

Minnesota Department of Public Safety State Fire Marshal Division

Classroom Fire Safety for Teachers

This information sheet summarizes common provisions from the 2020 Minnesota State Fire Code (MSFC) relating to elementary and secondary school classrooms.

Means of egress

- **Aisles and aisle accessways in classrooms**
 - **Aisles** are pathways leading to an exit doorway.
 - **Aisle accessways** are pathways that lead to an aisle. For example, the pathways between rows of desks or tables are aisle accessways.
 - Although minimum aisle and aisle accessway widths for classrooms can vary depending on specific seating arrangements, the following will apply to most classrooms having fewer than 50 occupants:
 - Aisle accessways between desks or tables shall be at least 24 inches wide.
 - Aisles leading to classroom exit doorways shall be at least 36 inches wide.
 - Required aisles and aisle accessways shall be maintained free from obstructions or impediments.
- **Exit doors from classrooms**
 - Number of exits
 - Classrooms having an occupant load of 50 or more must have two exit access doorways.
 - Standard-use classrooms and music classrooms (e.g. band, orchestra, or choir) typically do not require a second exit unless 1,000 square feet or more in area, or are occupied by 50 or more people.
 - Vocational shop classrooms typically do not require a second exit unless 2,500 square feet or more in area, or are occupied by 50 or more people.
 - School science laboratories storing and/or utilizing hazardous materials:
 - Newly constructed labs exceeding 500 square feet must be provided with two remotely located exit doorways.
 - Existing labs exceeding 1,000 square feet must be provided with two remotely located exit doorways.
 - Access and visibility
 - Required exit doors must be maintained free from obstructions or impediments to full instant use.
 - Exit doors must be distinguishable from the adjacent construction and finishes and cannot be concealed or made unrecognizable.



- Exit signs (where required) must be clearly visible and cannot be obstructed or otherwise concealed.
 - Door hardware
 - Exit door hardware must both unlock and unlatch the door *with a single operation* without the use of key, tools, special knowledge or effort. Door security or barricade devices not in compliance with the MSFC are prohibited. See our [Classroom Security and Barricade Devices](#) information sheet for more information.
- **Holding open classroom doors**
 - Classroom doors leading directly to a fire-rated egress corridor must be maintained self-closing and latching in order to protect the egress system in case of fire. Thus, such doors cannot be held open for extended periods of time unless controlled by an approved door-hold system that releases the door upon smoke detection.
 - School corridors serving more than 30 occupants are required to be fire-rated unless:
 - The building is protected throughout with a fire sprinkler system, or
 - The corridors are protected throughout with smoke detection devices connected to the building's fire alarm system.
 - Doors from vocational shops and science labs utilizing hazardous materials may be required to be self-closing even where the corridor is not required to be fire-rated. Thus, these doors should not be held open without an approved door-hold system that releases upon smoke detection. When in doubt, contact your assigned SFMD school inspector for guidance.
 - Although rare, it's possible for a classroom door to be part of a required fire area separation wall. This may be the case if your classroom door shows a fire-rating greater than 20 minutes. When in doubt, contact your assigned SFMD school inspector for guidance.
- **Storage of personal effects in egress corridors**
 - Personal effects in corridors or lobbies, such as jackets, shoes, boots, backpacks, etc., must be stored in enclosed metal lockers in corridors or lobbies unless the corridor is protected with one of the following:
 - A fire sprinkler system, or
 - An automatic smoke detection system
 - Personal effects shall not be located within the required width of a corridor or pose an obstruction or impediment to egress. Loose items not secured by racks, cubbies or similar storage systems may be considered a potential egress obstruction or impediment.
- **Desks and work stations in egress corridors**
 - Desks, tables and chairs, and similar work stations in corridors must not be placed within the minimum required egress width of corridors. Although the minimum egress

width will vary depending on the occupant load served, in most cases at least 72-inches is required.

Combustible artwork, decorative items and teaching materials

- **Combustible art, decorative items and teaching materials on corridor walls**
 - Combustible art, decorative items, teaching materials and similar items applied to corridor walls are limited to 20 percent of the wall area in buildings without fire sprinkler protection. Up to 50 percent coverage is permitted in sprinkler-protected buildings.
- **Combustible art, decorative items and teaching materials on classroom walls**
 - Combustible art, decorative items, teaching materials and similar items applied to classroom walls are limited to 50 percent of the aggregate wall area of the classroom.
 - For Group I-4 child care programs, coverage is limited to 50 percent of each individual wall area.
- **Decorative displays**
 - Decorative displays using significant quantities of highly flammable materials such as foam plastics, textiles or dried vegetation are prohibited unless documented to have passed an appropriate fire propagation test or treated as flame-retardant.
- **Items suspended from ceilings**
 - Items suspended from ceilings such as banners, flags, sculptures, etc. must not obstruct the spray pattern of fire sprinkler heads. Typically, items located within 18 inches of sprinkler head deflectors are considered obstructions. However, relatively small or lightweight decorations such as paper snowflakes, mobiles, etc. would not be considered obstructions in most cases.
- **Suspended fabrics**
 - Curtains, draperies and similar suspended combustible fabrics must meet the flame propagation performance criteria of NFPA 701 as flame-resistant and must not exceed 20 percent of the specific wall or ceiling area on which such materials are attached.
 - The coverage area for suspended fabrics used specifically as window coverings are not limited, but flame-resistance still applies.
 - Flame-resistance and coverage limitations do not apply to ordinary window shades or educational materials that are displayed in an approved manner.

Electrical

- **Extension cords**
 - Extension cords must comply with the following:
 - Shall not be used as a substitute for permanent wiring, but may be used temporarily with portable appliances.
 - Shall not be affixed to the structure or extended through walls, ceilings, floors or doorways.

- Shall not be placed under floor coverings or in any location subject to environmental or physical damage.
 - Shall not serve more than one appliance unless using an approved multi-plug extension cord.
 - The ampacity of the extension cord shall not be less than what's required for the attached electrical load.
 - Shall be grounded when serving grounded appliances.
 - Shall be in good condition and without damage.
- **Relocatable power-taps**
 - Relocatable power-taps (i.e. power-strips with flexible cords) must comply with the following:
 - Listed by a nationally recognized testing laboratory to UL 1363.
 - Equipped with overcurrent protection (this is not the same as surge-suppression).
 - Polarized and grounded.
 - Plugged directly into a permanently installed electrical receptacle.
 - Power-taps cannot receive power from another power-tap or extension cord.
 - Must not be overloaded beyond the rated capacity.
- **Multi-plug adapters**
 - Multi-plug current taps listed to UL 498A are approved for use when plugged directly into a permanently installed electrical receptacle.
 - Such devices must be utilized in accordance with manufacturer's instructions and shall not be overloaded beyond the rated capacity.
- **Electrical appliances, equipment, and light fixtures**
 - Electrical devices and equipment must be listed by a nationally recognized testing laboratory (e.g. UL, ETL, CSA, etc.) and installed and operated in accordance with the manufacturer's instructions.

We recommend checking with your school district, as they may have their own policy regarding the use of specific electrical appliances in classrooms.
 - Decorative light strings
 - Seasonal and holiday light strings are listed to UL 588 and are intended for temporary installation and use up to 90 days, similar to extension cords. The temporary use restriction will be printed on the listing label and in the manufacturer's instructions.
 - Light strings listed for year-round use are also available. These devices will be listed to either UL 2388 (for flexible rope lighting) or to UL 588, Supplement SD (for light strings).

- Electric space heaters
 - Must be listed by a nationally recognized testing laboratory and operated in accordance with the manufacturer's instructions.
 - Most heaters will require at least 3 feet of clearance from combustibles and cannot be operated in areas where flammable vapors may be present or where flammable/combustible liquids are stored.
 - Ceramic or oil-filled type heaters are recommended over resistance-type heaters having exposed heating elements.
 - Must be plugged directly into a permanently installed electrical receptacle without the use of an extension cord.

Ceramic Kilns

- Kilns must be listed by a nationally recognized testing laboratory and installed in accordance with the manufacturer's instructions and the Minnesota Mechanical Code.
 - The manufacturer's instructions will specify the minimum installation clearances from walls and ceilings, minimum room size, etc.
 - Loose combustible storage items must be located at least 36 inches away from kilns.
 - Kilns must be vented in accordance with the Minnesota Mechanical Code and the manufacturer's installation instructions.

Storage

- **Storage height in areas protected with fire sprinklers**
 - Storage must be located at least 18 inches below the level of sprinkler head deflectors.

This clearance is necessary in order to allow the sprinkler spray pattern to develop for proper coverage. The 18 inch height restriction does not apply to storage located along walls around the room's perimeter unless sprinkler heads are located directly above the storage.
- **Storage height in areas without fire sprinklers**
 - Storage must be located at least 24 inches below the ceiling.

The 24 inch height restriction does not apply to storage located along walls around the room's perimeter.

It's not uncommon for a room to be too hot to enter during fire conditions. Because temperatures are highest at ceiling level, firefighters will often direct a water stream across the ceiling in order to rapidly cool the room for safe entry.
- **Storage arrangements**
 - Storage shall be orderly and stacks must be stable to protect building occupants and firefighters during emergency operations.
 - Minimum 24 inch access aisles shall be maintained in storage areas.

Fire Protection Features

- **Portable fire extinguishers**
 - A minimum rated 2-A:10-B:C fire extinguisher must be located within 75 feet travel distance from any point in a classroom. Extinguishers may be located within the classroom or within the adjacent corridor as long as the travel distance to the extinguisher does not exceed 75 feet.
 - In fully sprinklered buildings schools have the option of placing 'general use' extinguishers in non-student-accessible areas such as storage, mechanical and utility rooms. If you do not know the location of the nearest fire extinguisher, contact your school's maintenance manager.
 - Fire extinguishers must be mounted or housed within an approved cabinet, no higher than 5 feet above floor level as measured from the top of the extinguisher.
 - Science labs containing hazardous materials must be provided with a minimum rated 2-A:20-B:C fire extinguisher.
- **Obstruction of fire protection devices**
 - Fire protection devices such as sprinkler heads or fire alarm detection and initiating devices (e.g. pull stations, smoke or heat detectors, and horn/strobe units) must not be covered or otherwise obstructed or concealed.
 - Fire sprinkler heads must not be obstructed or covered.
 - Objects shall not be suspended from or supported by fire sprinkler heads or piping systems.

Fire Evacuation Procedures

- Upon fire alarm system activation, follow your school's fire emergency and evacuation procedures.
- Ensure the classroom door is closed and latched after all occupants have left the room.
- After reaching your classroom's assigned assembly point, ensure all students are accounted for.