; BOCA-MC: 175.558; 175.560; 185.457; 185.460a1)

IMC only: Mechanical ventilation/exhaust is required with a minimum exhaust airflow rate of 0.5 cfm/ft². Recirculation is prohibited, except under certain circumstances. See code requirements. **BOCA-MC:** Ventilation at 0.5 cfm/ft² either by natural or mechanical ventilation. **175/185 only:** An exhaust fan must be provided in every shower/locker room.

185 for locker rooms only: Mechanical ventilation is not required if proper ventilation can be obtained using exterior windows and doors. See code requirements in 185.457.

743. Vapor-Proof Lights (175.660d; 185.510a)

175/185 only: Vapor-proof lighting fixtures, devices, controls, and raceway systems shall be used in or adjacent to shower rooms and similar areas characterized by high moisture conditions.

SOLAR PHOTOVOLTAIC POWER SYSTEMS, GROUND MOUNTED PANEL SYSTEMS

768. Clearance from Vegetation (IFC24: 1205.5.1;)

A clear, brush-free area of 10 feet shall be required for ground-mounted photovoltaic arrays for visibility, service, and emergency access.

769. Marking

(See requirements for roof mounted solar photovoltaic power systems).

SOLAR PHOTOVOLTAIC POWER SYSTEMS, ROOF MOUNTED

(Fire inspectors are not expected to climb to roofs to inspect systems)

794. Roof Access (IFC24: 1205; IBC24: 3111;)

Roof access points shall be located in areas that do not require the placement of ground ladders over openings such as windows or doors and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires or signs. Roof access points are areas where ladder placement would not be over openings so as to obstruct ingress or egress of personnel, interfere with the use of openings for ventilation or expose the ground ladder and its users to heat, smoke or fire erupting from openings. Ladder placement must also be located at strong points of building construction so that there is less risk of collapse while fighting a fire. Overhead obstructions must also be taken into account. Having PV panels and modules limits the locations where fire fighters can place ladders, therefore it is more important that these factors be addressed as part of the installation process. In addition to the access aisles required by ISBE adopted codes for roof mounted systems, HVAC units, exhaust ducts, and other roof mounted appliances including commercial kitchen exhaust/fans shall have a 4 ft clearance from solar photovoltaic panels.

795. Rapid Shutdown (IFC24: 1205; NFPA 70(2023): Article 690)

PV system circuits installed on or in buildings shall include a rapid shutdown function that controls specific conductors in accordance with 690.12. (See Appendix S).

796. Marking (IFC24: 1205; NFPA 70(2023): Article 690)

Each PV system disconnecting means shall be permanently marked to identify it as a PV system disconnect. Manufacturing labels shall not be covered by other labels. Labels shall be UV rated or by use of a UV rated marker. No blank boxes are permitted. If a box is part of the solar photovoltaic system it must be labeled for its use. The type of solar photovoltaic system rapid shutdown shall be labeled as detailed in Appendix S.

Additionally, a warning label shall appear on the utility-interactive inverter or be applied by the installer near the ground-fault indicator at a visible location, stating the following. When the PV system also has batteries, the same warning shall also be applied by the installer in a visible location at the batteries:

ELECTRIC SHOCK HAZARD
IF A GROUND FAULT IS INDICATED, NORMALLY GROUNDED CONDUCTORS MAY
BE UNGROUNDED AND ENERGIZED

STAGES (Large or Professional), DRESSING ROOMS AND OTHER ACCESSORY AREAS

These requirements pertain to those stages with overhead hanging curtains, drops, scenery or stage effects other than lighting and sound; or a stage where the distance between the top of the proscenium opening and the ceiling above the stage is more than 5 ft or the overall stage height is more than 50 ft. These are usually only found in high schools.

821. Illuminated Exit Signs (IFC24: 1008; IFC15: 1013; IFC09/06/03: 1011; BOCA-F: 610.2)

In all buildings, rooms or spaces required to have more than one exit or exit access, all required means of egress shall be indicated with approved signs reading “Exit” visible from the exit access and, where necessary, supplemented by directional signs in the exit access corridors indicating the direction and way of egress. All “exit” signs shall be located at exit doors or exit access areas, so as to be readily visible. Sign placement shall be such that any point in the exit access shall not be more than 100 ft from the nearest visible sign. Main exterior exit doors which are obviously and clearly identifiable as exits are not required to have “Exit” signs where approved. Exit signs may not be covered during performances.

822. Emergency Lighting (IFC 24/15: 1008; IFC09/06/03: 1006; BOCA-F: 610.1)

Emergency lighting shall be provided in stage and accessory areas.

823. Maintenance of Fire-Rated Construction and Door Closers (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

824. Proscenium Wall Opening Protection (IBC: 410; BOCA-B: 412; 175.310e; 185.360e)

IBC/BOCA-B only: Legitimate (large) stages shall be completely separated from the seating area by a proscenium wall with not less than a 2-hour fire-resistance rating. The proscenium opening of every legitimate (large) stage shall be provided with a proscenium curtain of approved material and the closing of the curtain from the full open position shall be effected in less than 30 seconds, but the last 8 feet of travel shall require not less than 5 seconds. **175/185 only:** The proscenium opening shall be provided with a noncombustible or flame proofed proscenium curtain. Doors in the proscenium wall shall be of the self-closing type and of metal or solid core wood construction. Proscenium curtains shall be installed, maintained, and tested in accordance with NFPA 101. [See Appendix E for requirements]

825. Curtains and Scenery (IFC24: 807.2; IFC15/09/06: 807.3; IFC03: 805; IFC03: 806; BOCA-F: 306; 175.430c; 185.390k)

Stage curtains must be flameproof or fire retardant. All other decorative materials shall be of noncombustible material or flame retardant.

826. Sprinkler Systems and Ventilators (IBC: 410; BOCA-B: 412; 175.310e; 185.360e1)

Every stage located in a Class A or B Assembly Occupancy as defined by Part 175 or Part 185 or legitimate (large) stages approved for design under Part 180 rules, which are equipped with fly galleries, gridirons, and rigging for movable theater-type scenery shall be protected by sprinklers. Such protection shall also be provided in auxiliary spaces such as dressing rooms, storerooms, and workshops. Requirements of this rule shall not apply to stages not falling within the scope of language above, i.e. unenclosed platform-type stages or stages without proscenium walls. **Part 185 and 175 only:** If the stage falls under one of the exemptions for sprinklers, then fire detection is required.

827. Standpipes for Stages (IFC 905.3; BOCA-B: 412.7; 175.310b; NFPA 101-8-1516)

IFC only: Standpipes are required for stages greater than 1,000 ft². **BOCA 1993/1996**

only: A wet standpipe system in accordance with Section 914 shall be provided and equipped with 1½-inch hose connections on each side of the stage. **175 only (from NFPA 101-1967):** Each stage shall be equipped with 2½-inch standpipe and hose on each side of the stage, installed in accordance with NFPA 14.

STAGES (Small)

These requirements apply to those smaller stages found in your typical grade school and middle school or an enclosed platform where the distance between the top of the proscenium opening and stage ceiling is not more than 5 ft. Scenery is still used, but normally not hung from professional riggings installed in the ceiling as with the Large Stages in the section above.

852. Illuminated Exit Signs (IFC24: 1008; IFC15: 1013; IFC09/06/03: 1011; BOCA-F: 610.2)

In all buildings, rooms or spaces required to have more than one exit or exit access, all required means of egress shall be indicated with approved signs reading “Exit” visible from the exit access and, where necessary, supplemented by directional signs in the exit access corridors indicating the direction and way of egress. All “exit” signs shall be located at exit doors or exit access areas, so as to be readily visible. Sign placement shall be such that any point in the exit access shall not be more than 100 ft from the nearest visible sign. Main exterior exit doors which are obviously and clearly identifiable as exits are not required to have “Exit” signs where approved. Exit signs shall not be covered during performances.

853. Emergency Lighting (IFC 24/15:1008; IFC09/06/03: 1006; BOCA-F: 610.1)

Emergency lighting shall be provided in stage and accessory areas.

854. Curtains and Scenery (IFC24: 807.2; IFC15/09/06: 807.3; IFC03: 805; IFC03: 806; BOCA-F: 306; 175.430c; 185.390k)

Stage curtains must be flameproof or fire retardant. All other decorative materials shall be of noncombustible material or flame retardant.

855. Fire Detection (175.460a3; 185.395c2E)

175/185 only: Fire detectors are required in all stages, dressing rooms, and storage rooms which are part of or accessory to an assembly occupancy room and not protected by an automatic sprinkler system.

STAGES WITH STORAGE UNDERNEATH

880. Maintenance of Fire-Rated Construction and Door Closers (IFC 24/15: 315.3.4; IFC09/06/03: 315.2.4; IFC: 703; BOCA-F: 303, 175.310(f); 175.440(c); 185.320(b)(2)(B)(i); 185.360(d)(8)(c))

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

881. Noncombustible Storage Only (IFC 24/15: 315.3.4; IFC09/06/03: 315.2.4)

IFC15 only: One-hour separation is not required if the area below the stage is protected with sprinklers. **IFC09/06/03 only:** One-hour separation is not required for storage spaces under stage are used for only noncombustible storage, or if area below stage is protected with sprinklers.

882. Fire Detection (175.460a3; 185.395c2E)

175/185 only: Fire detectors are required in storage areas not protected by an automatic sprinkler system.

883. Sprinklers (IBC15: 410; IBC09/06/03: 410.6(1); BOCA-B96: 412.6; BOCA-B93: 412.6(4))

If the stage is required to be sprinklered, then the storage space under the stage also must be protected with sprinklers. **IBC/BOCA-B96 only:** Sprinklers are not required under stage areas less than 4 feet in clear height utilized exclusively for storage of tables and chairs, provided the conceals space is separated from the adjacent spaces by not less than 5/8-inch Type X gypsum board. **BOCA-B93 only:** Sprinklers are not required under stages less than 4 feet in clear height utilized for storage and the stage supporting structures are of 1-hour fire resistance rating.

STAIRWELLS

908. Properly Maintained Stairs (IPMC: 305.4; BOCA-PM: 305.5; 185.370c10G)

Stairs, walking surfaces and rails shall be maintained in sound condition and good repair.

185 only: Non-slip treads are required on all stairs.

909. Illuminated Exit Signs (IFC24: 1008; IFC15: 1013; IFC09/06/03: 1011; BOCA-F: 610.2)

In all buildings, rooms or spaces required to have more than one exit or exit access, all required means of egress shall be indicated with approved signs reading “Exit” visible from the exit access and, where necessary, supplemented by directional signs in the exit access corridors indicating the direction and way of egress. All “exit” signs shall be located at exit doors or exit access areas, so as to be readily visible. Sign placement shall be such that any point in the exit access shall not be more than 100 ft from the nearest visible sign. Main exterior exit doors which are obviously and clearly identifiable as exits are not required to have “Exit” signs where approved.

910. Emergency Lighting (IFC 24/15: 1008; IFC09/06/03: 1006; BOCA-F: 610.1)
Emergency lighting is required for means of egress illumination in stairwells.

911. Interior Exit Stair Enclosures (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303; BOCA-F: 606.3; BOCA-PM: 704)
Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

912. No Storage within Enclosed Stairs/Stairways (IFC 24/15: 315.3.2; IFC: 315.2.2; BOCA-F: 606.1.1; BOCA-PM: 703.1)
Storage is not permitted within an enclosed stairway, even if the stairway is protected with sprinklers. The only exception to this requirement is if a separate enclosed storage room is created that is enclosed with fire rated construction as what is required for the stairway itself. Access to the enclosed usable storage area shall not be directly from within the stair enclosure.

913. Fire Detection (185.395c2F)
185 only: Fire detectors are required at the top of stairwells not protected by an automatic sprinkler system.

STORAGE, SUPPLY ROOMS, AND CLOSETS

938. Maintenance of Fire-Rated Construction (IFC24: 701.3; IFC: 703; BOCA-F: 303)
Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

939. Fire Detection (175.460a4; 185.395c2A)
185 only: Fire detectors are required in storage areas not protected by an automatic sprinkler system. **175 only:** Detector is required if storage room is greater than 10 ft².

940. Classroom, Janitor’s Closets and Cloakrooms (175.290b; 185.310e5C; 185.310e5D)
175 only: To avoid the requirement for automatic closing devices, closet doors, which are open only when a responsible person is in attendance, must normally be kept locked. **185 only:** Teachers’ closets not more than 12 ft² in areas with access doorway directly from a normal educational classroom shall be considered as part of the classroom and shall not be required to be separated. Rooms that lead directly into a normal educational classroom used only for the storage of coats and other apparel and not more than 100 ft² in area shall not be required to be separated. Cloakrooms not more than 100 sq. ft. in area with access doorway there into directly from a normal Educational Occupancy

classroom shall be considered as part of such classroom and thereby, classified as an Educational Occupancy, provided-the use of such cloakrooms is restricted to that attendant with the normal storage of wraps, coats and other human apparel. Where cloakrooms are used for any purposes other than that of storage of cloaks, wraps, and other human apparel or are more than 100 sq. ft. in area, such rooms shall be classified as Storage Occupancies and shall comply with the requirements of Section 185.390(f)(1).

SWIMMING POOLS

(A) Applies only if the swimming pool area can be classified as an Assembly Occupancy.

965. Posted Occupant Loads (A) (IFC24: 1004.9; IFC 15/09/06/03: 1004.3; BOCA-F: 601.7)

Any assembly occupancy (greater than 50 persons) must have an approved occupancy load sign posted in a visible location.

966. Number of Exits (A) (IFC 24/15: 1006; IFC09: 1021; IFC06: 1019; IFC03: 1018; BOCA 604.1; BOCA-F: 606.2; 175.410; 185.360c)

Exits shall not be obstructed and number of exits shall not be reduced.

967. Means of Egress Arrangement (A) (IFC24: 1030; IFC15:1029; IFC09: 1028; IFC06: 1025; IFC03: 1024; BOCA-F: 607.3; 175.310; 185.810)

Means of egress from auditoriums, including aisle and aisle accessway width, and aisle and aisle accessway design shall be designed in accordance with applicable codes.

968. Illuminated Exit Signs (A) (IFC24: 1008; IFC15: 1013; IFC09/06/03: 1011; BOCA-F: 610.2)

In all buildings, rooms or spaces required to have more than one exit or exit access, all required means of egress shall be indicated with approved signs reading "Exit" visible from the exit access and, where necessary, supplemented by directional signs in the exit access corridors indicating the direction and way of egress. All "exit" signs shall be located at exit doors or exit access areas, so as to be readily visible. Sign placement shall be such that any point in the exit access shall not be more than 100 ft from the nearest visible sign. Main exterior exit doors which are obviously and clearly identifiable as exits are not required to have "Exit" signs where approved.

969. Emergency Lighting (A) (IFC 24/15: 1008; IFC09/06/03: 1006; BOCA-F: 610.1)

All means of egress shall be equipped with emergency lighting, including all assembly areas.

970. Maintenance of Fire-Rated Construction and Door Closers (A) (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

971. Vapor-Proof Lights (175.660d; 185.510a)

Vapor-proof lighting fixtures, devices, controls, and raceway systems shall be used in or adjacent to swimming pool rooms, and similar areas characterized by high moisture conditions.

972. Exhaust Fan (175.554; 185.460a7)

Exhaust fans must be provided in every swimming pool room.

973. IDPH Safety Equipment (77 Ill. Adm. Code 820.310)

Lifesaving equipment is to be mounted in readily accessible location in accordance with minimum sanitary requirements for the design and operation of swimming pools and bathing beaches as produced by the IDPH.

974. Fire Extinguishers (NFPA 10-5.5.4.7.1)

Only water or foam extinguishers shall be installed in areas where pool chemicals containing chlorine or bromine are stored. Multipurpose dry chemical fire extinguishers shall not be installed in areas containing oxidizers.

975. Fire Detection (A) (185.395c2D)

Part 185 only: Smoke or heat detectors are required in assembly areas if the room or area has interior finish with flame spread greater than 75 and is not protected with sprinklers.

TEACHERS' WORKROOMS AND LOUNGES

1000. Maintenance of Fire-Rated Construction and Door Closers (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

If the teachers' lounge has any cooking or heating appliances, with the exception of microwaves, refrigerators, Keurig machines, and coffee pots, the required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

1001. Fire Detection (175.460a1; 185.395c2E)

175/185 only: Fire detectors are required in teachers' workrooms and any lounges where there are cooking or heating appliances if these areas are not protected by an automatic sprinkler system.

1002. Exhaust Fan (175.550c)

An exhaust fan must be provided in any teachers' workroom/lounge where there are any cooking or heating appliances where objectionable odors or fumes may be produced.

TIME-OUT ROOMS

1027. Ceiling Height (23 Ill. Admin. Code 1.285a1A)

Any enclosure used for isolated time out shall have the same ceiling height as the surrounding room or rooms and be large enough to accommodate not only the student being isolated but also any other individual who is required to accompany that student.

1028. Safe Construction (23 Ill. Adm. Code 1.285a; IFC 24/15/09/06: Chapter 8; IFC03: 806; BOCA-F: 305)

Any enclosure used for isolated time out shall be constructed of materials that cannot be used by students to harm themselves or others, be free of electrical outlets, exposed wiring, and other objects that could be used by students to harm themselves or others, and be designed so that students cannot climb up the walls (including walls far enough apart so as not to offer the students being isolated sufficient leverage for climbing). If an enclosure is fitted with a door, either a steel door or a wooden door of solid-core construction shall be used. If the door includes a viewing panel, the panel shall be unbreakable. Any padding shall comply with applicable codes for flame spread, smoke development, and fire resistance.

1029. Locking [105 ILCS 5/10-20.33(d); 23 Ill. Adm. Code 1.285(a)(4)(E)]

The use of any of the following rooms or enclosures for an isolated time out or time out purposes is prohibited:

- 1) Any room with a door fitted with a locking mechanism.
- 2) Any room that is physically blocked by furniture or any other inanimate object at any time during the isolated time out or time out.
- 3) A confining space such as a closet or box.
- 4) A room where the student cannot be continually observed.
- 5) Any other room or enclosure or time out procedure that is contrary to current rules adopted by the State Board of Education.

1030. Monitoring (23 Ill. Admin. Code 1.285a1C)

Any enclosure for isolated time out shall be designed to permit continuous visual monitoring of and communication with the student.

TOILETS

1055. Exhaust Fan (IPMC: 403.2; BOCA-PM: 404.2; 175.556; 185.460a1)

Exhaust fans must be provided in every toilet room.

WOODWORKING SHOPS

1080. Maintenance of Fire-Rated Construction and Door Closers (IFC24: 701.3; IFC 15/09/06/03: 703; BOCA-F: 303)

Required fire-rated construction shall be maintained. [See Appendix O, P, or Q for requirements]

1081. Fire Detection (175.460a2; 185.395c2B)

175/185 only: Fire detectors are required in woodworking shops that are not protected by an automatic sprinkler system.

1082. Fire Extinguishers (IFC 24/15: 2804.3; IFC09/06/03: 1904.2; BOCA-F: 1603.3)

A fire extinguisher suitable for Class A fires is required to be installed within 50 ft of any machine producing shavings or sawdust. The fire extinguisher must be inspected

annually by a contractor licensed by the Office of the State Fire Marshal and the fire extinguisher shall display a current inspection tag. **IFC only:** A standpipe system with hose connected to an approved water supply and located within 50 feet to any machine producing shavings or sawdust can be used in lieu of fire extinguishers.

1083. Sawdust Collector and Exhaust (IFC 24/15: 2803.3; IFC09/06/03: 1903.2; BOCA-F: 1603.2; 175.562; 185.460b)

A special exhaust system to collect sawdust is required in woodworking shops. Collection device must be emptied regularly.

1084. Safety Glasses (105 ILCS 115; 23 II Admin Code 1.420s)

Protective eye devices shall be provided to and worn by all students, teachers, and visitors when participating in or observing dangerous vocational arts and chemical-physical courses of laboratories as specified in 105 ILCS 115/1. Eye protection shall comply with ANSI Z87.1.

1085. Housekeeping (IFC 24/15: 2803.3.1; IFC09/06/03: 1903.3.1; BOCA-F: 1603.2)

Provisions shall be made for systematic, thorough cleaning of the woodworking area at sufficient intervals to prevent the accumulation of combustible dust and spilled combustible or flammable liquids and to keep the premises clean. All horizontal flat areas, including shelves, sills, fixtures and similar geometries where dust can settle and collect shall be part of this systematic cleaning program.

APPENDIX A

Code References and Acronyms

23 Il. Adm. Code 1	Public Schools Evaluation, Recognition and Supervision
29 CFR 1910	Title 29 of the Code of Federal Regulations-1910 is Labor
29 Il. Adm. Code 1500	Joint Rules of the Office of the State Fire Marshal and the Illinois State Board of Education: School Emergency and Crisis Response Plans
41 Il. Adm. Code 109	Fire Sprinkler Contractor Rules
41 Il Adm. Code 111	School Inspections
41 Il. Adm. Code 251	Fire Equipment Distributor and Employee Standards
41 Il. Adm. Code 1000	Illinois Elevator Safety Rules
105 ILCS 5/	School Code
105 ILCS 115/	Eye Protection in School Act
105 ILCS 128/	School Safety Drill Act
175	Health Life Safety Code 175, Built after July 1, 1965
175/101	NFPA 101-Life Safety Code, 1967 edition
180	Health Life Safety Code 180, Built after March 25, 1995
185	Health Life Safety Code 185, Built before July 1, 1965
225 ILCS 317	Fire Sprinkler Contractor Licensing Act
425 ILCS 20	Fire Hydrant Act
430 ILCS 75	Boiler and Pressure Vessel Safety Act
430 ILCS 60	Safety Glazing Materials Act
AHJ	Authority Having Jurisdiction
ANSI	American National Standards Institute
ANSI/UL 1313	Nonmetallic Safety Cans for Petroleum Products
ANSI Z87.1	Practice for Occupational and Educational Eye and Face Protection (2003)
ANSI Z97.1	Safety Glazing Materials Used in Buildings (1966 or later as adopted by the Illinois Department of Labor)
ANSI Z358.1	Emergency Eye Wash and Shower Equipment
ASME B&PV Code	American Society of Mechanical Engineers-Boiler and Pressure Vessel Safety Code (2023)
ASTM	American Society of Testing Materials
ASTM E-84	Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM F852	Standard for Portable Gasoline Containers for Consumer Use
ASTM F976	Standard for Portable Kerosene containers for Consumer Use
BOCA	Building Officials and Code Administrators
BOCA-B	BOCA National Building Code (1993 and 1996)*
BOCA-F93	BOCA National Fire Prevention Code (1993)
BOCA-F96	BOCA National Fire Prevention Code (1996)
BOCA-F	BOCA National Fire Prevention Code (1993 and 1996)*
BOCA-MC	BOCA National Mechanical Code
BOCA-PM	BOCA Property Maintenance Code
CFR	Code of Federal Regulations
CPSC	Consumer Product Safety Commission
DOC FF-1 “pill test”	CPSC 16 CFR, Part 1630-Standard for the Surface Flammability of Carpets and Rugs
ESFR	Early Suppression Fast Response
FM	Factory Mutual
IAQ	Indoor Air Quality

IARSS	Illinois Association of Regional Superintendents of Schools www.iarss.org
IBC	International Building Code (2003, 2006, 2009, 2015, and 2024)*
ICC	International Code Council
ICC 300	Bleachers, Folding, Telescopic Seating, and Grandstands (2002, 2007, and 2012)
IDA	Illinois Department of Agriculture
IDPH	Illinois Department of Public Health
IFC	International Fire Prevention Code (2003, 2006, 2009, 2015, and 2024)*
IFC03	International Fire Code (2003)
IFC06	International Fire Code (2006)
IFC09	International Fire Code (2009)
IFC15	International Fire Code (2015)
IFC24	International Fire Code (2024)
IFGC09	International Fuel Gas Code (2009)
IFGC15	International Fuel Gas Code (2015)
Ill. Adm. Code	Illinois Administrative Code
ILCS	Illinois Compiled Statutes
IMC	International Mechanical Code (1996, 2003, 2006, 2009, 2015, and 2024)*
IPMC	International Property Maintenance Code (2003, 2006, 2009, 2015, and 2024)*
ISBE	Illinois State Board of Education www.isbe.net
IWAS	ISBE Web Application Security
NFPA	National Fire Protection Association
NFPA 10	Standard for Portable Fire Extinguishers (2022)
NFPA 13	Standard for the Installation of Sprinkler Systems
NFPA 14	Standard for the Installation of Standpipe & Hose Systems
NFPA 17	Standard for Dry Chemical Extinguishing Systems (2021)
NFPA 25	Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems
NFPA 33	Standard for Spray Application Using Flammable or Combustible Materials
NFPA 40	Standard for the Storage and Handling of Cellulose Nitrate Motion Picture Film
NFPA 54	National Fuel Gas Code
NFPA 70	National Electrical Code
NFPA 72	National Fire Alarm Code
NFPA 72A	Standard for Local Protective Signaling Systems
NFPA 80	Standard for Fire Doors and Fire Windows
NFPA 80	Standard for Fire Doors and Other Opening Protectives (2022)
NFPA 96	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations (2021)
NFPA 101	Life Safety Code (1967)
NFPA 102	Places of Outdoor Assembly, Grandstands and Tents
NFPA 110	Standard for Emergency and Standby Power Systems
NFPA 255	Standard Method of Test of Surface Burning Characteristics of Building Materials
NFPA 286	Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling interior Finish to Room Fire Growth
NFPA 701	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films
OSFM	Office of the State Fire Marshal www.sfm.illinois.gov
OSHA	Occupational Safety and Health Administration

UL	Underwriter's Laboratories
UL 300	Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment
UL 924	Standard for Safety Emergency Lighting and Power Equipment
(* Section numbering did not change between edition years)	

APPENDIX B

The Storage/Handling of Flammable/Combustible Liquids and Other Chemicals

1. Storage of Flammable and Combustible Liquids

- Flammable and combustible liquids stored in an approved cabinet
- Maximum of three cabinets in a single fire area
- Venting to outside not required to be hooked up, but the vent opening itself must be covered using manufacturer's (provided) cover
- Flammable and combustible liquids kept outside of the cabinet must be stored in an approved safety can (See below for more information on plastic gas cans).
- Control ignition sources
- Approved garbage receptacles for oily rags
- Housekeeping
- Plastic gasoline containers that comply with one or more of the following standards are acceptable to use: ASTM F852; ASTM F976; ANSI/UL 1313

2. Storage of Gases

- Flammable gases should not be stored with nonflammable oxidizing gases. Keep a 20 ft separation or a ½-hr fire rated wall
- Cylinders shall always be secured upright whether full or empty. Propane/LPG tanks should be stored outside and in an approved cage, but the code permits indoor storage under certain circumstances
- Gas storage area should be clear of combustible storage
- Control ignition sources
- Housekeeping
- Protect from physical damage

3. Spray Paint Areas

- Storage of flammable spray paints in an approved cabinet
- Exhaust has filters and filters are changed or cleaned regularly
- Approved garbage receptacles for used oily and paint rags
- Housekeeping

4. The Storage of Corrosives within Flammable Liquids Cabinets with Flammable and Combustible Liquids

Corrosives are not all combustible, but their chief hazard lies in the danger of leakage and possible mixture with other chemicals or combustible material stored in the vicinity, since fire or explosions could occur from mixing of the chemicals. Some corrosives are strong oxidizing agents and would provide oxygen to accelerate the burning of other combustible materials. For this reason, oxidizing corrosives should never be stored in the same areas as flammable liquids. The first principle of good storage practice for chemicals is segregation, including separation from other materials in storage, from processing and handling operations and from other incompatible materials.

APPENDIX C

Fire Alarm Inspection, Testing, and Maintenance

Building Codes	Location of Fire Alarm ITM Requirements
2024 IBC. For new fire alarm systems contracted on or after January 1, 2025. For system contracted for design before January 1, 2025, allows compliance with IBC 2009, IBC 2006, IBC 2003, BOCA 96, BOCA 93, Part 175, or Part 185.	IFC (24): 907.8.4 and NFPA 72 (2022)
2015 IBC. For new fire alarm systems contracted for design on or after July 1, 2016 but before January 1, 2025. For system contracted for design before July 1, 2016 , allows compliance with IBC 2009, IBC 2006, IBC 2003, BOCA 96, BOCA 93, Part 175, or Part 185.	IFC (15): 907.9 and NFPA 72 (2013)
2009 IBC. For new fire alarm systems contracted for design on or after January 1, 2010 but before July 1, 2016. For systems contracted for designed before January 1, 2010 , allows compliance with IBC 2006, IBC 2003, BOCA 96, BOCA 93, Part 175, or Part 185.	IFC (09): 907.9 and NFPA 72 (2007)
2006 IBC. For fire alarm systems contracted for design on or after September 25, 2007 but before January 1, 2010. For systems contracted for design before September 25, 2007, allows compliance with IBC 2003, BOCA 96, BOCA 93, Part 175 or Part 185.	IFC (06): 907.20 and NFPA 72 (2002)
2003 IBC. For fire alarm systems contracted for design on or after October 3, 2005 but before September 25, 2007. For systems contracted for design before October 3, 2005 , allows compliance with BOCA 96, BOCA 93, Part 175 or Part 185.	IFC (03): 907.20 and NFPA 72 (1999)
1996 BOCA. For fire alarm systems contracted for design on or after July 6, 1998 but before October 3, 2005. For systems contracted for designed before October 3, 2005 , allows compliance with BOCA 93, Part 175 or Part 185.	BOCA-F(96): 513.1 and NFPA 72 (1996)

1993 BOCA. For fire alarm systems contracted for design on or after March 24, 1995 and before July 6, 1998. For systems designed before March 24, 1995, allows compliance with Part 175 or Part 185.	BOCA-F(93): 512.1 and NFPA 72 (1990)
Part 175. For fire alarm systems contracted for design on or after July 1, 1965 but before March 24, 1995. For systems contracted for design before July 1, 1965, allows compliance with Part 185.	175.610(c) and NFPA 72A (1967)
Part 185. For fire alarm systems contracted for design before July 1, 1965.	185.510(b) and NFPA 72A (1961)

APPENDIX D

Fire Extinguisher Installation Matrix

NFPA 10–Standard for Portable Fire Extinguishers (2022) as adopted by Title 41 Ill. Adm. Code, Part 251				
Hazard Classification	Maximum travel distance to fire extinguisher (ft)	Other Requirements		
		Maximum area to be protected per unit of “A” for Class A fires	Class B fires	Class C fires
Light hazard 2A	75	3,000 ft ²		Extinguisher requires a non-conducting extinguishing media
	30		5B	
	50		10B	
Ordinary hazard 2A	75	1,500 ft ²		
	30		10B	
	50		20B	
Extra hazard 4A	75	1,000 ft ²		
	30		40B	
	50		80B	
Class D fires ⁽¹⁾	75			
Class K fires	30 ⁽²⁾			(3)
Areas containing oxidizers	Only water type or foam extinguishers shall be installed in areas containing oxidizers such as pool chemicals. Multipurpose dry chemical fire extinguishers shall not be installed in areas containing oxidizers such as pool chemicals			

⁽¹⁾ Size determinations shall be on the basis of the specific combustible metal, its physical particle size, area to be covered, and recommendations by the fire extinguisher manufacturer on data from control tests conducted

⁽²⁾ 30 ft travel distance from cooking appliance to fire extinguisher

⁽³⁾ Class C not a consideration in cooking media fires

APPENDIX E

Recommendations for Periodic Inspection and Testing of Proscenium Curtains from NFPA 80-(2007)

****This list is mandatory for proscenium curtains installed on or
after January 1, 2010****

- The fire safety (proscenium) curtain assembly should be closed at all times except when there is an event, rehearsal, or similar activity.
- The fire safety (proscenium) curtain should be labeled for compliance with testing methods and this label should be within 5 ft of the bottom of the curtain and indicate the curtain fabric's fire resistance rating.
- The rigging system should be inspected annually by someone qualified to perform the work.
- Inspection should include all components of the fire safety (proscenium) curtain assembly and operation including testing of emergency operation activation and systems.
- Re-training of the owner and staff should be mandatory during each annual inspection.
- Signed and dated inspection reports including a list of who attended the training should be kept on file with the owner for review.
- Unless temporary measures have been approved by the authority having jurisdiction, repairs required for emergency operation of the fire safety (proscenium) curtain assembly should be completed before the facility can be occupied for an event with an audience.
- Repairs not affecting the emergency closing of the fire safety (proscenium) curtain should be completed within 30 days.
- Maintenance should be carried out in accordance with the manufacturer's recommendations and schedule.
- Repairs and maintenance should be recorded in a repair/maintenance log, which should include the date, name of the person repairing or maintaining, and a description detailing parts affected, maintained and adjusted, and/or replaced. This report should be kept on file with the owner for review.

APPENDIX F

Periodic Testing of Emergency Lighting Equipment

For buildings approved for design before October 3, 2005 (BOCA-F96: 611.2; BOCA-F93: 610.1.1)

- Functional testing should be conducted every month for not less than 30 seconds, and
- Functional testing should be conducted annually for not less than one hour if the emergency lighting system is battery powered, and
- The emergency lighting equipment should be fully operational for the duration of the tests required by (a) and (b), and
- Written records of visual inspections and tests should be kept by the owner.

For buildings approved for design on or after October 3, 2005

(NFPA 70-*National Electrical Code* 2002/2005/2008: Article 700.4 and Article 700.3 (2014 edition) as referenced by the International Code Council Electrical Code 2003/2006 and Section 2701.1 of IBC09/15/24)

- Systems shall be tested periodically on a schedule acceptable to the authority having jurisdiction to ensure the systems are maintained in proper operating condition. Where battery systems or unit equipment is involved, including batteries used for starting, control, or ignition in auxiliary engines, the authority having jurisdiction shall require periodic maintenance.
- A written record shall be kept of such tests and maintenance.
- Means for testing all emergency lighting and power systems during maximum anticipated load conditions shall be provided. [For testing and maintenance procedures of emergency power supply systems (EPSSs), see NFPA]

APPENDIX G

Dead-End Travel Matrix

185.380I(9)(A)	No dead-end shall exceed 20 ft in length, except as permitted below:
(i)	The dead-end travel may be increased to 40 ft if the building is protected throughout with sprinklers and the room or space is not used by more than 20 persons.
(ii)	The dead-end travel may be increased to 40 ft if the room or space has a capacity of not more than 100 persons and is provided with a secondary path of travel to an exit that is separated from the dead-end corridor.
(iii)	The dead-end travel may be increased to 60 ft if the room or space has a capacity of not more than 100 persons and is all persons have access to an exterior exit. In this case the dead-end travel may be increased to 75 ft in buildings protected throughout with sprinklers.
(iv)	The dead-end travel may be increased to 40 ft for those dead-end corridors serving street floor rooms or spaces with capacities of more than 10 persons and is provided with an exterior exit, or a separated secondary path of exit travel, or a secondary means of escape. In this case the dead-end travel may be increased to 60 ft in buildings protected throughout with sprinklers.
175.410(g)	Dead end corridors requiring travel of not more than 20 ft from the door of a room to an exit shall be permitted.
BOCA-F: 607.2	Dead end corridors shall not exceed 35 ft except for in a building protected throughout with sprinklers the dead-end travel may be increased to 70 ft.
IFC03: 1026.17.2; IFC06: 1027.17.2	For educational and assembly occupancies, dead-end corridors shall not exceed 20 ft in length in sprinklered and unsprinklered buildings, except that there shall be no limit where the dead-end passageway or corridor is less than 2½-times the least width of the dead-end passageway or corridor.
IFC09: 1018.4	For educational and assembly occupancies, dead-end corridors shall not exceed 50 ft in length in sprinklered and unsprinklered buildings, except that there shall be no limit where the dead-end passageway or corridor is less than 2½-times the least width of the dead-end passageway or corridor.
IFC15: 1020.4	For educational and assembly occupancies, dead-end corridors shall not exceed 50 ft in length in sprinklered and unsprinklered buildings, except that there shall be no limit where the dead-end passageway or corridor is less than 2½-times the least width of the dead-end passageway or corridor.
IFC24: 1020.5	Where more than one <i>exit</i> or <i>exit access doorway</i> is required, the <i>exit access</i> shall be arranged such that dead-end <i>corridors</i> do not exceed 20 feet (6096 mm) in length, except in a Group E that is equipped throughout with an automatic sprinkler system, the dead-end in a corridor shall not exceed 50 feet.

APPENDIX H

Wall-Mounted Alcohol-Based Hand-Rub Dispensers IFC09/06)-Section 3405.5, IFC24/15-Section 5705.5

Wall-mounted alcohol-based hand rubs classified as Class I or II liquids (Flash point <140°F): The use of wall-mounted dispensers containing alcohol-based hand rubs classified as Class I or II liquids shall be in accordance with all of the following:

1. The maximum capacity of each dispenser shall be 68 oz.
2. The minimum separation between dispensers shall be 48 in.
3. The dispensers shall not be installed directly adjacent to, directly above or below an electrical receptacle, switch, appliance, device or other ignition source. The wall space between the dispenser and the floor shall remain clear and unobstructed. **IFC24/15 only:** Dispensers shall not be installed above, below, or closer than 1 inch to an electrical receptacle, switch, appliance, device, or other ignition source.
4. Dispensers shall be mounted so that the bottom of the dispenser is a minimum of 42 in and a maximum of 48 in above the finished floor.
5. Dispensers shall not release their contents except when the dispenser is manually activated.
6. Storage and use of alcohol-based hand rubs shall be in accordance with the applicable provisions of Sections 3404 and 3405.
7. Dispensers installed in occupancies with carpeted floors shall only be allowed in areas equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. The sprinklered area must be bounded by fire walls, fire barriers, exterior walls, or smoke barriers as well as ceiling/floor assemblies.

Corridor Installations (IFC06):

1. Aerosol containers shall not be allowed in corridors.
2. The maximum capacity of each dispenser shall be 41 oz.
3. The maximum quantity allowed in a corridor within a control area shall be 10 gallons.
4. The minimum corridor width shall be 72 in.
5. Projections into a corridor shall be in accordance with Section 1003.3.3.

Corridor installations (IFC 24/15/09):

1. Level 2 and 3 aerosol containers shall not be allowed in corridors.
2. The maximum capacity of each dispenser shall be 41 oz.
3. The maximum capacity of each Level 1 aerosol dispenser shall be 18 oz.
4. The maximum quantity allowed in a corridor within a control area shall be 10 gal of Class I or II liquids or 1,135 oz of Level 1 aerosols, not to exceed in total the equivalent of 10 gal.
5. The minimum corridor width shall be 72 in. (#5 not required in 2024 edition)
6. Projections into a corridor shall be in accordance with Section 1003.3.3.

APPENDIX I

Decorative Vegetation IFC 24/15/09/06)-Section 806.1

806.1.1 Restricted occupancies. Natural cut trees shall be prohibited in Group A, E, I-1, I-2, I-3, I-4, M, R-1, R-2 and R-4. [E is educational].

Exceptions: Trees located in areas protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 shall not be prohibited in Groups A, E, M, R-1 and R-2.

806.1.2 Support devices. The support device that holds the tree in an upright position shall be of a type that is stable and that meets all of the following criteria:

1. The device shall hold the tree securely and be of adequate size to avoid tipping over of the tree.
2. The device shall be capable of containing a minimum two-day supply of water.
3. The water level, when full shall cover the tree stem at least 2 in. The water level shall be maintained above the fresh cut and checked at least once daily.

806.1.3 Dryness. The tree shall be removed from the building whenever the needles or leaves fall off readily when a tree branch is shaken or if the needles are brittle and break when bend between the thumb and index finger. The tree shall be checked daily for dryness.

APPENDIX J

Manual Fire Alarm Pull Stations

Part 185.395d3

- A. Manual alarm sending stations shall be located so as to be readily visible and accessible and shall be of the same general type throughout the school.
- B. Stations shall be near each main exit and in the natural path of escape from fire. Not less than one station shall be provided on each floor in every fire area, except that 50 ft. and one flight of stairs may be traversed to reach a station on another story in the natural path of escape.
- C. Stations shall be so located that not more than 100 ft. of corridor or primary egress aisle have to be traversed to reach a station in an unsprinklered building and 150 ft. in a sprinklered building. In addition, a station shall be provided on the auditorium side of the proscenium wall in each Class A or B assembly room and in or adjacent to boiler rooms serving spaces with a capacity over 250 persons.

Part 175.470f

Manual stations shall be located so as to be readily visible and accessible and shall be of the same general type throughout the building. Stations shall be near each main exit and in the natural path of escape from fire and shall be so located that not more than 100 ft. of corridor (or main aisle in an open plan school) have to be traversed to reach a station on the same story or 50 ft. and one flight of stairs to reach a station on another story in the natural path of escape. In addition, a station shall be provided on the auditorium side of the proscenium wall in assembly rooms and in, or adjacent to, boiler rooms.

Part 180 or BOCA and ICC Chapter 9 requirements.

Manual pull stations shall be located within 5 ft to the entrance to every exit with additional pull stations located so there will not be more than 200 foot travel to a pull station.

For construction contracted for design on or after September 25, 2007 manual fire alarm boxes are not required in schools that are protected throughout with an approved automatic sprinkler system installed in accordance with the applicable section of the 2006, 2009, 2015, or 2024 ICC codes. Occupant notification shall activate upon sprinkler water flow.

APPENDIX K

HEALTH/LIFE SAFETY ANNUAL INSPECTION CHECKLISTS

(See Next Page)

HEALTH/LIFE SAFETY ANNUAL INSPECTION CHECKLIST (ROE)

Administrative and General Building Requirements

- | | | |
|--|--|---|
| ☐ Safety reference plans (1) | ☐ Fire alarm audibility (11) | ☐ Decorative vegetation (21) |
| ☐ School safety drills (2) | ☐ Manual fire alarm station (12) | ☐ Space heaters (22) |
| ☐ Annual review of crisis plans (3) | ☐ ITM of fire alarm systems (13) | ☐ Curtains, draperies, and decorations (23) |
| ☐ Hold-open devices (4) | ☐ Functional sprinkler system (14) | ☐ Interior wall, ceiling and floor finishes (24) |
| ☐ Door/Window Insp. Test. Maintenance (5) | ☐ Clearance above storage (15) | ☐ Extension cords/multiple plug adaptors (25) |
| ☐ Unobstructed Exits (6) | ☐ Standpipe systems & private hydrants (16) | ☐ Electrical systems (26) |
| ☐ Emergency lighting + exit signs (7) | ☐ Fire extinguishers (17) | ☐ Carbon monoxide detection (27) |
| ☐ Testing of emergency lighting (8) | ☐ Safety glazing (18)* | ☐ Security locking (28) |
| ☐ Flam/comb liquids + chemicals (9) | ☐ Shower/eye wash stations (19)* | ☐ Panic Hardware (29) |
| ☐ Fire alarm system (10) | ☐ Alcohol hand-rub-dispensers (20) | |
- (P)-Applies only when film and chemicals are used. Not digital photo labs** **(A)-Applies only if classified as assembly**

Arts and Crafts Rooms

- ☐ Fire-rated construction (79)
- ☐ Fire detection (80)
- ☐ Spray finishing (81)
- ☐ Limited Spraying Spaces (82)
- ☐ Electrical Wiring & Equip (83)
- ☐ Kiln exhaust (84)
- ☐ Kiln fuel switch (85)
- ☐ Safety glasses (86)*

Auditoriums

- ☐ Posted occup. loads (111)
- ☐ Number of exits (112)
- ☐ Egress arrangement (113)
- ☐ Illuminated exit signs (114)
- ☐ Emergency lighting (115)
- ☐ Fire-rated construction (116)
- ☐ Fire detection (117)

Automotive Shops

- ☐ Fire-rated construction (142)
- ☐ Fire detection (143)
- ☐ Spray finishing (144)
- ☐ Limited Spray Spaces (145)
- ☐ Electrical Wiring/Equip (146)
- ☐ Welding booth exhaust (147)
- ☐ Safety glasses (148)*

Bleachers and Grandstands

- ☐ Inspection/maint (173)*
- ☐ Storage underneath (174)
- ☐ Structures underneath (175)

Boiler Room

- ☐ Door swing (200)
- ☐ Fire-rated construction (201)
- ☐ Housekeeping (202)
- ☐ Fire detection (203)
- ☐ Emergency fuel switch (204)
- ☐ Inspection cert. posted (205)

Cafeteria (A)

- ☐ Posted occupant loads (230)
- ☐ Number of exits (231)
- ☐ Egress arrangement (232)
- ☐ Illuminated exit signs (233)
- ☐ Emergency lighting (234)
- ☐ Fire-rated construction (235)
- ☐ Fire detection (236)

Classrooms

- ☐ Doors unlocked (261)
- ☐ Fire-rated construction (262)
- ☐ Door glass-vision panel (263)
- ☐ Classroom door swing (264)
- ☐ Artwork in classrooms (265)

Corridors

- ☐ Number of exits (290)
- ☐ Dead-end travel (291)
- ☐ Illuminated exit signs (292)

Courtyards

- ☐ Emergency lighting (293)
- ☐ Fire-rated construction (294)
- ☐ Width of corridors (295)
- ☐ Storage in corridors (296)
- ☐ Artwork (297)

Elevator and Conveying Systems

- ☐ Means of Egress (322)
- ☐ Does not obstruct egress (347)
- ☐ Certificate of Inspection (348)

Exterior Items

- ☐ Exterior stairs maint. (373)
- ☐ Fire lanes (374)
- ☐ Fire dept connection (375)
- ☐ Fire hydrants (376)

Fire Escape Stairs

- ☐ Existing fire escapes (401)
- ☐ Access to fire escapes (402)
- ☐ Protection of openings (403)
- ☐ Testing (404)

Greenhouses

- ☐ Fire-rated construction (429)
- ☐ Fire alarm systems (430)
- ☐ Fire detection (431)

Gym and Multipurpose Rooms

- ☐ Posted occupant loads (456)
- ☐ Number of exits (457)
- ☐ Egress arrangement (458)
- ☐ Illuminated exit signs (459)
- ☐ Emergency lighting (460)
- ☐ Fire-rated construction (461)

Home Economics and Family Services Rooms

- ☐ Fire-rated construction (486)
- ☐ Fire detection (487)
- ☐ Exhaust fan (488)

Industrial Technology Labs

- ☐ Fire-rated construction (513)
- ☐ Fire detection (514)
- ☐ Welding booth exhaust (515)
- ☐ Safety glasses (516)*

Kitchens

- ☐ Fire-rated construction (541)
- ☐ Fire detection (542)
- ☐ Fire extinguishers (543)
- ☐ Cooking hood exhaust (544)
- ☐ Exhaust inspections (545)
- ☐ Filter maintenance (546)
- ☐ Fire exting. systems (547)

Library/Media Center (A)

- ☐ Posted occupancy loads (572)
- ☐ Number of exits (573)
- ☐ Egress arrangement (574)
- ☐ Illuminated exit signs (575)
- ☐ Emergency lighting (576)
- ☐ Fire-rated construction (577)
- ☐ Fire detection (578)

Lithium-Ion Technology

- Lithium-ion batteries (reserved) (603)

Mechanical & Furnace Rooms

- ☐ Fire-rated construction (628)
- ☐ Fire detection (629)
- ☐ Storage of combustibles (630)

Music Practice Rooms

- ☐ Sound proofing (655)

Photo Developing Labs

- ☐ Fire-rated construction (680) (P)
- ☐ Fire detection (681) (P)
- ☐ Exhaust fan (682) (P)
- ☐ Chemical storage (683)

Science Laboratories

- ☐ Fire-rated construction (708)
- ☐ Fire detection (709)
- ☐ Exhaust fan (710)
- ☐ Fume hood exhaust (711)
- ☐ Safety glassed (712)*
- ☐ Chemical storage (713)
- ☐ Emergency fuel switch (714)

Shower and Locker Rooms

- ☐ Number of exits (739)
- ☐ Illuminated exit signs (740)
- ☐ Emergency lighting (741)
- ☐ Exhaust fan (742)*
- ☐ Vapor-proof lights (743)*

Solar Photovoltaic (Ground)

- ☐ Clearance from vegetation (768)
- ☐ Shutdown and marking (769)

Solar Photovoltaic (Roof)

- ☐ Roof access (794)
- ☐ Rapid shutdown (795)
- ☐ Marking (796)

Stages (Large)+Back Areas

- ☐ Illuminated exit signs (821)
- ☐ Emergency lighting (822)
- ☐ Fire-rated construction (823)
- ☐ Proscenium wall protection (824)
- ☐ Curtains and scenery (825)
- ☐ Sprinklers and ventilators (826)
- ☐ Standpipes (827)

Stages (Small)

- ☐ Illuminate exit signs (852)
- ☐ Emergency lighting (853)
- ☐ Curtains+scenery (854)
- ☐ Fire detection (855)

Stages with Storage Under

- ☐ Fire-rated constr. (880)
- ☐ Storage only (881)
- ☐ Fire detection (882)
- ☐ Sprinklers (883)

Stairwells

- ☐ Properly maintained (908)
- ☐ Illumin. exit signs (909)
- ☐ Emergency lighting (910)
- ☐ Stair enclosure (911)
- ☐ No storage (912)
- ☐ Fire detection (913)

Storage/Supply/Closets

- ☐ Fire-rated constr. (938)
- ☐ Fire detection (939)
- ☐ Classroom/janitor's (940)

Swimming Pools

- ☐ Occup loads (965) (A)
- ☐ Number of exits (966) (A)
- ☐ Egress arrange (967) (A)
- ☐ Exit signs (968) (A)
- ☐ Emerg lighting (969) (A)
- ☐ Fire-rated const. (970) (A)
- ☐ Vapor-proof lights (971)*
- ☐ Exhaust fan (972)*
- ☐ IDPH equipment (973)*
- ☐ Fire extinguisher (974)
- ☐ Fire detection (975)

Teachers Workrooms and Lounges

- ☐ Fire-rated constr. (1000)
- ☐ Fire detection (1001)
- ☐ Exhaust fan (1002)

Time-Out Rooms

- ☐ Ceiling height (1027)
- ☐ Safe construction (1028)
- ☐ Locking (1029)
- ☐ Monitoring (1030)

Toilets

- ☐ Exhaust fan (1055)*

Woodworking Shop

- ☐ Fire-rated constr. (1080)
- ☐ Fire detection (1081)
- ☐ Fire extinguishers (1082)
- ☐ Sawdust collector (1083)
- ☐ Safety glasses (1084)*
- ☐ Housekeeping (1085)

District		Date:
School		
School Address		
Inspected by:		FD Name:
Name of ROE/ISC rep present during inspection		ROE#/ISC:

☐ Check box if ROE/ISC representative received a copy of this inspection at the time of the inspection.

Administration and General Building Requirements

Y	N	N/A		(Code references found in the Glossary)	Remarks
			1	Safety reference plans	
			2	School safety drills	
			3	Annual review of crisis plans	
			4	Hold-open devices	
			5	Door and Window Inspection, Testing, and Maint.	
			6	Unobstructed Exits	
			7	Emergency lighting and illuminated exit signs	
			8	Testing of emergency lighting and exit signs	
			9	Flammable/combustible liquids + chemicals	
			10	Fire alarm system	
			11	Fire alarm audibility	
			12	Unobstructed manual fire alarm stations	
			13	Inspection, testing, maintenance fire alarm system	
			14	Functional sprinkler system	
			15	Clearance above storage	
			16	Functional standpipe systems & fire hydrants	
			17	Fire extinguishers	
			18	Safety glazing*	
			19	Emergency shower and eye wash stations*	
			20	Wall-mounted alcohol hand-rub dispensers	
			21	Decorative vegetation	
			22	Space heaters	
			23	Curtains, draperies, and decorations	
			24	Interior Wall, ceiling, and floor finishes	
			25	Extension cords/multiple adaptors	
			26	Electrical systems	
			27	Carbon monoxide detection	
			28	Security locking	
			29	Panic Hardware	

Specific Requirements for Rooms and Spaces

Y	N	N/A		Arts and Crafts Rooms	Remarks
			79	Fire-rated construction and door closers	
			80	Fire detection	
			81	Spray finishing operations using flammable finishes	
			82	Limited spraying spaces	
			83	Electrical wiring and equipment	
			84	Kiln exhaust fan	
			85	Kiln fuel switch	
			86	Safety glasses*	
Y	N	N/A		Auditoriums	Remarks
			111	Posted occupancy load	

			112	Number of exits	
			113	Means of egress arrangement	
			114	Illuminated exit signs	
			115	Emergency lighting	
			116	Fire-rated construction and door closers	
			117	Fire detection	
Y	N	N/A		Automotive Shops	Remarks
			142	Fire-rated construction and door closers	
			143	Fire detection	
			144	Fire protection in spray paint rooms and booths	
			145	Limited spraying spaces	
			146	Electrical wiring and equipment	
			147	Welding booth exhaust	
			148	Safety glasses*	
Y	N	N/A		Bleachers and Grandstands	Remarks
			173	Installation, inspection, and maintenance*	
			174	Combustible storage and waste accumulation	
			175	Structures underneath bleachers and grandstands	
Y	N	N/A		Boiler Room	Remarks
			200	Door swing	
			201	Fire-rated construction and door closers	
			202	Housekeeping	
			203	Fire detection	
			204	Emergency fuel burner switch	
			205	Certificate of inspection posted	
Y	N	N/A		Cafeteria (A)	Remarks
			230	Posted occupant loads	
			231	Number of exits	
			232	Means of egress arrangement	
			233	Illuminated exit signs	
			234	Emergency lighting	
			235	Fire-rated construction and door closers	
			236	Fire detection	
Y	N	N/A		Classrooms	Remarks
			261	Inside of exit doors unlocked	
			262	Fire-rated construction and door closers	
			263	Door glass-vision panel	
			264	Classroom door swing	
			265	Artwork and teaching materials in classrooms	
Y	N	N/A		Corridors	Remarks
			290	Number of exits	
			291	Dead-end travel	
			292	Illuminated exit signs	
			293	Emergency lighting	
			294	Fire-rated construction	
			295	Capacity and width of corridors	

			296	Storage in corridors and lobbies	
			297	Artwork and teaching materials in corridors	
Y	N	N/A		Courtyards	Remarks
			322	Means of egress	
Y	N	N/A		Elevator and Conveying Systems	Remarks
			347	Does not obstruct egress	
			348	Certificate of inspection	
Y	N	N/A		Exterior Items	Remarks
			373	Exterior stairways properly installed/maintained	
			374	Fire lanes	
			375	Fire department connection	
			376	Fire hydrants	
Y	N	N/A		Fire Escape Stairs	Remarks
			401	Existing fire escapes	
			402	Access to fire escapes	
			403	Protection of openings	
			404	Testing	
Y	N	N/A		Greenhouses	Remarks
			429	Fire-rated construction and door closers	
			430	Fire alarm systems	
			431	Fire detection	
Y	N	N/A		Gym and Multipurpose Rooms	Remarks
			456	Posted occupant loads	
			457	Number of exits	
			458	Means of egress arrangement	
			459	Illuminated exit signs	
			460	Emergency lighting	
			461	Fire-rated construction and door closers	
Y	N	N/A		Home Economics+Family Services Rooms	Remarks
			486	Fire-rated construction and door closers	
			487	Fire detection	
			488	Exhaust fan	
Y	N	N/A		Industrial Technology Labs	Remarks
			513	Fire-rated construction and door closers	
			514	Fire detection	
			515	Welding booth exhaust	
			516	Safety glasses*	
Y	N	N/A		Kitchens	Remarks
			541	Fire-rated construction and door closers	
			542	Fire detection	
			543	Fire extinguishers	
			544	Cooking hood exhaust	
			545	Inspection and cleaning of cooking exhaust system	

			546	Filter installation and maintenance	
			547	Cooking hood extinguishing systems	
Y	N	N/A		Library and Media Centers (A)	Remarks
			572	Posted occupancy loads	
			573	Number of exits	
			574	Means of egress arrangement	
			575	Illuminated exit signs	
			576	Emergency lighting	
			577	Fire-rated construction and door closers	
			578	Fire detection	
Y	N	N/A		Lithium-Ion Technology (reserved)	No Requirements
			603	See Appendix T for general information	
Y	N	N/A		Mechanical & Furnace Rooms	Remarks
			628	Fire-rated construction and door closers	
			629	Fire detection	
			630	Storage of combustibles	
Y	N	N/A		Music Practice Rooms	Remarks
			655	Sound proofing used as wall covering	
Y	N	N/A		Photo Developing Rooms	Remarks
			680	Fire-rated construction and door closers (P)	
			681	Fire detection (P)	
			682	Exhaust fan (P)	
			683	Proper storage of chemicals (P)	
Y	N	N/A		Science Laboratories	Remarks
			708	Fire-rated construction and door closers	
			709	Fire detection	
			710	Exhaust fan	
			711	Fume hood exhaust	
			712	Safety glasses*	
			713	Proper storage of chemicals	
			714	Emergency fuel burner switch	
Y	N	N/A		Shower and Locker Rooms	Remarks
			739	Number of exits	
			740	Illuminated exit signs	
			741	Emergency lighting	
			742	Exhaust fan*	
			743	Vapor-proof lights*	
Y	N	N/A		Solar Photovoltaic (Ground Systems)	Remarks
			768	Clearance from vegetation	
			769	Marking	
Y	N	N/A		Solar Photovoltaic (Roof Systems)	Remarks
			794	Roof access	
			795	Rapid shutdown	

			796	Marking	
Y	N	N/A		Stage (Professional), Accessory Areas	Remarks
			821	Illuminated exit signs	
			822	Emergency lighting	
			823	Fire-rated construction and door closers	
			824	Proscenium wall protection	
			825	Curtains and scenery	
			826	Sprinkler systems and ventilators	
			827	Standpipes for stages	
Y	N	N/A		Stages (Small)	Remarks
			852	Illuminated exit signs	
			853	Emergency lighting	
			854	Curtains and scenery	
			855	Fire detection	
Y	N	N/A		Stages with Storage Underneath	Remarks
			880	Fire-rated construction and door closers	
			881	Noncombustible storage only	
			882	Fire detection	
			883	Sprinklers	
Y	N	N/A		Stairwells	Remarks
			908	Properly maintained stairs	
			909	Illuminated exit signs	
			910	Emergency lighting	
			911	Interior exit stair enclosure	
			912	No storage under stairs	
			913	Fire detection	
Y	N	N/A		Storage/Supply/Closets	Remarks
			938	Fire-rated construction and door closers	
			939	Fire detection	
			940	Classroom/janitor's closets	
Y	N	N/A		Swimming Pools	Remarks
			965	Posted occupancy loads (A)	
			966	Number of exits (A)	
			967	Means of egress arrangement (A)	
			968	Illuminated exit signs (A)	
			969	Emergency lighting (A)	
			970	Fire-rated construction (A)	
			971	Vapor-proof lights*	
			972	Exhaust fan*	
			973	IDPH safety equipment*	
			974	Fire extinguishers	
			975	Fire detection	
Y	N	N/A		Teacher's Workroom/Lounge	Remarks
			1000	Fire-rated construction and door closers	
			1001	Fire detection	

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HEALTH/LIFE SAFETY ANNUAL INSPECTION CHECKLIST (FIRE SERVICE)

School Name: _____ Address: _____ School Dist. # _____

City: _____ County: _____ Phone: _____

Inspector's Name: _____ Inspector's Department: _____

Inspector's Contact Information: Phone: _____ Email: _____

Date of Inspection: _____ Was ROE/ISC Representative Present at Inspection? Yes ☐ No ☐

#	SUBJECT	MET	NOT	N/A
1	EMERGENCY LIGHTING	☐	☐	☐
General (7) Auditoriums (115) Cafeterias (234) Corridors (293) Gym/Multipurpose (460) Library/Media Center (576) Showers & Locker Rooms (741) Large Stages (822) Small Stages (853) Stairwells (910) Swimming Pools (969)				
2	EXIT SIGNS	☐	☐	☐
General (7) Auditoriums (114) Cafeteria (233) Corridors (292) Gyms & Multipurpose Rooms (459) Library/Media Center (575) Showers & Locker Rooms (740) Stages (Large) (821) Stages (Small) (852) Stairwells (909) Swimming Pools (968)				
3	FIRE ALARM and CO MONITORING	☐	☐	☐
General (10+11) Carbon Monoxide Detection (27) Greenhouses (430)				
4	FIRE ALARM INITIATING DEVICES	☐	☐	☐
Fire Detection Arts & Crafts Rooms (80) Auditoriums (117) Auto Shops (143) Boiler Rooms (203) Cafeterias (236) Greenhouses (431) Home Economics & Family Services Rooms (487) Industrial Tech Labs (514) Kitchens (542) Library/Media Center (578) Mechanical & Furnace Rooms (629) Photo Developing Lab (681) Science Labs (709) Stages (Small) (855) Stage with Storage Underneath (882) Stairwells (913) Storage/Supply Closets (939) Swimming Pools (975) Teacher's Workrooms & Lounges (1001) Woodworking Shop (1081)				
Manual Fire Alarm Stations General (12)				
5	FIRE RATED CONSTRUCTION	☐	☐	☐
Arts & Crafts Rooms (79) Auditoriums (116) Auto Shops (142) Boiler Rooms (201) Cafeterias (235) Classrooms (262+263) Corridors (294) Protection of Openings near Fire Escapes (403) Greenhouses (429) Gyms & Multipurpose Rooms (461) Home Economics & Family Services Rooms (486) Industrial Tech Labs (513) Kitchens (541) Library/Media Centers (577) Mechanical & Furnace Rooms (628) Photo Developing Lab (680) Science Labs (708) Stages (Large) (823) Proscenium Wall (824) Stages with Storage Under (880+881) Stair Enclosure (911) Storage/Supply Closets (938) Classroom Storage/Janitor Rooms (940) Swimming Pools (970) Teacher's Workrooms & Lounges (1000) Woodworking Shop (1080)				
6	ELECTRICAL WIRING and EQUIPMENT	☐	☐	☐

Arts & Crafts Rooms (83) Automotive Shops (146)				
7	DOORS	☐	☐	☐
Hold Open Devices (4) Door Insp. Testing, Maint. (5) Security Locking (28) Panic Hardware (29) Boiler Room Door Swing (200) Classroom Door Unlocked (261) Classroom Door Swing (264) Timeout Doors Unlocked (1029)				
8	POSTED OCCUPANT LOADS	☐	☐	☐
Auditoriums (111) Cafeterias (230) Gyms & Multipurpose Rooms (456) Library/Media (572) Swimming Pools (965)				
9	EGRESS COMPONENTS	☐	☐	☐
Width of Corridors (295) Existing Fire Escapes (401) Access to Fire Escapes (402) Stairwells (908)				
10	MEANS OF EGRESS ARRANGEMENT	☐	☐	☐
Auditoriums (113) Cafeteria (232) Corridor Dead Ends (291) Courtyards (322) Gyms & Multipurpose Rooms (458) Library/Media Centers (574) Swimming Pools (967)				
11	FIRE EXTINGUISHERS	☐	☐	☐
General (17) Kitchens (543) Swimming Pool (974) Woodworking Shop (1082)				
12	NUMBER OF EXITS	☐	☐	☐
Auditoriums (112) Cafeteria (231) Corridors (290) Gyms & Multipurpose Rooms (457) Library/Media Rooms (573) Shower and Locker Rooms (739) Swimming Pools (966)				
13	INTERIOR FINISH/DECORATIONS	☐	☐	☐
Decorative Vegetation (21) Curtains, Draperies & Decorations (23) Interior Wall, Ceiling & Floor Finishes (24) Classroom Artwork (265) Corridor Artwork (297) Sound Proofing (655) Curtains & Scenery Large Stages (825) Curtains & Scenery Small Stages (854)				
14	HOUSEKEEPING/MAINTENANCE	☐	☐	☐
Unobstructed Exits (6) Clearance above Storage (15) Extension Cords & Multi-Plugs (25) Storage Under Bleachers (174) Housekeeping in Boiler Rooms (202) Storage in Corridors (296) Conveyances do not Obstruct Egress (347) Exterior Stairways (373) Fire Lane Clearances/Marking/Signage (374) Mechanical & Furnace Rooms (630) Storage in Stairwells (912) Woodworking Shop (1085)				
15	SYSTEM INSPECTION, TESTING, and MAINTENANCE.	☐	☐	☐
Testing Emergency Lighting/Exit Signs (8) Fire Alarm (13) Sprinkler System (14) Standpipe/Hydrants (16) Elevator Certificate (348) FD Connection (375) Fire Hydrants Clear/Maintained (376) Testing of Fire Escapes (404) Kitchen Exhaust Inspection & Cleaning (545) Kitchen Filter Maintenance (546) Cooking Extinguishing Systems (547)				

16	SPECIAL HAZARDS	☐	☐	☐
Alcohol Rub Dispensers General (20)				

17	HEATING EQUIPMENT / SYSTEMS	☐	☐	☐
Space Heaters	General (22)			
Kiln Exhaust	Arts & Crafts Rooms (84)			
Emergency Fuel Switch	Arts & Crafts (85) Boiler (204)			
Science Labs (714)				
Boilers	Inspection Certificate (205)			

Comments/Explanations:[illegible]

ROE/ISC Representative Signature: _____ Date: _____

Fire Inspector's Signature: _____ Date: _____

June 2026

APPENDIX L-Interior Wall, Ceiling and Floor Finish

PART 185

185.390(j) Interior Finish *(Part 185 does not address floor finishes)*

The term "interior finish" is used in this Part solely to identify those exposed surfaces of a building which are subject to flame spread limitations. The interior finish of a building, or portion thereof, shall include all surfaces (exposed to view in occupied rooms or spaces) of walls and partitions including trim and doors located therein; of ceilings and the underside of floor and roof assemblies (when no ceilings are provided); of bulletin or display boards rigidly attached to a wall or partition; of those lockers and cabinets which are built-in, rigidly affixed to, or closely backed up to walls and partitions which thereby, hide or cover surfaces which otherwise would be considered as part of the interior finish.

185.390(j)(3) Basic Rules

- The use or existence of interior finish materials with flame spread ratings in excess of 200, when tested in accordance with the applicable requirements of ASTM E-84, is prohibited in any occupied room or space.
- Notwithstanding the flame spread rating, interior finish trim materials and other surface treatments exposed to occupied areas which produce a quantity of smoke or toxic fumes sufficient to affect life safety, shall not be permitted in any occupied room or space.
- Plastics used as a construction material or as an interior finish material shall be subject to the same flame spread tests and ratings as other materials.
- In unsprinklered rooms or spaces, 10% of the total wall area (including doors, door and window casings, and other trim) and 5% of the total ceiling area of a room or space shall be permitted to have a flame spread rating of not more than 200 even though a lower flame spread rating is required for such room or space. In sprinklered rooms or spaces, the figures established in the preceding sentence may be increased to 20% and 10%, respectively.
- In general terms, interior finish materials in the form of acoustic tiles or wall or ceiling boards, as well as plaster, can be grouped into two categories, as follows:
 - i. Those having a surface flamespread rating of 25 or less, thereby qualifying them as NONCOMBUSTIBLE interior finish materials. Included in this category are plaster, acoustic plaster on noncombustible surfaces, gypsum and plaster boards, mineral boards, glass fiber tile, metal ceilings, etc. Some wood and cellulose fiber tiles also are included, but these tiles must be positively identified by the label of an approved testing laboratory as having a flamespread rating of 25 or less.
 - ii. Those having a surface flamespread rating of more than 25, classifying them as COMBUSTIBLE. Included in this category are most cellulose fiber boards, wood fiber boards, plywood, pressed fiberboards, wood particle boards, cloths, plastic panels, acoustic plaster on combustible surfaces, etc.

185.390(j)(4) The flamespread rating for the interior finish of other occupied rooms and spaces shall not exceed the limitations established in Appendix A, Table K. Area limiting figures shall apply to that area within rooms, in contrast to the area of spaces (see definitions therefore under Section 185.220 (c)).

*** (Table is not producible by OSFM as it is not available on the Health/Life Safety webpage and OSFM does not own a copy of Table K) ***

185.320(e) Plan A Buildings without Basements

An interior finish flame spread rating of not more than 200 shall be permitted for corridors and primary egress aisles located in Plan A buildings without basements, provided every room or space having a capacity of more than 10 persons, if unsprinklered, and 20 persons, if sprinklered, is provided with an exterior exit, a separated secondary path of exit travel or a secondary means of escape.

Educational Occupancy rooms located on the street floor in those Plan A buildings having an enclosed interior arrangement shall be permitted to have an interior finish flame spread rating of not more than 200, provided every such room having a capacity of more than 50 persons is provided with an exterior exit or a secondary means of escape.

185.360(f) Assembly Areas

The flame spread rating of the interior finish of Assembly Occupancy shall comply with the applicable provisions of Section 185.390(j) but in no case shall such rating exceed the following:

75 for the ceilings and walls of all unsprinklered Assembly Occupancies.

75 for the ceilings and 200 for the walls of all sprinklered Assembly Occupancies except that a ceiling flame spread rating of not more than 200 shall be permitted for sprinklered Class C Assembly Occupancies.

185.380(c)(6) Corridor Plenum Chambers.

Where a corridor is used as a plenum chamber, the flame spread rating of the interior finish of a corridor shall not exceed 25 in an unsprinklered building or 75 in a sprinklered building.

185.380(c)(9) Dead-End Corridors

No dead-end corridor more than 20 feet in length shall have an interior finish flame spread rating of more than 25 if unsprinklered or 75 if sprinklered.

185.390(j)(3) Existing Buildings

Interior finish surfaces having a flame spread rating in excess of that permitted under this Part shall be replaced or shall be coated with an approved fire-retardant paint or coating applied in such quantity as to reduce the flame spread rating of the existing surface to within the limits permitted under this Part. No fire-retardant paint or coating shall be considered as approved unless such is listed or approved by any accepted testing laboratory. Such paint or coating shall be applied in strict conformance with the manufacturer's instructions.

The applicant shall be required to submit to the School Board a signed certificate stating that the approved fire retardant paint or coating has been applied in accordance with the requirements of this Part and specifically identifying the surfaces to which such has been applied. Such certificate shall be maintained on file by the School Board.

Part 175

Section 175.420 Interior Finish

Part 175 does not address floor finishes

Interior finish materials for walls and ceilings, unless otherwise limited herein, shall have a flamespread rating no greater than that indicated as follows:

Exitways and stairs, corridors, lobbies, etc., open thereto	25
Corridors not part of exitways	75
Classrooms, laboratories, shops, etc., not over 1,000 ft ²	200*
Heating, ventilating, boiler, furnace, incinerator, and trash rooms	25
Auditoriums, cafeterias, and other assembly spaces for over 200 persons	75*
All other	75*

All flamespread ratings shall be based on the standard tunnel test (NFPA 255, ASTM E-84). Materials that give off smoke or gases more dense or more toxic than that given off by untreated wood or untreated paper under comparable exposure to heat or flame shall not be permitted as interior finish.

Exceptions to the above requirements not to exceed 10% of the aggregate wall and ceiling areas of any room or space may have a flamespread rating not exceeding 200.

*Exposed, heavy timber-roof construction permitted

BOCA-1996/1993

BOCA-F: 305.1: The interior finish and trim of structures shall be maintained as approved.

BOCA-F: 305.2: A finished floor covering shall be exempt from the requirements of this section, provided that where the code official finds a floor surface to be of unusual hazard, the floor surface shall be considered part of the interior finish for the purposes of this code.

BOCA-B: Table 803.4: (where an automatic sprinkler system installed in accordance with Section 906.2.1 or 906.2.2 is installed throughout a building, Class II or III interior finish shall be permitted where Class I or II materials, respectively, are required.)

	<u>Class</u>
➤ Required vertical exits and passageways	I
➤ Exit access corridors	II
➤ Rooms or enclosed spaces	III

ICC 2024/2015/2009/2006/2003

IBC 803: Interior wall and ceiling finish shall have a flame spread index not greater than that specified in Table 803.5 for the group and location designated. Interior wall and ceiling finish materials, other than textiles, tested in accordance with NFPA 286 and meeting the acceptance criteria of Section 806.2.1.1, shall be permitted to be used where a Class A classification in accordance with ASTM E-84 is required.

IBC24 Table 803.13; IBC 03/06/09/15: Table 803.5:

	<u>Class</u>
Sprinklered vertical exits and exit passageways (< 3 stories in height = Class C in sprinklered buildings)	B
Sprinklered exit access corridors and other exitways	C
Sprinklered rooms and enclosed spaces	C
Unsprinklered vertical exits and exit passageways (< 3 stories in height = Class B in sprinklered buildings)	A
Unsprinklered exit access corridors and other exitways	B
Unsprinklered rooms and enclosed spaces	C
Floor finish in unsprinklered exit enclosures and corridors	II
Floor finish in sprinklered exit enclosures and corridors	DOC FF-1 "pill test"***
Sprinklered/Unsprinklered floor finish in all other areas	DOC FF-1 "pill test"***

*Exposed, heavy timber-roof construction permitted

** CPSC 16CFR, Part 1630 – *Standard for the Surface Flammability of Carpets and Rugs.*

APPENDIX M-Clearance from Sprinkler Heads

Clearance from a sprinkler head is not always horizontal plane below sprinkler deflector. NFPA 13 provides diagrams that clarify this requirement.

NFPA 13 (2010)

8.5.5.1* Performance Objective. Sprinklers shall be located so as to minimize obstructions to discharge as defined in 8.5.5.2 and 8.5.5.3, or additional sprinklers shall be provided to ensure adequate coverage of the hazard.

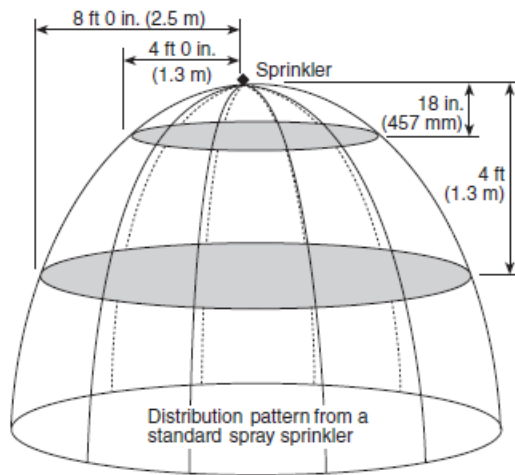


FIGURE A.8.5.5.1 Obstructions to Sprinkler Discharge Pattern Development for Standard Upright or Pendent Spray Sprinklers.

APPEDIX N-Door Locking Hardware

The issue of code-compliant locking of door within a school room (and this applies to all doors to rooms that are normally occupied, not just classrooms) is still an active conversation throughout public schools in Illinois. ISBE, Office of the State Fire Marshal (OSFM), and IARSS are diligently working together to keep the state's Regional Offices of Education up to date on this security locking issue. Acts of violence in schools have caused questions as to code-compliant locking systems in schools. Unfortunately, there is still pressure from non-school, non-fire service vendors that these security locking systems should be used in public schools. The majority of the security locking systems seen by ISBE, OSFM, and IARSS do not comply with the School Code. To make matters worse, schools are purchasing these systems without confirming first that they are allowed to be used. See #27 for recent language added to the School Code that permits security locking.

The ISBE School Code requires that:

1. The door security locking means can be engaged without opening the door.
2. The unlocking and unlatching of the door security locking means from the occupied side of the door can be accomplished without the use of a key or tool.
3. The door security locking means complies with all applicable State and federal accessibility requirements.
4. Locks, if remotely engaged, can be unlocked from the occupied side.
5. The door security locking means is capable of being disengaged from the outside by school district employees, and school district employees may use a key or other credentials to unlock the door from the outside.
6. The door security locking means does not modify the door-closing hardware, panic hardware, or fire exit hardware.
7. Any bolts, stops, brackets, or pins employed by the door security locking means do not affect the fire rating of a fire door assembly.
8. School district employees are trained in the engagement and release of the door security locking means, from within and outside the room, as part of the emergency response plan.
9. For doors installed before July 1, 2019, only, the unlocking and unlatching of a door security locking means requires no more than 2 releasing operations. For doors installed on or after July 1, 2019, the unlocking and unlatching of a door security locking means requires no more than one releasing operation. If doors installed before July 1, 2019, are replaced on or after July 1, 2019, the unlocking and unlatching of a door security locking means on the replacement door requires no more than one releasing operation.

10. The door security locking means is no more than 48 inches above the finished floor.

11. The door security locking means otherwise complies with the school building code prepared by the State Board of Education under Section 2-3.12.
12. Under these provisions, a school can fit an ADA compliant deadbolt and use two motions to first unlock, then unlatch an existing door. Any locking mechanisms installed in new construction or when replacing doors must comply with the single motion unlocking and unlatching.

Schools are permitted the option to use a device that does not comply with requirements #3 and #10 above upon written agreement of the local fire department, local law enforcement, and local school district. The remainder of the requirements must be complied with. This device placement is limited to doors in place prior to July 1, 2019.

In addition to school staff, if requested any security locking device that requires a special tool to unlock said tool shall be provided to the local fire department and/or police department.

Anywhere security locking devices are utilized within a building, these locations must be identified in the School Safety Reference Plan.

“While these devices are perceived to provide additional security, they have the significant potential to facilitate unintended consequences when incidents of bullying, harassment, or physical violence take place. These devices prevent access by school staff and first responders, and they delay egress in the case of emergencies such as a fire, which is statistically much more likely to happen. There are existing solutions that are code compliant and therefore allow first responders access to a classroom in case of an emergency. Classroom doors must be able to be closed for safety and security, as well as opened when needed. Some of these devices will lock the intruder or more frequently a bully in the room with their victims.”¹

Prior to purchasing and installing security locking devices, **please** confirm with ROEs/ISCs or the OSFM (see contact information below) that the system complies with the School Code.

Contact Information for Security Locking Systems

Local Regional Office of Education

www.iarss.org/web-directory

Cathy Stashak, Section Chief

Office of the Illinois State Fire Marshal

Technical Services Division

Catherine.Stashak@illinois.gov (emails are the best form of contact)

312-814-2425

¹ National Association of State Fire Marshals (NASFM) Supports New Video Stressing Importance of Securing Classrooms without Compromising Life Safety—*School safety concerns have led to the installation of non-code compliant and possibly dangerous classroom door barricade devices.*

<http://www.firemarshals.org/>

APPENDIX O-Part 175 Fire Rated Separations

Efficient and Adequate Standards for Building Specifications for the Construction of Schools–Fire Separation Requirements (23 Ill. Adm. Code 175)

Outline for use with Part 175-Fire Separation Requirements Public School Buildings designed on or after July 1, 1965 but before March 24, 1995

Part 175: On or after July 1, 1965 but before March 24, 1995				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
Agricultural Shops	175.260d	1-hour	$\frac{3}{4}$ -hour No detection [175.460a]	Detection required [175.460a]
Agricultural Shop Opening Protectives	175.285a2B	1-hour	$\frac{3}{4}$ -hour or $1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
Art Rooms	175.260c	$\frac{3}{4}$ -hour	No detection [175.460a]	Detection required [175.460a]
Art Room Opening Protectives	175.285a2C	$\frac{3}{4}$ -hour	N/A	$1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted (d)
Assembly–Class A	(From Part 185. No definitions Part 175)	Definitions		> 1,000 persons
Assembly–Class B				> 600 but ≤ 1,000 persons
Assembly–Class C				> 200, but ≤ 600 persons
Assembly–BOCA-F	303.1	Definition		> 50 persons

Part 175: On or after July 1, 1965 but before March 24, 1995				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
Assembly > 600	175.260a	1-hour	N/A	None
Assembly > 600 Opening Protectives	175.285a2B	1-hour	N/A	(d)
Attics used for combustible storage	175.330 175.260d	1-hour	³ / ₄ -hour No detection [175.460a]	Sprinklers or detection required [175.460a5]
Attics used for combustible storage Opening Protectives	175.285a2B	³ / ₄ -hour	³ / ₄ -hour or 1 ³ / ₄ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
Auditoriums > 600	175.260a	1-hour	N/A	None
Auditoriums > 600 Opening Protectives	175.285a2B	1-hour	N/A	(d)
Automotive Shops	175.260d	1-hour	³ / ₄ -hour No detection [175.460a]	Detection required [175.460a]
Automotive Shop Opening Protectives	175.285a2B	1-hour	³ / ₄ -hour or 1 ³ / ₄ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
Boiler Rooms (over 15 psi steam)	175.260e	2-hours	No detection [175.460a]	Detection required [175.460a6]
Boiler Room Opening Protectives (15 psi and basement)	175.285a2A	3-hours	N/A	Door must swing into the room if an interior door [175.285b] (d)

Part 175: On or after July 1, 1965 but before March 24, 1995				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
Boiler Room (basement)	175.260e	2-hours	No detection [175.460a]	Detection required [175.460a6]
Boiler Room (basement) Opening Protectives	175.285a2A	3-hours	N/A	Door must swing into the room if an interior door [175.285b] (d)
Boiler Rooms (other)	175.260f	1-hour	No detection [175.460a]	Detection required [175.460a6]
Boiler Room (other) Opening Protectives	175.285a2B	1-hour	N/A	Door must swing into the room if an interior door [175.285b] (d)
Cafeteria > 600	175.260a	1-hour	N/A	None
Cafeteria > 600 Opening Protectives	175.285a2B	1-hour	N/A	(d)
Closets	175.260d	1-hour	³ / ₄ -hour No detection [175.460a]	Detection required if > 10 ft ² [175.460a4]
Closet Doors	175.285a2B	1-hour	³ / ₄ -hour or 1 ³ / ₄ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	If normally kept locked, no closer required [175.290b] (d)
Corridors	175.275a	½-hour	N/A	No requirements for a one-story school [175.110] Transoms are not permitted ¼" wired glass with no size limitation [175.275c]

Part 175: On or after July 1, 1965 but before March 24, 1995				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
Corridors Opening Protectives	175.285a5	See comments	N/A	No louvers or if present they must be kept closed. Hollow or filled metal doors and 1¾" SC doors are permitted. Door frames of metal or of minimum 2" nominal lumber are permitted. (a)(d)
Corridors in buildings with direct exterior exiting	175.275a1	NR	N/A	None
Corridor in a 1-story building	175.275a2	NR	N/A	Flame spread on walls and ceiling ≤ 75 and each classroom has a window readily available for exiting to the outside
Corridor Clear Width	175.410l	See comments	N/A	[175.410m] deals with hanging of clothing in corridor
Crawl Spaces used for combustibile storage	175.330 175.260d	1-hour	¾-hour No detection	Sprinklers or detection required
Crawl Spaces used for combustibile storage Opening Protectives	175.285a2B	1-hour	¾-hour or 1¾" SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
Electrical Equipment Rooms	175.260d	1-hour	¾-hour	Detection required if room is > 10 ft ² [175.460a4]
Electrical Equipment Opening Protectives	175.285a2B	1-hour	¾-hour or 1¾" SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)

Part 175: On or after July 1, 1965 but before March 24, 1995				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
Exitways (2-hours) Opening Protectives	175.285a3A	1½-hour	N/A	(b)(d)
Exitways (1-hour) Opening Protectives	175.285a3B	1-hour	N/A	(b)(d)
Exitways (3/4-hours) Opening Protectives	175.285a3C	¾-hour	N/A	¾-hour or 1¾" SC wood doors with max 1,296 in² wired glass permitted [175.285a2C] (b)(d)
Fire Walls	175.255	2-hours	N/A	2 ft parapets required
Fire Wall Opening Protectives	175.285a1	3-hours	N/A	(d)
Flammable Paint and Flammable Liquid Storage Rooms	175.440b	1-hour [175.260f]	¾-hour or 1¾" SC wood doors with max 1,296 in² wired glass permitted [175.285a2C]	Sprinkler protection required unless storage is in UL listed or FM approved flammable liquid storage cabinets
Flammable Paint and Flammable Liquid Storage Rooms Opening Protectives	175.285a2B	1-hour	¾-hour or 1¾" SC wood doors with max 1,296 in² wired glass permitted [175.285a2C]	(d)
Fuel Storage	175.260f	1-hour	¾-hour No detection [175.460a]	Detection required [175.460a6]
Fuel Storage Opening Protectives	175.285a2B	1-hour	¾-hour or 1¾" SC wood doors with max 1,296 in² wired glass permitted [175.285a2C]	(d)

Part 175: On or after July 1, 1965 but before March 24, 1995				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
Furnace Room [See 175.260f1 and 175.260f2 for exceptions]	175.260f	1-hour	$\frac{3}{4}$ -hour No detection [175.460a]	Detection required [175.460a6]
Furnace Room Opening Protective	175.285a2B	1-hour	$\frac{3}{4}$ -hour or $1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
Greenhouses	175.260c	$\frac{3}{4}$ -hour (If connected to building)	No detection [175.460a]	Detection required [175.460a1]
Greenhouse Opening Protectives	175.285a2C	$\frac{3}{4}$ -hour (If connected to building)	N/A	$1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C] (d)
Gym/Multipurpose Room > 600	175.260a	1-hour	N/A	
Gym/Multipurpose Room > 600 Opening Protectives	175.285a2B	1-hour	N/A	(d)
Home Economics	175.260c	$\frac{3}{4}$ -hour	No detection [175.460a]	Detection required [175.460a]
Home Economics Room Opening Protectives	175.285a2C	$\frac{3}{4}$ -hour	N/A	$1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C] (d)
Horizontal Exits	175.410h 101-5-5	2-hours	N/A	(c)
Horizontal Exit Doors	101-5-5	$1\frac{1}{2}$ -hours	N/A	(c)(d)
Incinerator Rooms	175.260f	1-hour	$\frac{3}{4}$ -hour	Sprinklers required

Part 175: On or after July 1, 1965 but before March 24, 1995				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
			No detection [175.460a]	[175.440a]
Incinerator Room Opening Protectives	175.285a2B	1-hour	$\frac{3}{4}$ -hour or $1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
Industrial Technology and Metal Working Shops	175.260d	1-hour	$\frac{3}{4}$ -hour No detection [175.460a]	Detection required [175.460a1]
Industrial Technology and Metal Working Shops Opening Protectives	175.285a2B	1-hour	$\frac{3}{4}$ -hour or $1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
Janitor's Closets	175.260d	1-hour	$\frac{3}{4}$ -hour No detection [175.460a]	Detection required if > 10 ft ² [175.460a4]
Janitor's Closet Doors	175.285.a2B	1-hour	$\frac{3}{4}$ -hour or $1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	If normally kept locked, no closer required [175.290b] (d)
Kitchens (not home economics kitchens)	175.260c	$\frac{3}{4}$ -hour	No detection [175.460(a)]	Detection required [175.460a1]
Kitchen Opening Protectives	175.285a2C	$\frac{3}{4}$ -hour	N/A	$\frac{3}{4}$ -hour or $1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C] (d)

Part 175: On or after July 1, 1965 but before March 24, 1995				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
Libraries/Learning Resource Centers > 600	175.260a	1-hour	N/A	None
Libraries/Learning and Resource Centers > 600 Opening Protectives	175.285a2B	1-hour	N/A	(d)
Open Plan Areas (Limiting Walls)	175.250a	1-hour	No detection [175.460a]	Detection required in any enclosed room > 10 ft ² [175.460a7]. All ceilings shall be N/C and have a flame spread ≤ 25 or be of construction using exposed heavy timber with limits established elsewhere
Open Plan Area Opening Protectives	175.285a4	¾-hour		¾-hour or 1¾" SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C] (d)
Painting and Finishing	175.260d	1-hour	No detection [175.460a]	Detection required [175.460a2]
Painting and Finishing Opening Protectives	175.285a2B	1-hour	¾-hour or 1¾" SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
Photo Developing Rooms	175.260c	¾-hour	No detection [175.460a]	Detection required [175.460a1]
Photo Developing Room Opening Protectives	175.285a2C	¾-hour		¾" SC wood doors with max 1,296 in ² wired glass permitted (d)
Printing Rooms	175.260d	1-hour	No detection	Detection required

Part 175: On or after July 1, 1965 but before March 24, 1995				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
			[175.460a]	[175.460a2]
Printing Rooms Opening Protectives	175.285a2B	1-hour	¾-hour or 1¾" SC wood doors with max 1,296 in² wired glass permitted [175.285a2C]	(d)
Projection Rooms used in Assembly Rooms > 600	175.320	N/C constr. Interior finish flame spread ≤ 25	N/A	Does not apply to lighting and sound booths (e)
Projection Rooms > 600 Opening Protectives	175.320	Metal doors or shutters	N/A	Other openings shall have fusible link released shutters (d)(e)
Science Labs	175.260c	¾-hour	No detection 175.460a	Detection required [175.460a1]
Science Lab Opening Protectives	175.285a2C	¾-hour	N/A	1¾" SC wood doors with max 1,296 in² wired glass permitted (d)
Smoke Stop Partitions (Cross-Corridor)	175.280	½-hour	N/A	
Smoke Stop Partition Opening Protectives (Cross-Corridor Doors)	175.280	See comments	N/A	Hollow or filled metal doors and 1¾" SC doors are permitted. Door frames of metal or of minimum 2" nominal lumber are permitted.
Stages (Large) and Accessory Areas -Includes storage and below stage	175.260b	1-hour	1 hour separation below stage not required	Sprinklers required
Stages (Large) and Accessory Areas Opening Protectives	175.285a2B	1-hour	N/A	(d)(f)

Part 175: On or after July 1, 1965 but before March 24, 1995				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
Stages (Small) and Accessory Areas	175.260b	NR	No detection	Detection required if room falls under another classification within this Appendix, see those requirements [175.460a3]
Stages (Small) and Accessory Areas Opening Protectives	175.260b	NR	N/A	If room falls under another classification within this Appendix, see those requirements
Stages (Large and Small) with Storage Underneath	185.360d1C as referenced by 175.310f3	½-hour	N/C construction	If stage is required to be protected with sprinklers, then the areas underneath the stage are required to be protected. If no sprinklers then detection is required. For spaces beneath a stage that is used for both storage and as a plenum chamber with grilled openings into the general assembly area see [185.360d2]
Stages (Large and Small) with Storage Underneath Opening Protectives	185.360d1B as referenced by 175.310f3	½-hour	N/A	Metal or SC wood doors (d)
Stairs ≤ 2 stories	175.265	¾-hour wall permitted between stairs and corridors	N/A	All other partitions in the stair enclosure must be 1-hour
Stairs ≤ 2 stories Opening Protectives	175.285a3C	¾-hour wall permitted between stairs and corridors	N/A	All other openings must be 1-hour ¾-hour wall can have ¾-hour door or 1¾" SC wood door (d)

Part 175: On or after July 1, 1965 but before March 24, 1995				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
Stairs ≤ 2 stories in buildings with direct exterior exiting	175.270(a)	NR	N/A	None
Stairs ≤ 4 stories	175.265	1-hour	N/A	None
Stairs ≤ 4 stories Opening Protectives	175.285a3B	1-hour	N/A	(d)
Stairs > 4 stories	175.265	2-hours	N/A	
Stairs > 4 stories Opening Protectives	175.285a3A	1½-hours	N/A	(d)
Stairs (Basement)	175.270b	NR	N/A	In the basement of a 1-story building, provided required exits from the first floor do not pass through these basement stairs.
Storage Rooms	175.260d	1-hour	³ / ₄ -hour No detection [175.460a]	Detection required if > 10 ft ² [175.460a4]
Storage Room Opening Protectives	175.285a2B	1-hour	³ / ₄ -hour or 1 ³ / ₄ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
Swimming Pools > 600	175.260a	1-hour	N/A	None
Swimming Pool Opening Protectives	175.285a2B	1-hour	N/A	(d)

Teacher's Workrooms and Lounges (with cooking/heating appliances)	175.260c 175.260h	$\frac{3}{4}$ -hour	N/A	None
Teachers' Workrooms and Lounge (with cooking/heating appliances) Opening Protective	175.285a2C	$\frac{3}{4}$ -hour	N/A	$\frac{3}{4}$ -hour or $1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C] (d)
Trash Chute $\leq$ 4 stories	175.265	1-hour	N/A	Sprinklers required at top of trash chute [175.440a]
Trash Chute $\leq$ 4 stories Opening Protectives	175.285a3B	1-hour	N/A	(d)
Trash Chute $>$ 4 stories	175.265	2-hours	N/A	Sprinklers required at top of trash chute [175.440a]
Trash Chute $>$ 4 stories Opening Protectives	175.285a3A	$1\frac{1}{2}$ -hours	N/A	(d)
Trash Collection Room	175.260f	1-hour	$\frac{3}{4}$ -hour	Sprinkler protection required [175.440a]
Trash Collection Room Opening Protectives	175.285a2B	1-hour	$\frac{3}{4}$ -hour or $1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
Utility Tunnels used for combustible storage	175.330 175.260d	1-hour	No detection $\frac{3}{4}$ -hour	Sprinklers or detection required
Utility Tunnels used for combustible storage Opening Protectives	175.285a2B	1-hour	$\frac{3}{4}$ -hour or $1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
*Ventilation Equipment Rooms	175.260d	1-hour	$\frac{3}{4}$ -hour No detection [175.460a]	Detection required [175.460a]

Ventilation Equipment Room Opening Protectives	175.285a2B	1-hour	$\frac{3}{4}$ -hour or $1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)
Woodworking Shops	175.260d	1-hour	$\frac{3}{4}$ -hour No detection [175.460a]	Detection required [175.460a]
Woodworking Shop Opening Protectives	175.285a2B	1-hour	$\frac{3}{4}$ -hour or $1\frac{3}{4}$ " SC wood doors with max 1,296 in ² wired glass permitted [175.285a2C]	(d)

N/C = Noncombustible Construction

SC = Solid Core

(a) = Hollow or filled metal doors and $1\frac{3}{4}$ " SC wood doors are permitted. Door frames of metal or of minimum 2" nominal lumber.

(b) = Exitway can be thought of as a horizontal extension of a stairway. Therefore, in accordance with 175.265 like fire resistance is required for enclosures around exitways. Like with the stairway for which it is attached. An exitway can also be an "exit" located within a building that i.e., used when travel distances are too long.

(c) = See NFPA 101 for more requirements

(d) = Unless otherwise noted, opening protectives are to have automatic closing devices and positive latching. Additionally, opening protectives must comply with NFPA 80 (1967). Where applicable, 175.290a permits closing upon activation of the building's fire alarm system. Fusible links or rate-of-rise release may be used in addition to but not in lieu of, automatic operation. Refer to that section for details.

(e) = Does not apply if the entire projection booth complies with NFPA 40 (1967)

(f) = For proscenium curtain requirements see NFPA 101.

APPENDIX P-Part 185 Fire Separation Requirements

Outline for use with Part 185-Fire Separation Requirements Public School Buildings designed before July 1, 1965

Part 185: Before July 1, 1965				
Room or Area	Section	Fire Rating	With Sprinklers	Comments
Agricultural Shops	185.390g4	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls See also [185.390g5C] for borrowed lights in walls Detection is required [185.395c2B]
Agricultural Shop Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in ² and 600 in ² , respectively. (n)

Art Rooms	185.390g4	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2B]
Art Room Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in² and 600 in², respectively (n)
Assembly, Class A	185.310e4Ci	Definitions		> 1,000 persons
Assembly, Class B	185.310e4Cii			> 600, but ≤ 1,000 persons
Assembly, Class C	185.310e4Ciii			> 200, but ≤ 600 persons
Assembly BOCA-F	303.1			> 50 persons
Assembly > 200	185.390g4	½-hour	No detection required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required if flame spread > 75 [185.395c2D]

Assembly > 200 Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass $\geq \frac{1}{4}$ " thick except that DS plain glass or 40 oz glass may be used where the area of a panel is $\leq 200 \text{ in}^2$ and 600 in^2 , respectively. (h)(n)
Attics or Concealed Spaces above the Ceiling	185.390i2	N/C or $\frac{1}{2}$ -hour with flame spread ≤ 25	Subdivision into compartments not required [185.390i2E] Detection not required [185.395c2]	Detection required in attics located in multistory buildings or spaces $> 2,000 \text{ ft}^2$ or attic located in a single story building $> 5,000 \text{ ft}^2$ [185.395c2C]
Auditoriums > 200	185.390g4	$\frac{1}{2}$ -hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. $\frac{3}{4}$ -hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required if flame spread > 75 [185.395c2D]
Auditoriums > 200 Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass $\geq \frac{1}{4}$ " thick except that DS plain glass or 40 oz glass may be used where the area of a panel is $\leq 200 \text{ in}^2$ and 600 in^2 , respectively. (h)(n)

Automotive Shops	185.390g4	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2B] (k)
Automotive Shop Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass $\geq \frac{1}{4}$ " thick except that DS plain glass or 40 oz glass may be used where the area of a panel is $\leq 200 \text{ in}^2$ and 600 in^2 , respectively (n)
Basements with Student Occupancy	185.390c1	1-hour	Prevent passage of heat, smoke and gases [185.390c2]	Separation to floor above (j)
Boiler Room	185.310e8Bi	Definition		Houses fuel-burning equipment whose purpose is to provide heat or domestic hot water.
Boiler Rooms (> 200,000 BTU and > 1.5 gph for oil)	185.390e2C	1-hour	Detection not required [185.395c2]	Detection required [185.395c2A]
Boiler Room Opening Protectives (> 200,000 BTU and > 1.5 gph for oil)	185.390e2E	1½-hours, or 1-hour	N/A	Door must swing into the room if an interior door. Vision panel in door only as permitted in a B-labeled door (i)(n)

Boiler Room (basement) of a ≥ 2 story building or beneath a Class A or B Assembly Occupancy	185.390e2C	2-hours	Detection not required [185.395c2]	Detection required [185.395c2A]
Boiler Room (basement) of a ≥ 2 story building or beneath a Class A or B Assembly Opening Protectives	185.390e2E	1½-hours, or 1-hour	N/A	Door must swing into the room if an interior door. Vision panel in door only as permitted in a B-labeled door (i)(n)
Boiler Rooms (other)	185.390e2C	½-hour	Detection not required [185.395c2]	No borrowed lights or vision panels permitted in wall. Detection required [185.395c2A]
Boiler Room (other) Opening Protectives	185.390e2F	¾-hour, SC wood, or metal	N/A	Vision panels glazed with ¼" wired glass. No other borrowed lights or vision panels permitted. (n)
Cafeteria > 200	185.390(g)(4)	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls Detection required if flame spread is > 75 [185.395c2D]
Cafeteria > 200 Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in ² and 600 in ² , respectively. (h)(n)

Cloakrooms	185.310e5D	See comments	N/A	≤ 100 ft ² with access from a classroom or a special education room is considered part of the classroom as long as only used for wraps, coats and other human apparel. Others are classified as a storage occupancy
Cloakroom Opening Protectives	185.390f1C	See comments	No door required between classroom and cloakroom if cloakroom ≤ 200 ft ²	No door required between classroom and cloakroom if cloakroom is ≤ 100ft ²
Closets	185.310e5C	See comments	Detection not required [185.395c2]	Teacher's closets ≤ 12 ft ² with access from a classroom or special education room is considered part of the classroom. Other closets not under this scope are considered as storage occupancies Detection required [185.395c2A]
Closet Doors	185.310e5C	See comments	Panel areas in adjacent column may be doubled	In unsprinklered buildings, DS, 40 oz or plate glass (1/4" minimum) maybe be used in borrowed light openings provided the area of panels is ≤ 600, 800 and 1000 in ² , respectively, provided the flame spread rating is < 75 on both sides.
Corridors	185.390g5	½-hour	N/A	
Corridor Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in ² and 600 in ² , respectively. (a)(n)

Crawl Spaces	185.390d1	Smoke tight	N/A	No storage permitted
Crawl Space Opening Protectives	185.390d1	Smoke tight	N/A	Access doors must remain closed and locked
Educational Occupancy	185.310e5	Definition		Spaces used for normal educational purposes ≤ 200 including classrooms, locker rooms, toilets, offices, corridors, stairs
Electrical Equipment Rooms	185.390g4	½-hour	Detection not required [185.395(c)(2)]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2A]
Electrical Equipment Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Door closer required or door must be kept locked. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in ² and 600 in ² , respectively (n)

Fire Escapes	185.370k9	See comments	≥ ¼" plate glass shall be permitted in lieu of wired glass in exterior window and door openings located in sprinklered Educational Occupancy rooms or spaces. "Small court" rule does not apply	Openings within 10 ft. of a fire escape stairs, walkways, or landings shall be protected using glass panels shall be glazed with wired glass. Such wired glass panels, where located in doors, shall be ≤ 720 in² or have any dimension > 54". Where located in windows, such panels shall be ≤ 1,296 in², or have any dimension more > 54". Where fire escape stairs are located in "small courts" the least dimension < ⅓ their height, all openings below shall be protected.
Fire Resistive Passageway – Unsprinklered Basements	185.370e4A	1-hour	N/A	(b)(j)
Fire Resistive Passageway- Unsprinklered Basement Opening Protectives	185.370m6ii (exception)	1-hour	N/A	See exception language (n)
Fire Resistive Passageway – Unsprinklered Building > 2 stories	185.370e4	1-hour	N/A	(b)(j)(m)
Fire Resistive Passageway – Unsprinklered Building > 2 stories Opening Protectives	185.370m6ii (exception)	3 hours, 1½-hours, or 1-hour	N/A	(m)(n)
Fire Resistive Passageway– Other	185.370e4	¾-hour	N/A	(b)(m)
Fire Resistive Passageway– Other Opening Protectives	185.370m6	See comments	N/A	SC wood, metal construction mounted in rigid N/C frames except that combustible frames with minimum 2" nominal members may be used. Borrowed light or vision panels shall be approved wired glass. (m)(n)
Fire Wall	185.220b	2-hours	N/A	(m)

Fire Wall Doors	185.390g2A	3-hours, 1½-hours, or 1-hour	N/A	(m)(n)
Fuel Storage	185.310e8C	(See Boiler Rooms)		
Fuel Storage Opening Protectives	185.310e8C	(See Boiler Rooms)		
Furnace Room	185.310e8C	(See Boiler Rooms)		
Furnace Room Opening Protective	185.310e8C	(See Boiler Rooms)		
Greenhouses	185.390g4	½-hour (If connected to building)	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2B]
Greenhouse Opening Protectives	185.380c10F	See comments (If connected to building)	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in ² and 600 in ² , respectively. (n)
Gym/Multipurpose Room > 200	185.390g4	½-hour	N/A	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls.
Gym/Multipurpose Room > 200 Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type

				glazed with wired glass or plate glass $\geq \frac{1}{4}$ " thick except that DS plain glass or 40 oz glass may be used where the area of a panel is $\leq 200 \text{ in}^2$ and 600 in^2 , respectively. (n)
Home Economics	185.390g4	$\frac{1}{2}$ -hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. $\frac{3}{4}$ -hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2B]
Home Economics Room Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass $\geq \frac{1}{4}$ " thick except that DS plain glass or 40 oz glass may be used where the area of a panel is $\leq 200 \text{ in}^2$ and 600 in^2 , respectively. (n)
Horizontal Exits	185.370g4B	2-hours	N/A	No openings permitted except for exit doors.
Horizontal Exit Doors	185.370g4B	$1\frac{1}{2}$ -hours or 1-hour	N/A	100 in^2 vision panel required as well as 2 opposite swinging doors with exit signs and panic hardware (a)(n)
Incinerator Rooms	185.310e8C	(See Boiler Rooms)		
Incinerator Room Opening Protectives	185.310e8C	(See Boiler Rooms)		

Industrial Technology and Metal Working Shops	185.390g4	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2B]
Industrial Technology and Metal Working Shops Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in² and 600 in², respectively (n)
Janitor's Closets	185.390g4	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2A]
Janitor's Closets Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in² and 600 in², respectively. (n)

Kitchens (not home economics kitchens)	185.390g4	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2B]
Kitchen Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in ² and 600 in ² , respectively. (n)
Libraries/Learning Resource Centers > 200	185.390g4	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2D]
Libraries/Learning and Resource Centers > 200 Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in ² and 600 in ² , respectively. (n)

Mechanical Occupancy	185.310e8	Definition		Includes all rooms and spaces in a school which are used primarily to house mechanical equipment of a permanent nature. Mechanical equipment shall be construed to also include transformers, electrical switchgear motors, and other equipment and devices of a similar nature powered by electricity. Subdivided into: ➤ Boiler Rooms ➤ Mechanical Equipment Rooms
Mechanical Equipment Room	185.310e8Bii	Definition		Houses non-fuel burning mechanical equipment: transformers, electrical switchgear, air compressors, pump motors, steam turbine-driven fans, air conditioning other than gas fired.
Mechanical Equipment Room	185.390g4 185.390e3D	½-hour	[185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. Sprinklered or 1-hour if located below an assembly occupancy. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. Detection Required [185.395c2A] (j)
Mechanical Equipment Room Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in ² and 600 in ² , respectively. (n)

Painting and Finishing Areas	185.390f2B	½-hour	No detection required 185.395c2	Sprinklered or 1-hour if located below an assembly occupancy. ¾-hour if in any unsprinklered building > 2 stories. See also 185.390g5C for borrowed lights in walls. (j)(k)
Painting and Finishing Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in ² and 600 in ² , respectively. (k)(n)
Paths of Travel, Primary	185.380b3 185.220b	Utilize corridors and/or primary egress aisles as the paths of travel to approved exits from the doorways of the rooms and/or spaces involved with minimum amount of travel (if any) through adjacent occupied rooms or spaces		
Paths of Travel, Secondary	185.380b4 185.220b	Do not qualify as a primary path of travel and are supplemental to a primary path of travel used as travel to an exit and normally passes through adjacent rooms or spaces		
Paths of Travel, Separated	185.220b	Exits or paths of travel to exits which are so separated by smoke screens, fire partitions, corridor enclosure walls and other partitions and walls of equivalent construction as to prevent both exits and/or both paths of travel from becoming simultaneously unusable as a result of heat, smoke or gas accumulation developing from a single fire		
Plan A Building	185.320	Single story building with or without a basement		
Plan A Fire Areas	185.320c	See definitions and specific requirements identified in Part 185		
Plan A Interior Finish	185.320e			
Plan A Smoke Areas	185.320c			
Plan A Sprinklered – also see 185.320b3	185.320b2A	Sprinklers required in all areas except for educational occupancy rooms and spaces, including corridors with interior finish ≤ 75 and attic and other concealed spaces above ceilings.		
Plan A Stairways	185.320d	See specific requirements identified in Part 185		

Plan A Unsprinklered—see also 185.320b3	185.320b2B	Fire detection required throughout except for any building having a total capacity of < 100 or , Street floor and attics of buildings and fire areas of Type I, II, III and IV construction with interior finish ≤ 75. This does not apply to stages, storage rooms, dressing rooms and under stage areas located in Class A and Class B Assembly Occupancies.		
Plan B Building	185.330	> 1 story in height have direct exterior exiting as defined under [185.310c3]. (g)		
Plan B Fire Areas	185.330b2	See definitions and specific requirements identified in Part 185		
Plan B Height & Area Limits	185.330b			
Plan B Smoke Areas	185.330b3			
Plan B Vertical Openings	185.330c			
Plan C Building	185.340	Buildings > 1 story in height with an enclosed interior arrangement consisting of rooms instead of spaces, and corridors instead of egress aisles. [185.310c2A]		
Plan C Height & Area Limits	185.340b	See definitions and specific requirements identified in Part 185		
Plan C Vertical Openings	185.340c			
Plan D Building	185.350	Buildings > 1 story in height with an open interior not qualifying as a Plan B Building		
Plan D Height & Area Limits	185.350b	See definitions and specific requirements identified in Part 185		
Plan D Vertical Openings	185.350c			
Photo Developing Room	185.390g4	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2B]

Photo Developing Room Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass $\geq \frac{1}{4}$ " thick except that DS plain glass or 40 oz glass may be used where the area of a panel is $\leq 200 \text{ in}^2$ and 600 in^2 respectively. (n)
Printing Rooms	185.390f2B	$\frac{1}{2}$ -hour	No detection [185.395c2]	Sprinklered or 1-hour if located below an assembly occupancy. $\frac{3}{4}$ -hour if in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. (k)
Printing Room Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass $\geq \frac{1}{4}$ " thick except that DS plain glass or 40 oz glass may be used where the area of a panel is $\leq 200 \text{ in}^2$ and 600 in^2 , respectively. (k)(n)
Projection Rooms used in Assembly Rooms	185.360d1B	$\frac{1}{2}$ -hour	$\frac{1}{2}$ -hour or N/C construction Detection not required [185.395c2]	Does not apply to lighting and sound booths Detection required if flame spread > 75 [185.395c2D]
Projection Rooms Opening Protectives	185.360d1B	See comments	N/A	Hollow metal or SC wood doors with automatic closer or kept locked when not occupied (n)

Science Laboratories	185.390g4	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2B]
Science Laboratories Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in² and 600 in², respectively. (n)
Smoke Screen Partitions	185.390g3B	½-hour	N/A	A structurally stable partition constructed primarily of wired glass panels mounted in wood framing (2" nominal) provided the exposed combustible surface area of the wood framing does not exceed 10% of the total area of the smoke screen
Smoke Screen Partitions Opening Protectives	185.390g3B	See comments	N/A	¼" clear wired glass in borrowed lights and vision panels. Metal or SC wood doors. (n)
Special Education Occupancy	185.310e6	Definition		≤ 200 used for industrial arts rooms, shops, home economics rooms, laboratories, art rooms, cafeterias, kitchens, libraries, dormitories, drama workshop rooms, garages with student occupancy
Stages (Large)			Sprinklers required [185.360e]	None
Stages (Large) Opening Protectives	185.360e1	See comments	N/A	Metal or SC wood doors. (f)(n)

Stages (Large) and Accessory Areas	185.d1B	½-hour	Sprinklers required [185.360e1]	None
Stages (Large) Accessory Area Opening Protectives	185.360d1B	See comments	N/A	Hollow metal or SC wood construction.
Stages (Small)	185.360e3	½-hour	N/C construction	Fire detection can be installed in lieu of sprinklers if the stage is located in an unsprinklered building
Stages (Small) Opening Protectives	185.360e3	See comments	N/A	Metal or SC wood doors. (n)
Stages with Storage Underneath	185.360d1C	½-hour	N/C construction	If stage is required to be protected with sprinklers, then the areas underneath the stage are required to be protected. If no sprinklers then detection is required. For spaces beneath a stage that is used for both storage and as a plenum chamber with grilled openings into the general assembly area see [185.360d2] (e)
Stages with Storage Underneath Opening Protectives	185.360d1B	½-hour	N/A	Metal or SC wood doors. (n)
Stairs ≤ 4 stories	185.390h2Ci	¾-hour	≤ 6 stories Detection not required [185.395c2]	Detection required at top of stairway and beneath the ceiling of each story at the point of entrance into the stairs [185.395c2F]
Stairs ≤ 4 stories Opening Protectives	185.390h2D 185.390h2E 185.370m6	SC wood or metal in N/C frames (c)	N/A	¼" wired glass in N/C frames ≤ 1200 in ² except that glass panels may be of unlimited size in walls between corridors and stairway. (n)
Stairs > 4 stories	185.390h2Cii	1-hour	Detection not required [185.395c2]	Detection required at top of stairs and beneath the ceiling of each story at the point of entrance into the stairs [185.395c2F]

Stairs > 4 stories Opening Protectives	185.390h2D 185.390h2E 185.370m6	3-hour, 1½-hour or 1-hour	N/A	¼" wired glass vision panel required except in 3-hour doors. (n)
Storage Occupancy	185.310e7	Definition		Used for storage or for building maintenance and repair purposes
Storage Occupancy	185.390g4	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also 185.390g5C for borrowed lights in walls. Detection required [185.395c2A]
Storage Room Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in ² and 600 in ² , respectively (n)
Swimming Pools > 200	185.390g4	½-hour	No detection required	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required if flame spread is > 75 [185.395c2D]

Swimming Pool > 200 Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass $\geq \frac{1}{4}$ " thick except that DS plain glass or 40 oz glass may be used where the area of a panel is $\leq 200 \text{ in}^2$ and 600 in^2 , respectively (n)
Teacher's Workrooms and Lounges (with cooking/heating appliances)	185.390g4	$\frac{1}{2}$ -hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. $\frac{3}{4}$ -hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. Detection required [185.395c2B]
Teacher's Workrooms and Lounges (with cooking/heating appliances) Opening Protectives	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass $\geq \frac{1}{4}$ " thick except that DS plain glass or 40 oz glass may be used where the area of a panel is $\leq 200 \text{ in}^2$ and 600 in^2 , respectively (n)
Transformer Rooms that use Flammable Coolant	185.390e3B	See comments	N/A	Follow requirements for a "vault" per NFPA 70- <i>National Electrical Code</i> (1962)
Trash Chute ≤ 5 stories	185.390h5 185.390h4	$\frac{3}{4}$ -hour	N/A	Sprinkler protection required at the top of the chute
Trash Chute ≤ 5 stories Opening Protectives	185.390h5	$\frac{3}{4}$ -hour	N/A	(n)
Trash Chute > 5 stories	185.390h5 185.390h4	1-hour	N/A	Sprinkler protection required at the top of the chute
Trash Chute > 5 stories Opening Protectives	185.390h5	1-hour	N/A	(n)

Trash Collection Room	185.390h5B	See comments	N/A	Sprinkler protection required rooms > 20 ft ²
Utility Tunnels	185.390d1	Smoke tight	N/A	Sprinklers required if used for any type of storage
Utility Tunnel Opening Protectives	185.390d1	Smoke tight	N/A	Access doors must remain closed and locked
Ventilation Equipment Rooms	185.390g4 185.390e3D	½-hour	Detection not required [185.395c2]	1-hour if in unsprinklered basement and lead directly into interior stair or ramp enclosure. Sprinklered or 1-hour if located below an assembly occupancy. ¾-hour if located in an unsprinklered basement or otherwise in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. Detection required [185.395c2A] (j)
Ventilation Equipment Room Opening Protective	185.380c10F	See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass ≥ ¼" thick except that DS plain glass or 40 oz glass may be used where the area of a panel is ≤ 200 in ² and 600 in ² , respectively. (n)
Ventilation Shafts ≤ 5 stories	185.390h4	¾-hour	N/A	Except when protected with a UL listed fire damper
Ventilation Shafts > 5 stories	185.390h4	1-hour	N/A	Except when protected with a UL listed fire damper
Woodworking Shops	185.390f2B	½-hour	Detection not required [185.395c2]	Sprinklered or 1-hour if located below an assembly occupancy. ¾-hour if in any unsprinklered building > 2 stories. See also [185.390g5C] for borrowed lights in walls. (j)(k)

Woodworking Shops Opening Protectives		See comments	N/A	Metal, SC wood or structurally stable wood panel construction. Borrowed light or vision panels in doors shall be fixed sash type glazed with wired glass or plate glass $\geq \frac{1}{4}$ " thick except that DS plain glass or 40 oz glass may be used where the area of a panel is $\leq 200 \text{ in}^2$ and 600 in^2 , respectively. (k)(n)
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N/C = Noncombustible Construction

SC = Solid Core

(a) = Automatic hold open device in accordance with 185.370m6Bii are permitted

(b) = Fire resistive passageway can be thought of as a horizontal extension of a stairway. A fire resistive passageway can also be an "exit" located within a building that i.e., used when travel distances are too long.

(c) = Combustible frames are permitted but must be ≥ 2 " nominal lumber.

(d) = (Reserved)

(e) = For spaces beneath a stage that is used both for storage and as a plenum chamber with grilled openings into the general assembly area, see 185.360(d)(2)

(f) = Proscenium curtain must be N/C or "flame-proof" curtain.

(g) = (Reserved)

(h) = See also 185.310(e)(4)(B)

(i) = See NFPA 80 (1962)

(j) = Or be of concrete pan construction with a $2\frac{1}{2}$ " minimum floor thickness or wood joists with metal lath and plaster

(k) = [185.390f2B] Shall be protected with sprinklers when such room or area is located in a basement or beneath any portion of a Type IV or Type V building subject to occupancy by students; or are open to a primary egress aisle as defined in 185.380(d). See 185.390(f)(2)(B) for exception that permits installation of fire detection.

(l) = (Reserved)

(m) = That portion of a fire wall located within and extending laterally across a corridor or a fire resistive passageway may be of $\frac{1}{2}$ -hour N/C construction with $\frac{1}{4}$ " wired glass provided panels are mounted in N/C frames and are $\leq 1296 \text{ in}^2$. [185.390g2A]

(n) = No louvers permitted, doors must have closers and latches.

APPENDIX Q-Part 180 Fire Rated Separations

Health/Life Safety Code for Public Schools (23 Ill. Adm. Code 180)

*Outline for use with Part 180
Public School Buildings designed after March 24, 1995^(a)*

Room or Area	BOCA 1993 (a)(e)	BOCA 1996 (a)(f)	Comments
Part 180	On or after 3/24/95 but before 7/6/98	On or after 7/6/98 but before 10/3/05	
Agricultural Shops	NR	NR	(b)(j)
Agricultural Shop Opening Protectives	NR	NR	(b)(d)(j)(t)
Art Rooms	NR	NR	None
Art Room Opening Protectives	NR	NR	None
Assembly	2-hours or 1-hour with sprinklers [Table 313.1.2]	2-hours or 1-hour with sprinklers [Table 313.1.2]	(j)
Assembly Opening Protectives	1½-hours or ¾-hour with sprinklers [Table 716.1]	1½-hours or ¾-hour with sprinklers [Table 717.1]	(d)(j)(t)

Room or Area	BOCA 1993 (a)(e)	BOCA 1996 (a)(f)	Comments
Part 180	On or after 3/24/95 but before 7/6/98	On or after 7/6/98 but before 10/3/05	
Attics used for combustible storage	Sprinklers and smoke partitions [Table 302.1.1]	Sprinklers and smoke partitions [Table 302.1.1]	In combustible construction any attic (no matter if used for storage or not) must be draftstopped in accordance with applicable code unless building is protected with sprinklers (i)
Attics used for combustible storage Opening Protectives	Self-closing and prevent spread of smoke [1211.2] [Table 302.1.1]	Self-closing and prevent spread of smoke [1211.2] [Table 302.1.1]	None

Auditoriums	2-hours, 1-hour and sprinklers [Table 313.1.2]	2-hours, 1-hour and sprinklers [Table 313.1.2]	(j)
Auditoriums Opening Protectives	1½-hours or ¾-hour and sprinklers [Table 716.1]	1½-hours or ¾-hour and sprinklers [Table 717.1]	(d)(j)(t)
Automotive Shops	2-hours or 1-hour and sprinklers [Table 302.1.1]	2-hours or 1-hour and sprinklers [Table 302.1.1]	(b)(j)
Automotive Shop Opening Protectives	1½-hours or ¾-hour with sprinklers [Table 716.1]	1½-hours or ¾-hour with sprinklers [Table 717.1]	(b)(d)(j)(t)
Boiler Rooms (> 15 psi and 10 HP)	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers with smoke partitions [Table 302.1.1]	(d)(j)
Boiler Room Opening Protectives^(d) (> 15 psi and 10 HP)	¾-hour [Table 716.1]	¾-hour [Table 717.1]	(d)(t)
Boiler Room (other)	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers with smoke partitions [Table 302.1.1]	(d)(j)

Boiler Room (other) Opening Protectives	$\frac{3}{4}$ -hour [Table 716.1]	$\frac{3}{4}$ -hour [Table 717.1]	(d)(t)
Cafeteria (as assembly)	2-hours or 1- hour with sprinklers [Table 313.1.2]	2-hours or 1- hour with sprinklers [Table 313.1.2]	(j)
Cafeteria Opening Protectives (as assembly)	1½-hours or $\frac{3}{4}$ - hour with sprinklers [Table 716.1]	1½-hours or $\frac{3}{4}$ - hour with sprinklers [Table 717.1]	(d)(j)(t)
Closets	Sprinklers and smoke partitions [Table 302.1.1]	Sprinklers and smoke partitions [Table 302.1.1]	If > 10% or 503 then 1 hour or sprinklers (j)
Closets Opening Protectives	Prevent the spread of smoke [Table 302.1.1]	Prevent the spread of smoke [Table 302.1.1]	If > 10% or 503 then $\frac{3}{4}$ -hour or sprinklers [Table 715.4] (d)(j)(t)
Corridors	1-hour or sprinklers [Table 1011.4]	1-hour or sprinklers [Table 1011.4]	Except for room requiring a higher fire-rated enclosure (j)

Corridor Opening Protectives	$\frac{1}{3}$ -hour [Table 716.1]	$\frac{1}{3}$ -hour or sprinklers [Table 717.1]	Except for opening protective in a room adjacent to corridor requiring a higher fire-rated opening protective (d)(j)(t)
Corridors in buildings with direct exterior exiting	NR [1011.4(1)]	NR [1011.4(1)]	Every room that is used for instruction has at least one door directly to the exterior and assembly areas have $\geq \frac{1}{2}$ egress doors opening directly to outside
Crawl Spaces used for combustible storage	Sprinklers and smoke partitions [Table 302.1.1]	Sprinklers and smoke partitions [Table 302.1.1]	(j)
Crawl Spaces used for combustible storage Opening Protectives	Prevent the spread of smoke [Table 302.1.1]	Prevent the spread of smoke [Table 302.1.1]	(d)(t)

Electrical Equipment Rooms ≤ 600 volts	NR	NR	Cannot be used for combustible storage and required clearances from electrical equipment must be maintained (m)(n)
Electrical Equipment ≤ 600 volts Opening Protectives	NR	NR	Doors must be kept locked (d) (m)(n) (t)
Electrical Rooms > 600 volts	3-hours	3-hours	Cannot be used for combustible storage and required clearances from electrical equipment must be maintained (m)(n)
Electrical Rooms > 600 volts Opening Protectives	3-hours [Table 716.1]	3-hours [Table 717.1]	Doors must be kept locked No glazing permitted (d) (m)(n) (t)

Exit Passageways	Equivalent to that of any connecting exit enclosure [1020.1]	Equivalent to that of any connecting exit enclosure [1020.1]	
Exit Passageways Opening Protectives	Equivalent to that of any connecting exit enclosure [1020.1]	Equivalent to that of any connecting exit enclosure [1020.1]	(d)
Fire Escapes Opening Protectives	Doors and windows along the fire escape $\frac{3}{4}$ -hour [1025.3.2]	Doors and windows along the fire escape $\frac{3}{4}$ -hour [1025.3.2]	
Fire Walls	2-hours [Table 707.1]	2-hours [707.1]	
Fire Wall Doors	1½-hours [Table 716.1]	1½-hours [717.1]	(d)(t)
Flammable Paint and Flammable Liquid Storage Rooms	4-hours [Table 313.1.2]	4-hours [Table 313.1.2]	See International Fire Code or BOCA Fire Prevention Code for other protection requirements (b)(j)

Flammable Paint and Flammable Liquid Storage Rooms Opening Protectives	3-hours [Table 716.1]	3-hours [Table 717.1]	No glazing permitted in 3 hour doors (j)(t)
Furnace Room	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers with smoke partition [Table 302.1.1]	(j)
Furnace Room Opening Protectives	$\frac{3}{4}$ -hour or sprinklers [Table 716.1]	$\frac{3}{4}$ -hour or sprinklers with smoke partition [Table 717.1]	(d)(j)(t)
Furnace Room – (> 400,000 Btu per hour input)	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers with smoke partitions [Table 302.1.1]	(j)
Furnace Room (> 400,000 Btu per hour input) Opening Protectives	$\frac{3}{4}$ -hour or sprinklers [Table 716.1]	$\frac{3}{4}$ -hour or sprinklers with smoke partitions [Table 716.1]	(d)(j)(t)
Greenhouses (If connected to building)	NR	NR	None

Greenhouse Opening Protectives (If connected to building)	NR	NR	(d)(t)
Gym/Multipurpose Room	2-hours, 1-hour and sprinklers [Table 313.1.2]	2-hours, 1-hour and sprinklers [Table 313.1.2]	(j)
Gym/Multipurpose Room Opening Protectives	1½-hours or ¾-hour and sprinklers [Table 716.1]	1½-hours or ¾-hour and sprinklers [Table 717.1]	(d)(j)(t)
Home Economics	NR	NR	(j)
Home Economics Room Opening Protectives	NR	NR	(d)(j)(t)
Horizontal Exits	2-hours [1019.2]	2-hours [1019.2]	None
Horizontal Exit Doors	1½-hours [Table 716.1]	1½-hours [717.1]	ICC only: When used as cross-corridor doors, doors shall be automatic closing by activation of a smoke detector installed per with appropriate section of applicable code

Incinerator Rooms	2-hours and sprinklers [Table 302.1.1]	2-hours and sprinklers [Table 302.1.1]	(j)
Incinerator Room Opening Protectives	1 ½-hours [Table 716.1]	1 ½-hours [Table 716.1]	(d)(t)
Industrial Technology and Metal Working Shops	2-hours or 1-hour and sprinklers [Table 313.1.2]	2-hours or 1-hour and sprinklers [Table 302.1.1]	(b)(j)
Industrial Technology and Metal Working Shops Opening Protectives	1½-hours or ¾-hour with sprinklers [Table 717.1]	1½-hours or ¾-hour with sprinklers [Table 717.1]	(b)(d)(j)(t)
Janitor's Closets > 100ft²	1 hour and sprinklers [Table 302.1.1]	1 hour and sprinklers [Table 302.1.1]	If > 10% or 503 then 1 hour or sprinklers (j)

Janitor's Closet > 100 ft² Opening Protectives	$\frac{3}{4}$ -hour [Table 716.1]	$\frac{3}{4}$ -hour [Table 717.1]	If > 10% $\frac{3}{4}$ -hour or sprinklers [Table 715.4] (d)(j)(t)
Janitor's Closets > 50 ft² but ≤ 100 ft²	Sprinklers and construction that resists the spread of smoke [Table 302.1.1]	Sprinklers and construction that resists the spread of smoke [Table 302.1.1]	If > 10% or 503 then 1 hour or sprinklers (j)
Janitor's Closets > 50 ft² but ≤ 100 ft² Opening Protectives	Prevent the spread of smoke [Table 302.1.1]	Prevent the spread of smoke [Table 302.1.1]	If > 10% $\frac{3}{4}$ -hour or sprinklers [Table 715.4] (d)(j)(t)
Kitchens (not home economics kitchens)	NR	NR	None
Kitchen Opening Protectives	NR	NR	None

Laundry Room > 100 ft²	1-hour and sprinklers [Table 302.1.1]	1-hour and sprinklers [Table 302.1.1]	Does not apply to a domestic washer and dryer in a home economics room (j)
Laundry Room > 100 ft² Opening Protectives	$\frac{3}{4}$ -hour [Table 716.1]	$\frac{3}{4}$ -hour [Table 717.1]	(d)(j)(t)
Libraries/Learning Resource Centers (if assembly)	2-hours, 1-hour and sprinklers [Table 313.1.2]	2-hours, 1-hour and sprinklers [Table 313.1.2]	(j)
Libraries/Learning and Resource Centers Opening Protectives (if assembly)	1½-hours or $\frac{3}{4}$ -hour and sprinklers [Table 716.1]	1½-hours or $\frac{3}{4}$ -hour and sprinklers [Table 717.1]	(d)(j)(t)
Maintenance Shop	2-hours or 1-hour with sprinklers [Table 302.1.1]	2-hours or 1-hour with sprinklers [Table 302.1.1]	(j)
Maintenance Shop Opening Protectives	1 ½-hours or $\frac{3}{4}$ -hour with sprinklers [Table 716.1]	1 ½-hours or $\frac{3}{4}$ -hour with sprinklers [Table 717.1]	(d)(j)(t)

Open Plan Areas (Limiting Walls)	NR	NR	None
Open Plan Area Opening Protectives	NR	NR	None
Painting and Finishing	2-hours, or 1-hour and sprinklers [Table 302.1.1]	2-hours, or 1-hour and sprinklers [Table 302.1.1]	(b)(j)
Painting and Finishing Opening Protectives	1½-hours, or ¾-hour with sprinklers [Table 716.1]	1½-hours, or ¾-hour with sprinklers [Table 716.1]	(b)(d)(j)(t)
Photo Developing Rooms	NR	NR	None
Photo Developing Room Opening Protectives	NR	NR	None

Projection Rooms	Permanent construction consistent with the construction requirements for the building in which the room is located [411.2]	Permanent construction consistent with the construction requirements for the building in which the room is located [411.2]	Does not apply to lighting and sound booths. Applies to rooms in which safety film is utilized in conjunction with electric arc, xenon or other light-source projection equipment that develops hazardous gasses, dust or radiation. (c)
Projection Rooms Opening Protectives	NR	NR	(c)(t)
Science Labs	NR	NR	(b)(j)
Science Lab Opening Protectives	NR	NR	(b)(d)(j)

Stage, Legitimate^q Proscenium Wall	2-hours and sprinklers [412.3.5] [412.6]	N/A	None
Stage Legitimate^q Proscenium Wall Opening Protectives	1½-hours [Table 716.1]	N/A	Only openings permitted in proscenium are the stage opening and 1 door on each side of the stage at stage level and one opening into musician's pit. Proscenium curtain required at the stage proscenium opening. (d)(t)
Stage, Legitimate^q Accessory Areas	Sprinklers and separated from stage by 1-hour fire-rated constr. Accessory areas must be separated by 1-hour from each other [412.5.1] [412.6]	N/A	Stage separation from accessory areas is not required when stage is ≤ 500 ft ²
Stage, Legitimate^q Accessory Areas Opening Protectives	¾-hour [Table 716.1]	N/A	Cannot connect with the stage (d)(t)

Stage, Height is > 50 ft. Proscenium Wall	N/A	2-hours and sprinklers [412.3.5] [412.6]	For exceptions to sprinkler requirements see: (i)
Stage Height is > 50 ft. Proscenium Wall Opening Protectives	N/A	1½-hours [Table 717.1]	1996 stages only: Only openings permitted in proscenium are the stage opening and 1 door on each side of the stage at stage level and one opening into musician's pit. All stages: Proscenium curtain required at the stage proscenium opening. (d)(t)
Stage Height is > 50 ft. Accessory Areas	N/A	Stage must be separated from accessory areas by 2-hours and sprinklers [412.5.1] [412.6]	Accessory rooms must be separated from each other by 1-hour [410.5.2] 1996 [412.5.2]

Stage Height is > 50 ft. Accessory Areas Opening Protectives	N/A	1½-hours [715.3]	¾-hour for opening protectives between accessory areas (d)(t)
Stage Height is ≤ 50 ft. Proscenium Wall	NR for proscenium wall separation Sprinklers required [412.6]	NR for proscenium wall separation. Sprinklers required [412.6]	For exceptions to sprinkler requirements see: (i)
Stage Height is ≤ 50 ft. (Accessory Areas)	Stage must be separated from accessory areas by 1-hour except NR when stage floor area is < 500 ft² [412.5.1][412.6]	Stage must be separated from accessory areas by 1-hour and sprinklers [412.5.1] [412.6]	Accessory areas must be separated from each other by 1-hour [410.5.2] 93/96 [412.5.2] For exceptions to sprinkler requirements see: (i)
Stage Height ≤ 50 ft. Accessory Areas Opening Protectives	¾-hour except NR when stage floor area is < 500 ft² [Table 716.1]	¾-hour [Table 717.1]	¾-hour for opening protectives between accessory areas (d)(t)

Stages w/Storage Underneath ≥ 4 ft. in height	Sprinklers required if stage is required to be sprinklered [412.6]	Sprinklers required if stage is required to be sprinklered [412.6] (i)	None
Stages w/Storage Underneath ≥ 4 ft. Opening Protectives	NR	NR	None
Stages w/Storage Underneath < 4 ft.	Sprinklers required except when the stage and supporting construction is 1-hour fire-rated construction [412.6(4)]	Sprinklers required unless area is utilized exclusively for storage of tables and chairs and the concealed space is separated from the adjacent spaces by not less than 5/8- inch Type X gypsum board [412.6(1)]	None
Stages w/Storage Underneath < 4 ft. Opening Protectives	NR	NR	None

Stairs ≤ 3 stories	1-hour [1014.11]	1-hour [1014.11]	None
Stairs ≤ 3 stories Opening Protectives	1-hour [Table 716.1]	1-hour [Table 716.1]	(d)(t)
Stairs ≥ 4 stories	2-hours [1014.11]	2-hours [1014.11]	None
Stairs ≥ 4 stories Opening Protectives	1½-hours [Table 716.1]	1½-hours [Table 716.1]	(d)
Stairs with Storage Underneath	NP	NP	None
Stairs with Storage Underneath Opening Protectives	NP	NP	Access to storage area cannot be from within the stairway. (d)(t)
Storage Room > 50 ft² but ≤ 100 ft²	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 302.1.1]	If > 10% or 503 then 1 hour or sprinklers (j)
Storage Room > 50 ft² but ≤ 100 ft² Opening Protectives	¾-hour or with sprinklers, prevent the spread of smoke [Table 302.1.1]	¾-hour or with sprinklers, prevent the spread of smoke [Table 302.1.1]	If > 10% ¾-hour or sprinklers [Table 715.4] (d)(j)(t)

Storage Room > 100ft²	Sprinklers and smoke partitions [Table 302.1.1]	Sprinklers and smoke partitions [Table 302.1.1]	If > 10% or 503 then 1 hour or sprinklers (j)
Storage Room > 100ft² Opening Protectives	Prevent spread of smoke [Table 302.1.1]	Prevent spread of smoke [Table 302.1.1]	If > 10% ¾-hour or sprinklers [Table 715.4] (d)(j)(t)
Swimming Pools (Assembly Use)	2-hours, 1-hour and sprinklers [Table 313.1.2]	2-hours, 1-hour and sprinklers ^(j) [Table 313.1.2]	(j)
Swimming Pool Opening Protectives (Assembly Use)	1½-hours or ¾- hour and sprinklers ^{j)} [Table 716.1]	1½-hours or ¾- hour and sprinklers ^{j)} [Table 716.1]	(d)(j)(t)
Teacher's Workrooms and Lounges (with cooking or heating appliances)	NR	NR	(j)
Teachers' Workrooms and Lounge (with cooking or heating appliances) Opening Protectives	NR	NR	(d)(j)(t)

Trash and Laundry Chute ≤ 3 stories	1-hour [710.3]	1-hour [710.3]	Sprinklers at top of chute, at alternate floor levels in chute and in the collection room
Trash and Laundry Chute ≤ 3 stories Opening Protectives	1-hour [Table 716.1]	1-hour [Table 717.1]	These doors are not permitted to be located exit access corridors or in exit enclosures (d)(t)
Trash and Laundry Chute ≥ 4 stories	2-hours [710.3]	2-hours [710.3]	Sprinklers at top of chute and at alternate floor levels within chute and in the collection room
Trash and Laundry Chute ≥ 4 stories Opening Protectives	1 ½-hours [Table 716.1]	1 ½-hours [Table 717.1]	These doors are not permitted to be located exit access corridors or in exit enclosures (d)(t)
Trash and Laundry Chute Access Rooms	1-hour [2807.3]	1-hour [2807.3]	None

Trash and Laundry Chute Access Room Opening Protectives	$\frac{3}{4}$ -hour [Table 716.1]	$\frac{3}{4}$ -hour [Table 717.1]	(d)(t)
Trash and Laundry Collection Room > 100ft²	1-hour and sprinklers [2807.4]	1-hour and sprinklers [2807.4]	None
Trash and Laundry Collection Room Opening Protectives	$\frac{3}{4}$ -hour [Table 716.1]	$\frac{3}{4}$ -hour [Table 717.1]	Heat activated device for closing the opening protective between the shaft and the collection room is permitted (d)(t)
Utility Tunnels used for combustible storage > 100 ft²	Sprinklers and smoke partitions [Table 302.1.1]	Sprinklers and smoke partitions [Table 302.1.1]	(j)
Utility Tunnels used for combustible storage > 100 ft² Opening Protectives	Prevent the spread of smoke [Table 302.1.1]	Prevent the spread of smoke [Table 302.1.1]	(d)(t)

Utility Tunnels used for combustible storage > 50 ft² but ≤ 100ft²	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 302.1.1]	(j)
Utility Tunnels used for combustible storage > 50 ft² but ≤ 100 ft² Opening Protectives	³ / ₄ -hour or with sprinklers prevent the spread of smoke [Table 302.1.1] [Table 716.1]	³ / ₄ -hour or with sprinklers prevent the spread of smoke [Table 302.1.1] [Table 717.1]	(d)(t)
Ventilation Equipment Rooms	NR	NR	None
Ventilation Equipment Room Opening Protective	NR	NR	None
Woodworking Shops	2-hours or 1-hour and sprinklers [Table 302.1.1]	2-hours or 1-hour and sprinklers [Table 302.1.1]	(b)(j)
Woodworking Shop Opening Protectives	1½-hours or ³ / ₄ -hour with sprinklers [Table 716.1]	1½-hours or ³ / ₄ -hour with sprinklers [Table 717.1]	(b)(d)(j)(t)

HP = Horsepower

N/C = Noncombustible Construction

SC = Solid Core

(a) Designed after March 24, 1995 but before July 6, 1998, use BOCA 1993

Designed on or after July 6, 1998 but before October 3, 2005, use BOCA 1996

(b) = If classified as Group H, then Group H requirements must apply.

(c) = Projection rooms using/storing cellulose nitrate film shall comply with NFPA 40

(d) = Unless otherwise noted, opening protectives are to have automatic closing devices and positive latching. Additionally, opening protectives, including glazing, must comply with NFPA 80.

(e) = Assumes building constructed using BOCA Building Code (1993) and those requirements must be maintained

(f) = Assumes building constructed using BOCA Building Code (1996) and those requirements must be maintained

(g) =

(h) =

(i) = Sprinklers not required for stages $\leq 1,000$ ft² and < 50 ft. in height where curtains, scenery or other combustible hangings are not retractable vertically. Combustible hangings shall be limited to a single main curtain, borders, legs and a single backdrop.

(j) = If sprinkler option used, building must be protected throughout by approved, automatic sprinkler system in accordance with related chapter in applicable building code

(k) =

(l) =

(m) = Requirements from NFPA 70 – *National Electrical Code* (1993) as referenced by BOCA Building Code (1993)

(n) = Requirements from NFPA 70 – *National Electrical Code* (1996) as reference by BOCA Building Code (1996)

(o) =

(p) =

(q) = 1993 BOCA was the last edition the term “Legitimate Stage” was used

(r) =

(s) =

(t) = New technology permits higher hourly ratings in some cases. Confirm requirements for fire-protection-rated glazing or wired glazing in applicable BOCA code which may make a reference to NFPA 80-*Standard for Fire Doors and Fire Windows* whatever the applicable edition would be.

APPENDIX R-Part 180 Fire Rated Separations

Health/Life Safety Code for Public Schools (23 Ill. Adm. Code 180)

Outline for use with Part 180
Public School Buildings designed after March 24, 1995^(a)

Room or Area	ICC 2003 (a)(g)	ICC 2006 (a)(h)	ICC 2009 (a)(p)	ICC 2015 (a)(r)	ICC 2024 (a)(e)	Comments
Part 180	On or after 10/3/05 but before 9/25/07	On or after 9/25/07 but before 1/1/10	On or after 1/1/10 but before 7/1/16	On or after 7/1/16 but before 1/1/25	On or after 1/1/25	
Agricultural Shops	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	1-hour or sprinklers [Table 508.2.5]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	(b)(j)
Agricultural Shop Opening Protectives	¾-hour or sprinklers [Table 715.3]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 716.5]	¾-hour or sprinklers [Table 716.1]	(b)(d)(j)(t)
Art Rooms	NR	NR	NR	NR	NR	None
Art Room Opening Protectives	NR	NR	NR	NR	NR	None
Assembly	2-hours or 1-hour with sprinklers [Table 302.3.2]	NR	NR	NR	NR [303.1.3]	(j)

Room or Area	ICC 2003 (a)(g)	ICC 2006 (a)(h)	ICC 2009 (a)(p)	ICC 2015 (a)(r)	ICC 2024 (a)(e)	Comments
Part 180	On or after 10/3/05 but before 9/25/07	On or after 9/25/07 but before 1/1/10	On or after 1/1/10 but before 7/1/16	On or after 7/1/16 but before 1/1/25	On or after 1/1/25	
Assembly Opening Protectives	1½-hours or ¾-hour with sprinklers [Table 715.3]	NR	NR	NR	NR	(d)(j)(t)
Attics used for combustible storage	1-hour or sprinklers [413.2] [717.4]	1-hour or sprinklers [413.2] [717.4]	1-hour or sprinklers [413.2] [717.4]	1-hour or sprinklers [413.2] [718.4]	1-hour or sprinklers [413.2] [718.4]	In combustible construction any attic (no matter if used for storage or not) must be draftstopped in accordance with applicable code unless building is protected with sprinklers (j)
Attics used for combustible storage Opening Protectives	Self-closing 1¾" SC wood doors or N/C construction [413.2]	Self-closing 1¾" SC wood doors or N/C construction [413.2]	Self-closing 1¾" SC wood doors or N/C construction [413.2]	Self-closing 1¾" SC wood doors or N/C construction [413.2]	Self-closing 1¾" SC wood doors or N/C construction [413.2]	None

Auditoriums	2-hours or 1-hour with sprinklers ¹ [Table 302.3.2]	NR	NR	NR	NR [303.1.3]	(j)
Auditoriums Opening Protectives	1 ½-hours or ¾-hour with sprinklers [Table 715.3]	NR	NR	NR	NR	(d)(j)(t)
Automotive Shops	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	1-hour or sprinklers [Table 508.2.5]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	(b)(j)
Automotive Shop Opening Protectives	¾-hour or sprinklers ¹ [Table 715.3]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 716.5]	¾-hour or sprinklers [Table 716.1]	(b)(d)(j)(t)
Boiler Rooms (> 15 psi and 10 HP)	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	1-hour or sprinklers [Table 508.2.5]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	(d)(j)
Boiler Room Opening Protectives^(d) (> 15 psi and 10 HP)	¾-hour or sprinklers [Table 715.3]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 716.5]	¾-hour or sprinklers [Table 716.1]	(d)(t)
Boiler Room (other)	NR	NR	NR	NR	NR	(d)(j)

Boiler Room (other) Opening Protectives	NR	NR	NR	NR	NR	(d)(t)
Cafeteria (as assembly)	2-hours or 1-hour with sprinklers [Table 302.3.2]	NR	NR	NR	NR [303.1.3]	(j)
Cafeteria Opening Protectives (as assembly)	1 ½-hours or ¾-hour with sprinklers [Table 715.3]	NR	NR	NR	NR	(d)(j)(t)
Closets	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 503 [508.2.1] [508.2.4]	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 504 [509]	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 506.2 [509.3]	If > 10% or 503 then 1 hour or sprinklers (j)
Closets Opening Protectives	¾-hour [Table 715.3]	¾-hour [Table 715.3]	NR (See above)	NR (See above)	NR (See above)	If > 10% or 503 then ¾-hour or sprinklers [Table 715.4] (d)(j)(t)
Corridors	1-hour or sprinklers [Table 1016.1]	1-hour or sprinklers [Table 1017.1]	1-hour or sprinklers [Table 1018.1]	1-hour or sprinklers [Table 1020.1]	1-hour or sprinklers [Table 1020.2]	Except for room requiring a higher fire-rated enclosure (j)

Corridor Opening Protectives	½-hour or sprinklers [Table 715.3]	½-hour or sprinklers [Table 715.4]	½-hour or sprinklers [Table 715.4]	½-hour or sprinklers [Table 716.5]	½-hour or sprinklers [Table 716.1]	Except for opening protective in a room adjacent to corridor requiring a higher fire-rated opening protective (d)(j)(t)
Corridors in buildings with direct exterior exiting	NR [1016.1(1)]	NR [1017.1(1)]	NR [1018.1]	NR [1020.1]	NR [1020.2(1)]	Every room that is used for instruction has at least one door directly to the exterior and assembly areas have ≥ ½ egress doors opening directly to outside
Crawl Spaces used for combustible storage	1-hour or sprinklers [413.2]	1-hour or sprinklers [413.2]	1-hour or sprinklers [413.2]	1-hour or sprinklers [413.2]	1-hour or sprinklers [413.2] [718.4]	(j)
Crawl Spaces used for combustible storage Opening Protectives	1¾" SC wood doors or N/C construction [413.2]	1¾" SC wood doors or N/C construction [413.2]	1¾" SC wood doors or N/C construction [413.2]	Self-closing 1¾" SC wood doors or N/C construction [413.2]	Self-closing 1¾" SC wood doors or N/C construction [413.2]	(d)(t)

Electrical Equipment Rooms ≤ 600 volts	NR	NR	NR	NR	NR	Cannot be used for combustible storage and required clearances from electrical equipment must be maintained (k)(l)(m) (o)(s)
Electrical Equipment ≤ 600 volts Opening Protectives	NR	NR	NR	NR	NR	Doors must be kept locked (d)(k)(l)(m) (o)(s)(t)
Electrical Rooms > 600 volts	3-hours	3-hours	3-hours [NFPA 70 - Article 110.31(A)]	3-hours [NFPA 70 - Article 110.31(A)]	3-hours [NFPA 70- Article 110.31(A)]	Cannot be used for combustible storage and required clearances from electrical equipment must be maintained (k)(l)(m) (o)(s)

Electrical Rooms > 600 volts Opening Protectives	3-hours [Table 715.3]	3-hours [Table 715.4]	3-hours [Table 715.4]	3-hours [NFPA 70 - Article 110.31(A)]	3-hours or 1-hour with acceptable fire protection system [NFPA 70- Article 110.31(A)]	Doors must be kept locked No glazing permitted (d)(k)(l)(o)(s)(t)
Exit Passageways	1-hour or equivalent to that of any connecting exit enclosure [1021.3]	1-hour or equivalent to that of any connecting exit enclosure [1021.3]	1-hour or equivalent to that of any connecting exit enclosure [1023.3]	1-hour or equivalent to that of any connecting exit enclosure [1024.3]	1-hour or equivalent to that of any connecting exit enclosure [1024.3]	
Exit Passageways Opening Protectives	1-hour or equivalent to that of any connecting exit enclosure [Table 715.3]	1-hour or what is required for connecting exit enclosure [Table 715.4]	1-hour or what is required for connecting exit enclosure [Table 715.4]	1-hour or what is required for connecting exit enclosure [Table 716.5]	1-hour or what is required for connecting exit enclosure [Table 716.1]	(d)
Fire Escapes Opening Protectives	Doors and windows along the fire escape $\frac{3}{4}$ -hour [3404.5]	Doors and windows along the fire escape $\frac{3}{4}$ -hour [3404.5]	Doors and windows along the fire escape $\frac{3}{4}$ -hour [3406.5]	Not permitted in new construction Doors and windows along the fire escape $\frac{3}{4}$ -hour [IFC 1104.16.2]	Not permitted in new construction, only in existing Doors and windows along the fire escape $\frac{3}{4}$ -hour IFC 1104.16.2]	
Fire Walls	3-hours [Table 705.4]	3-hours [Table 705.4]	3-hours [Table 706.4]	3-hours [Table 706.4]	3-hours [Table 706.4]	

Fire Wall Doors	3-hours [Table 715.3]	3-hours [Table 715.4]	3-hours [Table 715.4]	3-hours [Table 716.5]	3-hours [Table 716.1]	(d)(t)
Flammable Paint and Flammable Liquid Storage Rooms	4-hours [Table 302.3.2]	4-hours or 3-hours with sprinklers [Table 508.3.3]	4-hours or 3-hours with sprinklers [Table 508.3.3]	4-hours or 3-hours with sprinklers [Table 508.3.3]	4-hours or 3-hours with sprinklers [Table 508.4]	See International Fire Code or BOCA Fire Prevention Code for other protection requirements (b)(j)
Flammable Paint and Flammable Liquid Storage Rooms Opening Protectives	3-hours [Table 715.3]	3-hours [Table 715.4]	3-hours [Table 715.4]	3-hours [Table 715.4]	3-hours [Table 716.1]	No glazing permitted in 3 hour doors (j)(t)
Furnace Room	NR	NR	NR	NR	NR	(j)
Furnace Room Opening Protectives	NR	NR	NR	NR	NR	(d)(j)(t)
Furnace Room – (> 400,000 Btu per hour input)	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	1-hour or sprinklers [Table 508.2.5]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	(j)

Furnace Room (> 400,000 Btu per hour input) Opening Protectives	$\frac{3}{4}$ -hour or sprinklers [Table 715.3]	$\frac{3}{4}$ -hour or sprinklers [Table 715.4]	$\frac{3}{4}$ -hour or sprinklers [Table 715.4]	$\frac{3}{4}$ -hour or sprinklers [Table 716.5]	$\frac{3}{4}$ -hour or sprinklers [Table 716.1]	(d)(j)(t)
Greenhouses (If connected to building)	1-hour [Table 302.3.2]	1-hour or sprinklers [Table 508.3.3]	1-hour or sprinklers [Table 508.4]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	None
Greenhouse Opening Protectives (If connected to building)	$\frac{3}{4}$ -hour [Table 715.3]	$\frac{1}{3}$ -hour or sprinklers [Table 715.4]	$\frac{1}{3}$ -hour or sprinklers [Table 715.4]	$\frac{1}{3}$ -hour or sprinklers [Table 716.5]	$\frac{3}{4}$ -hour or sprinklers [Table 716.1]	(d)(t)
Gym/Multipurpose Room	2-hours or 1-hour with sprinklers [Table 302.3.2]	NR	NR	NR	NR [303.1.3]	(j)
Gym/Multipurpose Room Opening Protectives	1 $\frac{1}{2}$ -hours or $\frac{3}{4}$ -hour with sprinklers [Table 715.3]	NR	NR	NR	NR	(d)(j)(t)
Home Economics	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	1-hour or sprinklers [Table 508.2.5]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	(j)
Home Economics Room Opening Protectives	$\frac{3}{4}$ -hour or sprinklers [Table 715.3]	$\frac{3}{4}$ -hour or sprinklers [Table 715.4]	$\frac{3}{4}$ -hour or sprinklers [Table 715.4]	$\frac{3}{4}$ -hour or sprinklers [Table 716.5]	$\frac{3}{4}$ -hour or sprinklers [Table 716.1]	(d)(j)(t)
Horizontal Exits	2-hours [1021.2]	2-hours [1022.2]	2-hours [1025]	2-hours [1026]	2-hours [1026]	None

Horizontal Exit Doors	1½-hours [Table 715.3]	1½-hours [Table 715.4]	1½-hours [Table 715.4]	1½-hours [Table 716.5]	1½-hours [Table 716.1]	ICC only: When used as cross-corridor doors, doors shall be automatic closing by activation of a smoke detector installed per with appropriate section of applicable code
Incinerator Rooms	2-hours and sprinklers [Table 302.1.1]	2-hours and sprinklers [Table 508.2]	2-hours and sprinklers [Table 508.2.5]	2-hours and sprinklers [Table 509]	2-hours and sprinklers [Table 509.1]	(j)
Incinerator Room Opening Protectives	1½-hour [Table 715.3]	1½-hours [Table 715.4]	1½-hours [Table 715.4]	1½-hours [Table 716.5]	1½-hours [Table 716.1]	(d)(t)
Industrial Technology and Metal Working Shops	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	1-hour or sprinklers [Table 508.2.5]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	(b)(j)
Industrial Technology and Metal Working Shops Opening Protectives	¾-hour or sprinklers [Table 715.3]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 716.5]	¾-hour or sprinklers [Table 716.1]	(b)(d)(j)(t)

Janitor's Closets > 100ft²	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 503	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 504 [509]	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 506.2 [509.3]	If > 10% or 503 then 1 hour or sprinklers (j)
Janitor's Closet > 100 ft² Opening Protectives	³ / ₄ -hour or sprinklers [Table 715.3]	³ / ₄ -hour or sprinklers	(see above)	(see above)	(see above)	If > 10% ³ / ₄ -hour or sprinklers [Table 715.4] (d)(j)(t)
Janitor's Closets > 50 ft² but ≤ 100 ft²	NR	NR	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 503	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 504. [509]	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 506.2 [509.3]	If > 10% or 503 then 1 hour or sprinklers (j)
Janitor's Closets > 50 ft² but ≤ 100 ft² Opening Protectives	NR	NR	(see above)	(see above)	(see above)	If > 10% ³ / ₄ -hour or sprinklers [Table 715.4] (d)(j)(t)
Kitchens (not home economics kitchens)	NR [Table 302.3.2]	NR [Table 508.3.3]	NR [Table 508.4]	NR [Table 508.4] [303.3]	NR [Table 508.4]	None

Kitchen Opening Protectives	NR [Table 302.3.2]	NR [Table 508.3.3]	NR [Table 508.4]	NR [Table 508.4] [303.3]	NR	None
Laundry Room > 100 ft²	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	1-hour or sprinklers [Table 508.2.5]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	Does not apply to a domestic washer and dryer in a home economics room (j)
Laundry Room > 100 ft² Opening Protectives	¾-hour or sprinklers [Table 715.3]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 716.5]	¾-hour or sprinklers [Table 716.1]	(d)(j)(t)
Libraries/Learning Resource Centers (if assembly)	2-hours or 1-hour with sprinklers [Table 302.3.2]	NR	NR	NR	NR [303.1.3]	(j)
Libraries/Learning and Resource Centers Opening Protectives (if assembly)	1 ½-hours or ¾-hour with sprinklers [Table 715.3]	NR	NR	NR	NR	(d)(j)(t)
Maintenance Shop	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	1-hour or sprinklers [Table 508.2.5]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	(j)
Maintenance Shop Opening Protectives	¾-hour or sprinklers [Table 715.3]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 716.5]	¾-hour or sprinklers [Table 716.1]	(d)(j)(t)

Open Plan Areas (Limiting Walls)	NR	NR	NR	NR	NR	None
Open Plan Area Opening Protectives	NR	NR	NR	NR	NR	None
Painting and Finishing	2-hours, or 1-hour and sprinklers [Table 302.1.1]	2-hours; or 1-hour and sprinklers [Table 508.2]	2-hours; or 1-hour and sprinklers [Table 508.2.5]	2-hours; or 1-hour and sprinklers [Table 509]	2-hours; or 1-hour and sprinklers [Table 509.1]	(b)(j)
Painting and Finishing Opening Protectives	1½-hours, or ¾-hour with sprinklers [Table 715.3]	1½-hours, or ¾-hour with sprinklers [Table 715.4]	1½-hours, or ¾-hour with sprinklers [Table 715.4]	1½-hours, or ¾-hour with sprinklers [Table 716.5]	1½-hours, or ¾-hour with sprinklers [Table 716.1]	(b)(d)(j)(t)
Photo Developing Rooms	NR	NR	NR	NR	NR	None
Photo Developing Room Opening Protectives	NR	NR	NR	NR	NR	None

Projection Rooms	Permanent construction consistent with the construction requirements for the building in which the room is located [409.2]	Permanent construction consistent with the construction requirements for the building in which the room is located [409.2]	Permanent construction consistent with the construction requirements for the building in which the room is located [409.2]	Permanent construction consistent with the construction requirements for the building in which the room is located [409.2]	Permanent construction consistent with the construction requirements for the building in which the room is located [409.2]	Does not apply to lighting and sound booths. Applies to rooms in which safety film is utilized in conjunction with electric arc, xenon or other light-source projection equipment that develops hazardous gasses, dust or radiation. (c)
Projection Rooms Opening Protectives	NR	NR	NR	NR	NR	(c)(t)
Science Labs	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	1-hour or sprinklers [Table 508.2.5]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	(b)(j)
Science Lab Opening Protectives	$\frac{3}{4}$ -hour or sprinklers [Table 715.3]	$\frac{3}{4}$ -hour or sprinklers [Table 715.4]	$\frac{3}{4}$ -hour or sprinklers [Table 715.4]	$\frac{3}{4}$ -hour or sprinklers [Table 716.5]	$\frac{3}{4}$ -hour or sprinklers [Table 716.1]	(b)(d)(j)

Professional Stage^q Proscenium Wall	N/A	N/A	N/A	N/A	N/A	None
Professional Stage^q Proscenium Wall Opening Protectives	N/A	N/A	N/A	N/A	N/A	Only openings permitted in proscenium are the stage opening and 1 door on each side of the stage at stage level and one opening into musician's pit. Proscenium curtain required at the stage proscenium opening. (d)(t)
Professional Stage^q Accessory Areas	N/A	N/A	N/A	N/A	N/A	Stage separation from accessory areas is not required when stage is ≤ 500 ft ²
Professional Stage^q Accessory Areas Opening Protectives	N/A	N/A	N/A	N/A	N/A	Cannot connect with the stage (d)(t)

Stage, Height is > 50 ft. Proscenium Wall	2-hours and sprinklers [410.3.4] [410.6]	2-hours and sprinklers [410.3.4] [410.6]	2-hours and sprinklers [410.3.4] [410.6]	2-hours and sprinklers [410.3.4] [410.7]	2-hours and sprinklers [410]	For exceptions to sprinkler requirements see: (i)
Stage Height is > 50 ft. Proscenium Wall Opening Protectives	1½-hours [Table 715.3]	1½-hours [Table 715.4]	1½-hours [Table 715.4]	1½-hours [Table 716.5]	1½-hours [Table 716.1]	1996 stages only: Only openings permitted in proscenium are the stage opening and 1 door on each side of the stage at stage level and one opening into musician's pit. All stages: Proscenium curtain required at the stage proscenium opening. (d)(t)
Stage Height is > 50 ft. Accessory Areas	Stage must be separated from accessory areas by 2-hours and sprinklers [410.5.1] [410.6]	Stage must be separated from accessory areas by 2-hours and sprinklers [410.5.1] [410.6]	Stages must be separated from accessory areas by 2-hours and sprinklers [410.5.1] [410.6]	Stages must be separated from accessory areas by 2-hours and sprinklers [410.5.1] [410.6]	Stages must be separated from accessory areas by 2-hours and sprinklers [410]	Accessory rooms must be separated from each other by 1-hour [410.5.2] 1996 [412.5.2]

Stage Height is > 50 ft. Accessory Areas Opening Protectives	1½-hours [Table 715.3]	1½-hours [Table 715.4]	1½-hours [Table 715.4]	1½-hours [Table 715.4]	1½-hours [Table 716.1]	¾-hour for opening protectives between accessory areas (d)(t)
Stage Height is ≤ 50 ft. Proscenium Wall	NR for proscenium wall separation. Sprinklers required [410.6]	NR for proscenium wall separation. Sprinklers required [410.6]	NR for proscenium wall separation. Sprinklers required [410.6]	NR for proscenium wall separation. Sprinklers required [410.7]	NR for proscenium wall separation.	For exceptions to sprinkler requirements see: (i)
Stage Height is ≤ 50 ft. (Accessory Areas)	Stage must be separated from accessory areas by 1-hour and sprinklers [410.5.1] [410.6]	Stages must be separated from accessory areas by 1-hour and sprinklers [410.5.1] [410.6]	Stages must be separated from accessory areas by 1-hour and sprinklers [410.5.1] [410.6]	Stages must be separated from accessory areas by 1-hour and sprinklers [410.5.1] [410.7]	Stages must be separated from accessory areas by 1-hour Sprinklers required only if stage floor is >1,000 ft² [410.6]	Accessory areas must be separated from each other by 1-hour [410.5.2] 93/96 [412.5.2] For exceptions to sprinkler requirements see: (i)
Stage Height ≤ 50 ft. Accessory Areas Opening Protectives	¾-hour [Table 715.3]	¾-hour [Table 715.4]	¾-hour [Table 715.4]	¾-hour [Table 716.5]	¾-hour [Table 716.1]	¾-hour for opening protectives between accessory areas (d)(t)

Stages w/Storage Underneath ≥ 4 ft. in height	When used for combustible storage must be separated from adjacent areas by 1-hour [IFC 315.2.4] Sprinklers required if stage is required to be sprinklered [410.6] (i)	When used for combustible storage must be separated from adjacent areas by 1-hour [IFC 315.2.4] Sprinklers required if stage is required to be sprinklered [410.6] (i)	When used for combustible storage must be separated from adjacent areas by 1-hour [IFC 315.2.4] Sprinklers required if stage is required to be sprinklered [410.6] (i)	When used for combustible storage must be separated from adjacent areas by 1-hour [IFC 315.3.4] Sprinklers required if stage is required to be sprinklered [410.7] (i)	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 506.2, otherwise 1-hour [509.3] Sprinklers required if stage is required to be sprinklered	None
Stages w/Storage Underneath ≥ 4 ft. Opening Protectives	Self-closing 1¾" SC wood doors or N/C construction [IFC 315.2.4]	Self-closing 1¾" SC wood doors or N/C construction [IFC 315.2.4]	Self-closing 1¾" SC wood doors or N/C construction [IFC 315.2.4]	Self-closing 1¾" SC wood doors or N/C construction [IFC 315.3.4]	Self-closing 1¾" SC wood doors or N/C construction [IFC 315.3.4]	None

Stages w/Storage Underneath < 4 ft.	When used for combustible storage must be separated from adjacent areas by 1-hour [IFC 315.2.4] Sprinklers are required unless area is utilized exclusively for storage of tables and chairs and the concealed space is separated from the adjacent spaces by not less than 5/8-inch Type X gypsum board [410.6(1)]	When used for combustible storage must be separated from adjacent areas by 1-hour [IFC 315.2.4] Sprinklers are required unless area is utilized exclusively for storage of tables and chairs and the concealed space is separated from the adjacent spaces by not less than 5/8-inch Type X gypsum board [410.6(1)]	When used for combustible storage must be separated from adjacent areas by 1-hour [IFC 315.2.4] Sprinklers are required unless area is utilized exclusively for storage of tables and chairs and the concealed space is separated from the adjacent spaces by not less than 5/8-inch Type X gypsum board [410.6(1)]	When used for combustible storage must be separated from adjacent areas by 1-hour [IFC 315.3.4] Sprinklers are required unless area is utilized exclusively for storage of tables and chairs and the concealed space is separated from the adjacent spaces by not less than 5/8-inch Type X gypsum board [410.7(1)]	When used for combustible storage must be separated from adjacent areas by 1-hour [IFC 315.3.4] Sprinklers are required unless area is utilized exclusively for storage of tables and chairs and the concealed space is separated from the adjacent spaces by not less than 5/8-inch Type X gypsum board	None
Stages w/Storage Underneath < 4 ft. Opening Protectives	Self-closing 1¾" SC wood doors or N/C construction [IFC 315.2.4]	Self-closing 1¾" SC wood doors or N/C construction [IFC 315.2.4]	Self-closing 1¾" SC wood doors or N/C construction [IFC 315.2.4]	Self-closing 1¾" SC wood doors or N/C construction [IFC 315.3.4]	Self-closing 1¾" SC wood doors or N/C construction [IFC 315.3.4]	None
Stairs ≤ 3 stories	1-hour [1019.1]	1-hour [1021.1]	1-hour [1022.1]	1-hour [1023]	1-hour [1023]	None
Stairs ≤ 3 stories Opening Protectives	1-hour [Table 715.3]	1-hour [Table 715.4]	1-hour [Table 715.4]	1-hour [Table 716.5]	1-hour [Table 716.1]	(d)(t)
Stairs ≥ 4 stories	2-hour [1019.1]	2-hours [1020.1]	2-hours [1022.1]	2-hours [1023]	2-hours [1023]	None

Stairs ≥ 4 stories Opening Protectives	1½-hour [Table 715.3]	1½-hours [Table 715.4]	1½-hours [Table 715.4]	1½-hours [Table 716.5]	1½-hours [Table 716.1]	(d)
Stairs with Storage Underneath	2-hours or 1-hour depending upon enclosure requirement for stairway [1019.1.5]	2-hours or 1- hour depending upon enclosure requirement for stairway [1009.5.3]	2-hours or 1- hour depending upon enclosure requirement for stairway [1009.6.3]	2-hours or 1- hour depending upon enclosure requirement for stairway [1011.7.3]	2-hours or 1- hour depending upon enclosure requirement for stairway	None
Stairs with Storage Underneath Opening Protectives	1½-hours or 1- hour depending upon enclosure requirement for stairway [1019.1.5] [715.3]	1½-hours or 1- hour depending upon enclosure requirement for stairway [1009.5.3] [715.4]	1 or 1½-hours depending upon enclosure requirement for stairway [1009.6.3] [Table 715.4]	1 or 1½-hours depending upon enclosure requirement for stairway [1009.6.3] [Table 716.5]	1 or 1½-hours depending upon enclosure requirement for stairway [Table 716.1]	Access to storage area cannot be from within the stairway. (d)(t)
Storage Room > 50 ft² but ≤ 100 ft²	NR	NR	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 503	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 504	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 506.2, otherwise 1-hour	If > 10% or 503 then 1 hour or sprinklers (j)

Storage Room > 50 ft² but ≤ 100 ft² Opening Protectives	NR	NR	(see above)	(see above)	(see above)	If > 10% ¾-hour or sprinklers [Table 715.4] (d)(j)(t)
Storage Room > 100ft²	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 503	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 504	NR if does not occupy > 10% of the building area of the story in which they are located or is not > tabular value in Table 506.2, otherwise 1-hour	If > 10% or 503 then 1 hour or sprinklers (j)
Storage Room > 100ft² Opening Protectives	¾-hour or sprinklers [Table 715.3]	¾-hour or sprinklers [Table 715.4]	(see above)	(see above)	(see above)	If > 10% ¾-hour or sprinklers [Table 715.4] (d)(j)(t)
Swimming Pools (Assembly Use)	2-hours or 1-hour with sprinklers [Table 302.3.2]	NR	NR	NR	NR	(j)
Swimming Pool Opening Protectives (Assembly Use)	1 ½-hours or ¾- hour with sprinklers ¹ [Table 715.3]	NR	NR	NR	NR	(d)(j)(t)

Teacher's Workrooms and Lounges (with cooking or heating appliances, not including microwaves, coffee pots, or Keurigs)	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	1-hour or sprinklers [Table 508.2.5]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	(j)
Teachers' Workrooms and Lounge (with cooking or heating appliances) Opening Protectives	¾-hour or sprinklers [Table 715.3]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 715.4]	¾-hour or sprinklers [Table 716.5]	¾-hour or sprinklers [Table 716.1]	(d)(j)(t)
Trash and Laundry Chute ≤ 3 stories	1-hour [707.4]	1-hour [707.13.1]	1-hour [708.13]	1-hour [713.4]	1-hour [713]	Sprinklers at top of chute, at alternate floor levels in chute and in the collection room
Trash and Laundry Chute ≤ 3 stories Opening Protectives	1-hour [715.3]	1-hour [Table 715.4]	1-hour [Table 715.4]	1-hour [Table 716.5]	1-hour [716.1]	These doors are not permitted to be located exit access corridors or in exit enclosures (d)(t)

Trash and Laundry Chute ≥ 4 stories	2-hours [707.4]	2-hours [707.13.1]	2-hours [708.13]	2-hours [713.13]	2-hours [713]	Sprinklers at top of chute and at alternate floor levels within chute and in the collection room
Trash and Laundry Chute ≥ 4 stories Opening Protectives	1½-hours [715.3]	1½-hours [Table 715.4]	1½-hours [Table 715.4]	1½-hours [Table 716.5]	1½-hours [Table 716.1]	These doors are not permitted to be located exit access corridors or in exit enclosures (d)(t)
Trash and Laundry Chute Access Rooms	1-hour [707.13.3]	1-hour [707.13.3]	1-hour [708.13.3]	1-hour [713.13.3]	1-hour [713.13.3]	None
Trash and Laundry Chute Access Room Opening Protectives	¾-hour [707.13.3]	¾-hour [707.13.3]	¾-hour [Table 715.4]	¾-hour [Table 716.5]	¾-hour [Table 716.1]	(d)(t)
Trash and Laundry Collection Room > 100ft²	1-hour [707.13.4]	1-hour [707.13.4]	1-hour [708.13.4]	1-hour [708.13.4]	Same as requirement for chute [713.13.4]	None

Trash and Laundry Collection Room Opening Protectives	$\frac{3}{4}$ -hour [707.13.4]	$\frac{3}{4}$ -hour [707.13.4]	$\frac{3}{4}$ -hour [Table 715.4]	$\frac{3}{4}$ -hour [Table 716.5]	Same as requirement for chute [713.13.4]	Heat activated device for closing the opening protective between the shaft and the collection room is permitted (d)(t)
Utility Tunnels used for combustible storage > 100 ft²	1-hour or sprinklers [413.2]	1-hour or sprinklers [413.2]	1-hour or sprinklers [413.2]	1-hour or sprinklers [413.2]	1-hour or sprinklers [413.2]	(j)
Utility Tunnels used for combustible storage > 100 ft² Opening Protectives	Self-closing 1 $\frac{3}{4}$ " SC wood doors or N/C construction [413.2]	Self-closing 1 $\frac{3}{4}$ " SC wood doors or N/C construction [413.2]	Self-closing 1 $\frac{3}{4}$ " SC wood doors or N/C construction [413.2]	Self-closing 1 $\frac{3}{4}$ " SC wood doors or N/C construction [413.2]	Self-closing 1 $\frac{3}{4}$ " SC wood doors or N/C construction [413.2]	(d)(t)
Utility Tunnels used for combustible storage > 50 ft² but $\leq$ 100ft²	NR	NR	1-hour or sprinklers [413.2]	1-hour or sprinklers [413.2]	1-hour or sprinklers [413.2]	(j)

Utility Tunnels used for combustible storage >50 ft² but ≤100 ft² Opening Protectives	NR	NR	Self-closing 1 ³ / ₄ " SC wood doors or N/C construction [413.2]	Self-closing 1 ³ / ₄ " SC wood doors or N/C construction [413.2]	Self-closing 1 ³ / ₄ " SC wood doors or N/C construction [413.2]	(d)(t)
Ventilation Equipment Rooms	NR	NR	NR	NR	NR	None
Ventilation Equipment Room Opening Protective	NR	NR	NR	NR	NR	None
Woodworking Shops	1-hour or sprinklers [Table 302.1.1]	1-hour or sprinklers [Table 508.2]	1-hour or sprinklers [Table 508.2.5]	1-hour or sprinklers [Table 509]	1-hour or sprinklers [Table 509.1]	(b)(j)
Woodworking Shop Opening Protectives	³ / ₄ -hour or sprinklers [Table 715.3]	³ / ₄ -hour or sprinklers [Table 715.4]	³ / ₄ -hour or sprinklers [Table 715.4]	³ / ₄ -hour or sprinklers [Table 716.5]	³ / ₄ -hour or sprinklers [Table 716.1]	(b)(d)(j)(t)

HP = Horsepower

N/C = Noncombustible Construction

SC = Solid Core

(a) Designed on or after October 3, 2005 but before September 25, 2007, table uses IBC 2003 unless otherwise noted
 Designed on or after September 25, 2007, but before January 1, 2010, table uses IBC 2006 unless otherwise noted
 Designed on or after January 1, 2010, but before July 1, 2016, table uses IBC 2009 unless otherwise noted
 Designed on or after July 1, 2016, but before January 1, 2025, table uses IBC 2015 unless otherwise noted
 Designed on or after January 1, 2025, table uses IBC 2024 unless otherwise noted

(b) = If classified as Group H, then Group H requirements must apply.

(c) = Projection rooms using/storing cellulose nitrate film shall comply with NFPA 40

(d) = Unless otherwise noted, opening protectives are to have automatic closing devices and positive latching. Additionally, opening protectives, including glazing, must comply with NFPA 80.

(e) = Assumes building constructed using BOCA Building Code (1993) and those requirements must be maintained

- (f) =
- (g) = Assumes building constructed using International Building Code (2003) and those requirements must be maintained
- (h) = Assumes building constructed using International Building Code (2006) and those requirements must be maintained
- (i) = Sprinklers not required for stages $\leq 1,000$ ft² and < 50 ft. in height where curtains, scenery or other combustible hangings are not retractable vertically. Combustible hangings shall be limited to a single main curtain, borders, legs and a single backdrop.
- (j) = If sprinkler option used, building must be protected throughout by approved, automatic sprinkler system in accordance with related chapter in applicable building code
- (k) = Requirements from NFPA 70 – *National Electrical Code* (2002) as referenced by the ICC Electrical Code (2003)
- (l) = Requirements from NFPA 70 – *National Electrical Code* (2005) as referenced by the ICC Electrical Code (2006)
- (m) = Requirements from NFPA 70 – *National Electrical Code* (2023) as referenced by International Building Code (2024) (n) = (o) = Requirements from NFPA 70 – *National Electrical Code* (2008) as referenced by the International Building Code (2009)
- (p) = Assumes building constructed using International Building Code (2009) and those requirements must be maintained
- (q) =
- (r) = Assumes building constructed using International Building Code (2015) and those requirements must be maintained
- (s) = Requirements from NFPA 70 – *National Electrical Code* (2014) as referenced by the International Building Code (2015)
- (t) = New technology permits higher hourly ratings in some cases. Confirm requirements for fire-protection-rated glazing or wired glazing in applicable ICC code which may make a reference to NFPA 80-*Standard for Fire Doors and Fire Windows* whatever the applicable edition would be.

APPENDIX S-Solar Photovoltaic Energy Systems

From NFPA 70(2023): Article 690 for Rapid Shutdown (Rapid shutdown is not required for ground-mounted systems)

690.12(1) through (5) as follows.

- (1) Requirements for controlled conductors shall apply only to PV system conductors of more than 5ft in length inside a building, or more than 10ft from a PV array.
- (2) Controlled conductors shall be limited to not more than 30 volts and 240 volt-amperes within 10 seconds of rapid shutdown initiation.
- (3) Voltage and power shall be measured between any two conductors and between any conductor and ground.
- (4) The rapid shutdown initiation methods shall be labeled in accordance with **690.56(C)**.
- (5) Equipment that performs the rapid shutdown shall be listed and identified.

From IFC 1205 and NFPA 70(2023): Article 690 for Marking (Rapid shutdown is not required for ground mounted systems)

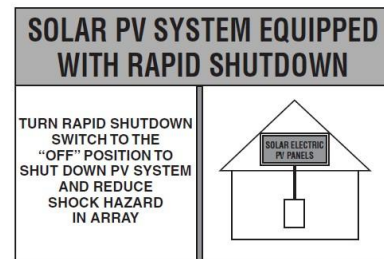
For solar photovoltaic systems that shut down the array and the conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of 3/8 inch (10 mm) in black on a yellow background. The remaining characters shall be uppercase with a minimum height of 3/16 inch (5 mm) in black on a white background. The label shall be in accordance with Figure 1205.4.1(1) and state the following:

SOLAR PV SYSTEM EQUIPPED WITH
RAPID SHUTDOWN. TURN RAPID
SHUTDOWN SWITCH TO THE “OFF”
POSITION TO SHUT DOWN PV SYSTEM
AND REDUCE SHOCK HAZARD IN ARRAY.

For photovoltaic systems that only shut down conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of 3/8 inch (10 mm) in white on a red background and the remaining characters shall be capitalized with a minimum height of 3/16 inch (5 mm) in black on a white background. The label shall be in accordance with Figure 1205.4.1(2) and state the following:

THIS SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN. TURN RAPID
SHUTDOWN SWITCH TO THE “OFF”
POSITION TO SHUT DOWN CONDUCTORS
OUTSIDE THE ARRAY. CONDUCTORS
WITHIN ARRAY REMAIN ENERGIZED IN SUNLIGHT.

LABEL FOR SOLAR PV SYSTEMS THAT REDUCE SHOCK HAZARD WITHIN ARRAY AND SHUT DOWN CONDUCTORS LEAVING ARRAY



LABEL FOR SOLAR PV SYSTEMS THAT ONLY SHUT DOWN CONDUCTORS LEAVING THE ARRAY

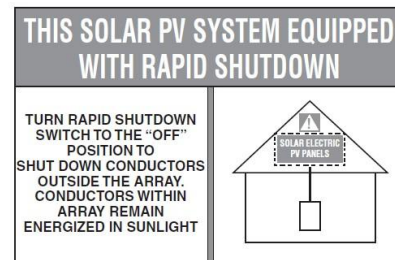


Diagram. The labels shall include a simple diagram of a building with a roof. Diagram sections in red signify sections of the solar photovoltaic system that are not shut down when the rapid shutdown switch is turned off.

Location. The rapid shutdown label shall be located not greater than 3 feet (914 mm) from the service disconnecting means to which the photovoltaic systems are connected and shall indicate the location of all identified rapid shutdown switches if not at the same location.

APPENDIX T-Lithium-Ion Battery Technology

LITHIUM-ION BATTERIES²

In 1996, the United States Advanced Battery Consortium awarded seven major research contracts to help develop solutions for electric vehicles. Lithium was identified as the front-runner material because of its light weight (lying between hydrogen and helium in the Periodic Table of Elements) with the first batteries for sale 26 years ago in Sony's CCD-TR1 camcorder. Now lithium-ion batteries have become an ever-present role in every aspect of our lives, from phones, laptops, toothbrushes, power tools, scooters, vaping devices, and bikes to larger scale uses seen in electric vehicles and deployed to improve the resilience of our electric grid. With increased use comes greater quantities of batteries being manufactured and stored to keep up with demand. According to OSHA, more than 25,000 overheating or fire incidents involving more than 400 types of lithium battery-powered products occurred between January 2012 and July 2017. Imagine how that number has increased with new technologies that have come forth since that time.

Historical Events

- June 29, 2021, Morris, IL: 100 tons of lithium batteries ranging in size from phone batteries to car batteries were involved in a large warehouse fire. It took a week to extinguish the fire. The Morris Fire Protection District ended up using a Portland cement mix to smother the burning batteries.
- July 2022, Connecticut: An electric transit bus burst into flames while parked at a depot.
- August 5, 2022, New York City: Two people died in an apartment fire that was started by a charging e-scooter blocking their escape from the apartment.
- December 2022, New York City: A JetBlue flight heading to JFK from Barbados made an emergency landing at JFK and the plane evacuated due to a smoking laptop. Seven people were treated for injuries.
- December 2022, Chicago: A Lufthansa flight made an emergency landing at O'Hare after a passenger's laptop overheated in the cabin, causing a small fire. Two flight attendants were treated for smoke inhalation.
- January 2023, Boston: Failed batteries for an e-scooter started a fire that ended up engulfing a multifamily home.

² This discussion does not include Battery Energy Storage Systems.

- May 2023, New York City: Two people died in an apartment fire that was started by a charging e-scooter that was blocking the only way out of the apartment.
- June 20, 2023, New York City: Four people died when a fire started on the ground floor bike repair shop with 5 stories of apartments above. The fire was started by five e-bikes.
- October 18, 2023, New York City: Five people injured (3 critically) in a Brooklyn apartment started by a charging e-bike. The fire blocked the only exit from this apartment building.
- February 8, 2023, California: A passenger's laptop battery caught fire after a United flight left San Diego forcing the plane to return to San Diego. Four people were taken to the hospital for treatment. Airline crews are trained in these situations and contained the fire until the flight was able to safely land.
- February 19, 2024, France: A recycling plant in southern France became engulfed in flames when a fire started in an area recycling approximately 900 tons of lithium-ion batteries. A similar fire occurred in January 2023 in Normandy, France at a car manufacturing plant.
- October 30, 2024, Fredericktown, MO: A 225,000 ft² lithium-ion battery processing and recycling plant damaged their facility, including a partially collapsed roof after a fire broke out.
- And many more...

How This Technology Works

A lithium-ion cell is composed of four primary components: the anode, cathode, separator, and electrolyte. The components work together in the cells to provide an electrical current that we use. When the battery is charging an electrical potential pulls lithium ions into the recesses of a graphite-based electrode; when it is in use these ions migrate back through a liquid electrolyte to a much more complex electrode made of compounds containing lithium and other metals—the cathode. The separator allows the lithium ions to move from the anode to the cathode while preventing a short circuit.

Thermal Runaway

While lithium-ion technology has very desirable performance characteristics, such as high energy density, long life, and longer run times, lithium-ion technology also has the potential for thermal runaway hazards that need to be mitigated. Thermal runaway is the occurrence where a lithium-ion cell enters a state of uncontrolled self-heating. Thermal runaway often begins when the heat generated within a cell exceeds the heat dissipated to its surroundings. If this event is not mitigated the condition only worsens eventually leading to distortion and melting of the separator between the anode and cathode causing an internal short circuit. This internal short circuit causes the internal cell temperatures to rise, increasing the rate of the chemical reaction and creating a feedback loop. Heat is transferred to neighboring cells until propagation continues throughout the entire battery pack and eventually the lithium-ion battery catches fire releasing gases such as hydrogen, methane, carbon monoxide, and carbon dioxide.

Existing Challenges and Trends

No reliable national statistics on battery fires are currently available. But FDNY reports 900 fires attributed to lithium-ion batteries since 2020 causing 500 injuries and 34 deaths. But because this technology is so engrained into our everyday lives, the bad habits also engrained into our daily lives will continue to lead to fires and thermal runaway events.

Latest News

It is hoped that the NFPA 800, *The Battery Safety Code* (Provisional Standard) should hopefully be published in the fall of 2026. In the meantime, NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems*, may have helpful information and requirements as well as the more recent editions of NFPA 1, *Fire Code* and the International Fire Code. NFPA 401, *Recommended Practice for the Prevention of Fires and Uncontrolled Chemical Reactions in Hazardous Waste Handling* also contains information on battery disposal.

Illinois P.A. 103-1033(SB 3686) created the Illinois Portable and Medium-Format Battery Stewardship Act. Beginning January 1, 2026, producers selling batteries in Illinois are now required to participate in an approved Battery Stewardship Plan. This effort will offer expanded battery disposal options for all Illinois residents ensuring the proper management, handling, and recycling. Additionally, proper end of life management of used portable and medium-format batteries will prevent the release of toxic materials into the environment and will aid in removing materials from the waste stream that, if mishandled, may present safety concerns to workers, such as fires at solid waste handling facilities.

The Illinois EPA is working on rules to administer this Act still under development found at Title 35 Ill. Adm. Code 1220. OSFM has been involved in making recommendations for these rules.

Fire Protection

UL Solutions Takes Aim at Lithium-Ion Battery Fire Risks with Innovative New Certification Programs for Battery Containment Enclosures and Micromobility Charging Equipment | UL Solutions

Sprinkler design: No design criteria has been included in NFPA 13. NFPA 13 does have requirements for alternative designs. Owners of buildings that are used to manufacture, store (new and returned), rebuild, and/or recycle lithium-ion technology should consider hiring a professional engineer with expertise in fire protection/sprinkler design to develop design criteria for protection of battery storage, manufacture, or recycling of lithium-ion batteries.

Factory Mutual Data Sheet 7-112, *Lithium-Ion Battery Manufacture and Storage* is a well-researched source that provides requirements for Factory Mutual insured facilities that are manufacturing/storing as well as storing returned/defective/off-specification/damaged cells/modules/batteries. Following is a link to this document: [FMDS07112.pdf](#)

Fire Extinguishers: Normally used fire extinguisher agents are not useful with this technology. Technology specific to lithium-ion fires or thermal runaway events that are tested, listed, and approved are not currently found on the market.

Firefighting Operations: Things to Think About³

When firefighters respond to fires involving lithium-ion batteries, they discover that it takes much longer to be able to control the fire because it requires substantially more water.

- ***Preplanning:*** Fire departments should work with owners of lithium-ion manufacturing and storage operations to preplan and prepare for the various types of emergency incidents that might occur at the specific facility. If the fire department is unsure of operational tactics for this type of hazard, consider bringing in experts in the field to assist with determining fire suppression approaches and specialized equipment that might be needed. Generally using a licensed professional engineer with experience in this area or somebody with similar credentials would be the best choice. It is possible that the facility might have firefighting and suppression equipment unique to lithium-ion hazard that fire department may be able to use, but the problem with depending upon equipment owned by somebody else is making sure the equipment is maintained and will be operational when needed. The

³ This is not meant indicate final tactical decision making. Information gathered from various sources and experts should be considered on an incident by incident basis. Preplanning with local facilities to obtain information is very important.

owner of the company might consider purchasing the equipment needed for their local fire department. OSFM offers equipment loans and information related to this can be found at [Grants and Loans](#).

- **Gas Production:** Gas production, regardless of the type of lithium-ion battery, can be released when they fail. The gas is both flammable, explosive, and toxic. This can add a tremendous fuel load to a fire situation, especially when ventilation is restricted. Trapping these gases within an enclosure can easily create both toxic and flammable concentrations. In extreme cases, this can result in deflagration within the enclosure, even if flaming fire is not apparent. Make sure appropriate gas detection is being used.
- **PPE:** Always wear full PPE and SCBA when dealing with these technologies, even during overhaul and investigation operations unless it is confirmed that toxic gases no longer remain. Make sure appropriate gas detection is being used. PFAS chemicals are the current buzzwords related to firefighter PPE (turnout gear) and research is continuing in that area. But on the topic of lithium-ion technology, there has been no research or testing related to the compatibility of current firefighter PPE to emerging lithium-ion technologies nor do current standard protocols for PPE manufacture explicitly address lithium-ion hazards and PPE exposure. Research is being called for.
- **Extinguishing Agents:** Water is still the first choice for extinguishing these fires, not fire extinguishers or even foam. There are specially designed “fire blankets” available but they are single use, very expensive, but having one available as a last resort might be helpful.
- **TIC:** Do not depend upon thermal imaging cameras.
- **Overhaul Operations:** Collecting and removing these batteries and devices from a structure should be a fundamental part of overhaul operations. One method of safely removing damaged batteries during overhaul, as discussed in the fire department arena, is to completely submerge batteries in 5-7 gallon open buckets of water. The same concept for safety is also to remove a lithium-ion battery-supported vehicles impacted by fire from any enclosures.
- **Overhaul Operations:** Electrical shocks to firefighters caused by these battery devices continue to occur. There is a potential for serious injury from these devices. During overhaul operations lithium-ion devices should be removed. However, overzealous physical deconstruction of battery packs by firefighting crews is very dangerous. What the fire service considers to be “less conductive tools” will not always safeguard firefighters when overhauling lithium-ion batteries.
- **Overhaul Operations:** Batteries can go from stable to incinerate in seconds. This has forced a reevaluation of our existing understanding of fire progression, especially as it applies to private dwellings. Lithium-ion batteries, which heavily influence gas production, are now a common part of fire debris for a private residence.

- **Overhaul Operations:** Do not ride in elevators with damaged devices. If there is no other option, use the firefighter recall option and have the device travel alone in the elevator. Remember batteries can go from stable to very unstable in seconds.

Understanding Lithium-ion Battery Fire Hazards to Improve Firefighter Safety

How Can Firefighters Stay Safe in Lithium-ion Battery Fires?

Parking Garages and EVs

The Science of Lithium-Ion Batteries Guide by FSRI_1.pdf

Public Education

Safety message from the National Fire Protection Association, the UL Fire Safety Research Institute, and OSFM:

EVACUATE QUICKLY if there is a fire. Follow your home fire escape plan and call 911.

EDUCATE OTHERS on safe practices.

PURCHASE only listed products:

- When buying a product that uses a lithium-ion battery, take time to research it. Look for a stamp from a nationally recognized testing lab on the packaging and product, which means that it meets established safety standards.
- Many products sold online and in stores may not meet safety standards and could increase the risk of fire.

CHARGE devices safely:

- Always use the cables that come with the product to charge it.
- Charge the device in accordance with the manufacturer's instructions.
- If you need a new charger, buy one from the manufacturer or one that the manufacturer has approved.
- Charge your device on a hard surface. Do not charge it under a pillow, on a bed, or on a couch. This could cause a fire.
- Do not overcharge your device. Unplug it or remove the battery when it is fully charged.
- Do not charge micromobility devices inside homes or in common areas of multi-unit buildings (business or residential).

- Do not charge things overnight and do not leave them charging for days at a time. This includes all chargeable items, including your cordless vacuum cleaner to your electric toothbrush.
- Store batteries at room temperature and do not leave in direct sunlight or leave in a hot vehicle.

WHILE TRAVELING follow the instructions for packing lithium-ion products and using them in the various forms of transportation. Keep lithium-ion powered products with you in the plane cabin and do not pack in checked luggage. Imagine being 30,000 feet above the earth in a plane that is experiencing a cargo fire because somebody packed their lithium-ion powered electronic device. Additionally, follow instructions by transportation officials for use of and retrieval of electronic devices (if they fall between seats). Transportation officials are trained in safe retrieval and storage of possibly damaged electronics.

DISPOSE OF/RECYCLE batteries responsibly:

- Do not throw lithium-ion batteries in the trash or regular recycling bins because they may ignite a fire in an unwanted location.
- Recycling your device or battery at a safe battery recycling location is the best way to dispose of them. Visit www.call2recycle.org or check with municipal public works department to find a recycling spot near you.

SIGNS OF PROBLEMS. Stop using the battery if you notice these problems:

- Odor
- Change in color
- Too much heat
- Change in shape
- Leaking
- Odd noises

Snake Oil Products: Widespread demand of lithium-ion cells and batteries has attracted illicit copying to profit through counterfeiting. Counterfeit cells are manufactured by copying high-quality lithium-ion products and deceive unsuspecting customers. These counterfeit lithium-ion products often contain an unauthorized trademark or logo that is the same as the trademark of another product and may make it impossible to differentiate. These lithium-ion products have low quality components and are not certified to any standards. Counterfeit lithium-ion products pose many safety risks as they may be prone to failure and cause fires and explosions. Certifications are falsified along with misleading performance claims on the label or on the website selling them. This directly results

in compromised safety of the lithium-ion products and eventually the devices that use them. The proposed bargain may not be worth the purchased higher risk in safety.

Counterfeit lithium-ion products make false claims of certifications and test results that are exhibited by authentic lithium-ion products. Certifications to standards and regulations confirm that the minimum requirements for performance, quality and safety have been met. Lithium-ion products receiving the certification establish confidence in customers that they are genuine lithium-ion products. In many cases, it is challenging to distinguish an authentic certification or certification mark on a counterfeit lithium-ion product. Hence, caution is warranted when purchasing cells when verifiable performance, safety and quality are of utmost importance. Purchases from third-party sellers on online marketplaces and unauthorized resellers may involve the risks of counterfeits and must proceed with caution.

Considerations for avoiding counterfeit products: Precautions must be taken during purchase to avoid counterfeit lithium-ion products. Some easy-to-follow considerations may be helpful in avoiding these:

- Purchase only from the original equipment manufacturer (OEM) or from reputable retailers and suppliers recommended by the OEM.
- Check every detail of the product as described in previous section to detect and avoid counterfeit products.
- Whenever possible, ask the vendor for pictures of the actual products.
- Buy only listed products.
- Compare the trademark and the logo with the authentic one.
- Verify that the certification label is authentic.

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