

MINNESOTA STATE DEPARTMENT OF PUBLIC SAFETY



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State Fire Marshal Division

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ADULT DAY CARE INFORMATION SHEET SECTION 1 - INTRODUCTION

This fire safety information sheet is based on the 2007 Minnesota State Fire Code (MSFC), the 2007 Minnesota State Building Code (MSBC) and the 2006 International Residential Code (IRC). It contains a summary of the major rules that apply to adult day care facilities.

An adult day care provider may be required to meet other requirements that are not listed in this publication. This information sheet provides an overview of the major code requirements that apply in this type of occupancy and does not attempt to cover every situation. References to the applicable code sections are found in brackets, [].

For the purpose of this information sheet an existing building is any home or facility constructed before July 10, 2007. A new building is any home or facility constructed on or after July 10, 2007. Prospective adult day care operators must contact the appropriate licensing agency (county or state) for a site inspection prior to requesting a fire inspection.

More information is available from the Minnesota State Fire Marshal Division at (651) 201-7200. Email questions to firecode@state.mn.us or check our web page at www.fire.state.mn.us for the latest information on fire in Minnesota.

The requirements outlined in this information sheet apply only to adult day care facilities as defined below:

OCCUPANCY CLASSIFICATIONS FOR ADULT DAY CARE

Occupancy Classifications

Adult day care facilities can have several different occupancy classifications. Below is a summary of the different classifications an adult day care could be given under the Minnesota State Building Code (MSBC) and Minnesota State Fire Code (MSFC). Please read carefully to determine where your facility fits within the four different classifications. These occupancy classifications are based on the number of residents in the home and their capacity to escape the premise without assistance.

Residential (R-3) Occupancy- If five or fewer clients are housed in a residential home that may or may not be capable of self-preservation shall be classified as a Group R-3 Occupancy.

Residential (R-4) Occupancy- Any adult day care with no less than six residents but not more than sixteen housed in a residential home where all the clients are capable of self-preservation shall be classified as a Group R-4 Occupancy.

Educational (E) Occupancy- If an adult day care facility houses four or more ambulatory or mobile persons who are all capable of self-preservation the facility shall be classified as a Group E Occupancy. Centers serving only participants who are capable of taking appropriate action for self-preservation under emergency conditions shall meet all applicable requirements for a Group E occupancy.



Institutional (I-4) Occupancy-If an adult day care facility has five or more residents who are NOT capable of self-preservation the facility shall be classified as a Group I-4 Occupancy. Centers serving only participants who are not capable of taking appropriate action for self-preservation under emergency conditions shall meet all applicable requirements for a Group I-4 occupancy.

Centers serving both participants capable and participants not capable of self preservation.

Centers serving a population that includes both participants who are capable and participants who are not capable of taking appropriate action for self-preservation under emergency conditions shall meet the occupancy requirements for Group I-4 or E occupancies. Should the facility become an E occupancy, the center shall meet ALL the requirements set forth below (not applicable for I-4 occupancies):

Population-Not more than 50% of the center's licensed capacity shall be made up of participants who are not capable of taking appropriate action for self-preservation under emergency conditions.

Location-The center must be located on a floor level with all exits directly to grade without any intervening stairs.

Fire alarm and detection-The center shall be protected with a complete automatic fire detection system consisting of automatic smoke detection in all corridors and at the top of all stairways and automatic detection in boiler and furnace rooms, kitchens, storage rooms, janitor's closets, laundry rooms, and other hazardous areas. In buildings equipped with manual fire alarm systems, the manual fire alarm and automatic detection systems shall be electrically interconnected.

Evacuation time- The center shall demonstrate the ability to evacuate the entire population of the center within three minutes.

Department of Human Services (DHS) Definitions:

Family Adult Day Services:

1. Operates less than 24 hours per day
2. Operates in a single family residence
3. Licensed for a maximum of 8 impaired adults (MN Statute 245A.11)
4. Required by MSFC/MSBC definitions to be inspected to Group R-3 requirements.
 - a. In new construction, the 2007 MSFC/MSBC will require Group R-3 occupancies, with the exception of single family dwellings, have an automatic sprinkler system installed when the total floor area, including the garage, exceeds 9,250 square feet.

SECTION 2 – GENERAL FIRE SAFETY PROVISIONS

2.1 Combustible Waste Material – New and Existing

Combustible waste material creating a fire hazard shall not be allowed to accumulate in buildings [MSFC (07) Section 304.1].

Dumpsters must be outside and at least 5 feet from combustible walls or openings [MSFC (07) Section 304.3.3].

2.2 Storage of Combustible Materials – New and Existing Occupancies

Storage shall be orderly [MSFC (07) Section 315.2]. Storage shall be maintained at least 2 feet below the ceiling in nonsprinklered areas, or at least 18 inches below sprinkler head deflectors in sprinklered areas of buildings [MSFC (07) Section 315.2.1].

2.2.1 Boiler and Furnace Rooms

Combustible storage within boiler and furnace rooms with equipment having 400,000 BTU per hour input or less is allowed when such rooms or areas are protected with an approved automatic fire extinguishing system (i.e. fire sprinkler protection). Combustible storage shall be maintained at least 36 inches from fuel-fired equipment [MSFC (07) Section 315.2.3.1]. Combustible storage within boiler and furnace rooms with equipment having over 400,000 BTU per hour input is allowed when such rooms or areas are protected with an approved automatic fire extinguishing system (i.e. fire sprinkler protection). Combustible storage shall be maintained at least 10 feet from the boiler or furnace [MSFC (07) Section 315.2.3.1].

2.2.2 Mechanical Rooms

Combustible storage is allowed within mechanical rooms when such rooms or areas are equipped throughout with an approved automatic fire extinguishing system. Storage shall be neat and orderly, with 36 inch access aisles maintained to all equipment. In addition, combustible storage shall be maintained at least 36 inches from fuel-fired equipment [MSFC (07) 315.2.3.2].

2.2.3 Electrical Rooms

Combustible storage is not allowed within electrical distribution equipment rooms or elevator equipment rooms [MSFC (07) Section 315.2.3.3 & 315.2.3.4].

2.3 Fire Apparatus Access Roads – New

For all newly constructed buildings, approved fire apparatus access roads shall be provided and maintained [MSFC (07) Section 503.1.1]. See the SFMD Information Sheet titled, *Fire Department Access* for more information.

2.4 Water Supply – New

For all newly constructed buildings, an approved water supply capable of providing the required fire flow for fire protection shall be provided. Fire flow requirements shall be determined by an approved method [MSFC (07) Section 508]. See the SFMD Information Sheet titled, *Fire Department Water Supplies* for more information.

2.5 Premises Identification – New and Existing

Approved numbers or addresses shall be placed on all new and existing buildings in such manner to be plainly visible and legible from the street or road fronting the property. The premises identification numbers shall contrast with their background. In rural areas, the use of fire numbers is acceptable [MSFC (07) Section 505.1].

2.6 Storage of Combustible Materials – New and Existing

Storage shall be orderly [MSFC (07) Section 315.2]. Fueled equipment (motorcycles, lawnmowers, etc.) shall not be stored, operated or repaired within a building with the exception of rooms constructed for such use in accordance with the State Building Code [MSFC (07) Section 313.1]. Combustible materials shall not be stored within exits or exit enclosures [MSFC (07) Section 315.2.2].

Unless protected by an approved automatic sprinkler system, attic, under-floor and concealed spaces used for storage of combustible materials shall be protected on the storage side as required for one-hour fire-resistive construction. Openings shall be protected by assemblies that are self-closing and are noncombustible construction or solid wood core not less than 1.75 inches in thickness. Storage shall not be placed on exposed joists [MSFC (07) Section 315.2.4].

SECTION 3 – NUMBER, TYPE AND ACCESS TO EXITS FOR GROUP R-3 OR R-4 OCCUPANCIES

3.1 General

Every room shall have access to at least one exit. This exit usually takes the form of the interior halls, stairs and doors found within the building.

In addition, every room used for sleeping shall have at least one approved emergency escape (second means of egress) that is separate from the main exit from the space. Any one of the following four options will satisfy the requirement for an emergency escape from a room [MSFC (2007) Section 1026.1]

1. The space is provided with an escape window complying with MSFC (2007) Section 1026.1, as amended or State Fire Marshal Policy INS-04. Because this is the most common type of emergency escape, additional information on escape windows is provided in the next section of this fact sheet.
2. An automatic sprinkler system is protecting the building (NFPA 13D systems are acceptable for one and two family homes).
3. The room has a door leading directly to the exterior of the building.
4. There is a second separate means of escape. The second means of escape may be through an adjacent non-lockable space, independent of and remote from the primary exit. The adjacent non-lockable space must be provided with a code complying exit or egress window. Travel through an attached garage may be permitted as a second separate means of escape if there is no distinct hazard and all of the following conditions are met:
 - Unobstructed access with an aisle at least 36 in. in clear width is provided from the dwelling door to the garage service door.
 - The attached garage is fire-separated from the dwelling as required by the MSFC (2007). See Section 7.1 of this information sheet for occupancy separations.
 - A side-hinged, swinging door to the exterior is provided.

Sliding glass doors may be accepted as qualifying exit doors provided that the doors are maintained operational at all times [MSFC (2007) Section 1008.1.2 Exception 4].

3.2 Access to doors and windows

Exit doors from individual dwelling units may be provided with a night latch, dead bolt or security chain provided that such devices are openable from the inside without the use of a key or tool and mounted at a height not to exceed 48 inches above the finished floor. [MSFC (2007) Section 1008.1.8.3]

All locking devices shall be of an approved type.

SECTION 4 — APPROVED ESCAPE WINDOWS

4.1 Types of approved escape windows

Approved escape windows in R-3/R-4 occupancies as required in section 3.1 include the following [MSFC (2007) Section 1026.1]:

- Double hung windows;
- Sliding windows; or,
- Casement windows

Awning style windows do not meet this requirement

4.2 Minimum size

When used as an emergency escape, only a single window in each room need meet the minimum size requirements listed below. The window sash cannot be removed to meet the size requirements and windows must be measured with the window fully opened by the normal window opening mechanism.

For escape windows installed prior to July 10, 2007: (State Fire Marshal Policy INS-04)

- A minimum of 20 inches in width
- A minimum of 20 inches in height
- A minimum of 648 square inches (4.5 square feet) of clear opening
- A maximum of 48 inches from the floor to the sill opening

Note: The above is considered the absolute minimum regardless of existing or window replacement.

For escape windows installed above or below the level of exit discharge on or after July 10, 2007:

- A minimum of 20 inches in width
- A minimum of 24 inches in height
- A minimum of 820 square inches (5.7 square feet) of clear opening
- A maximum of 44 inches from the floor to the sill opening

For grade floor egress/escape windows installed on or after July 10, 2007:

- A minimum of 20 inches in width
- A minimum of 24 inches in height
- A minimum of 720 square inches (5.0 square feet) of clear opening
- A maximum of 44 inches from the floor to the sill opening

See the attached diagrams for additional description of acceptable egress windows and a worksheet for determining compliance with the requirements of the MSFC (2007).

4.3 Special situations

For unique situations, please see the State Fire Marshal Division policy INS-04 titled, *Escape Windows* for information on how to treat situations that do not fit the conditions outlined here.

SECTION 5 — WINDOW WELLS FOR R-3/R-4 ESCAPE WINDOWS

Escape windows with a finished sill height below the adjacent ground elevation shall have a window well. Window wells at escape or rescue windows shall comply with MSFC (2007) Section 1026.5. See the attached diagrams for additional description of acceptable egress window wells and a worksheet for determining compliance with the requirements of the MSFC (2007).

5.1 Window well size

The window well shall have clear horizontal dimensions that allow the window to be fully opened and provide a minimum accessible net clear opening of 9 square feet with minimum dimensions of 36 inches. Window wells with a vertical depth of more than 44 inches shall be equipped with an approved permanently affixed ladder or stairs that are accessible with the window in the fully open position. The ladder shall not encroach more than 6 inches into the 36-inch clear open space. Please see MSFC (07) Section 1026.5 for additional window well requirements.

5.2 Obstructions

Emergency escape or rescue windows, doors or window wells shall be maintained free of any obstruction, including bars, grates or similar devices that would impair egress [MSFC (07) Section 1028.6]. However, window wells may be covered as necessary to keep the window well clear of debris, snow, and rain water

and to help prevent people from falling in if the building owner wishes. However, the cover shall comply with the following requirements:

- a. The covering shall not interfere with the opening of the window in any way.
- b. The covering shall be supported in such a way that it can not become frozen to the ground, window well or structure.
- c. The covering shall be readily removable without the use of tools or special knowledge from the window well area by the building occupants.

SECTION 6 – MEANS OF EGRESS FOR GROUP E AND I-4 OCCUPANCIES

6.1 Means of egress

Every room or area shall have access to at least one approved exit. Access to at least two exits shall be provided when the occupant load exceeds 10 for both Group E and Group I-4 adult day care occupancies [MSFC (07) Section 1015.1]. Floor areas and buildings shall be provided with exits as required by MSFC (07) Section 1019. Floor areas and buildings will require at least two exits when a floor area is over 350 square feet (occupant load greater than 10) for both Group E and Group I-4 adult day care occupancies.

To determine the occupant load, divide the total net square footage of the rooms or areas to be used for adult day care by the occupant load factor in Table 4.1.

Table 6.1 Minimum Egress Requirements (New)

Adult Day Care Occupancy Type	Minimum of Two Exits Required When the Number of Occupants Exceeds	Minimum of Two Exits Required When the Square Footage Exceeds	Occupant Load Factor (square feet per person)
E	10	350 square feet	35
I-4	10	350 square feet	35

6.2 Number of Exits - Existing Occupancies

The means of egress in existing buildings and occupancies shall comply with MSFC (07) Sections 1001, 1002, 1026, & 1027 [MSFC (07) 1001.1].

Means of egress conforming to the requirements of the fire code or building code under which they were constructed shall be considered as complying means of egress if, in the opinion of the code official, they do not constitute a distinct hazard to life [MSFC (07) Section 1027.1.2].

Additionally, means of egress in existing buildings conforming to NFPA 101 (Life Safety Code) shall be deemed as evidence of compliance with the means of egress provisions of the MSFC.

Every room, area, floor level and building shall have access to at least one approved exit. Access to at least two exits from rooms, areas, floor levels and buildings shall be provided when the occupant load exceeds 50 for those adult day care facilities classified as Group E Occupancies, or when the occupant load exceeds 10 for those adult day care facilities classified as Group I-4 Occupancies [MSFC (07) Section 1027.23.1].

To determine the occupant load, divide the total net square footage of the rooms or areas to be used for child care by the occupant load factor in Table 4.2.

Table 6.2 Minimum Egress Requirements (Existing)

Adult Day Care Occupancy Type	Minimum of Two Exits Required When the Number of Occupants Exceeds	Minimum of Two Exits Required When the Square Footage Exceeds	Occupant Load Factor (square feet per person)
E	50	1750 square feet	35
I-4	10	350 square feet	35

6.3 Common Path of Egress Travel – Existing Occupancies

The means of egress for Group E Occupancies shall be such that the maximum travel distance from any point within a building to a point where two separate and distinct paths of egress travel are available shall not exceed 75 feet [MSFC Section 1027.19].

6.4 Exit Access Travel Distance – New Occupancies

Exits shall be located so that the maximum length of exit access travel, measured from any point within a building to an exit or the entrance of an exit component along the natural and unobstructed path of egress travel, shall not exceed the following distances listed in Table 4.3 [MSFC (07) 1016.1].

Table 4.3 Exit Access Travel Distance (New)

Occupancy Classification	Without Sprinkler System	With Sprinkler System
E	200 FT	250 FT
I-4	150 FT	200 FT

6.5 Exit Access Travel Distance – Existing Occupancies

Exits shall be located so that the maximum length of exit access travel, measured from any point within a building to an exit or the entrance of an exit component along the natural and unobstructed path of egress travel, shall not exceed the following distances listed in Table 4.4 [MSFC (07) 1027.18].

Table 6.5 Exit Access Travel Distance (Existing)

Occupancy Classification	Without Sprinkler System	With Sprinkler System
E	200 FT	250 FT
I-4	200 FT	250 FT

6.6 Locking Devices – New and Existing Occupancies

Exit doors shall be openable from the egress side without the use of a key or special knowledge or effort [MSFC (07) Section 1008.1.8 & 1027.7]. Door handles, pulls, latches, locks and other operating devices on doors shall only require a single operation to release the door from the egress side [MSFC (07) 1008.1.8.1 & 1027.7].

6.6.1 Panic and Fire Exit Hardware. Any exit or exit access door serving an occupant load of 50 or more within new Group E adult day care centers shall not be provided with a latch or lock unless such

components are integral with approved panic hardware or fire exit hardware [MSFC (07) Section 1008.1.9]. In accordance with previous editions of the MSFC, any exit or exit access door serving an occupant load of 100 or more within existing Group E adult day care centers shall not be provided with a latch or lock unless such components are integral with approved panic hardware or fire exit hardware [MSFC (07) Section 1027.1.2 & 1027.7].

6.7 Exit Doors – New and Existing Occupancies

Doors within the means of egress shall be side-hinged swinging with the exception of –

1. Revolving doors in accordance with MSFC Sections 1008.1.3.1 (new) & 1027.9 (existing).
2. Horizontal sliding doors in accordance with MSFC Sections 1008.1.3.3.

Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons [MSFC (07) Section 1008.1.2 & 1027.7].

6.8 Exit Width – New and Existing Occupancies

The means of egress width shall not be less than required by the MSFC as determined by the occupant load served [MSFC (07) Section 1005.1 & 1027.1.4]. The minimum clear width of each door opening shall be sufficient for the occupant load served as determined by MSFC (07) Section 1005.1, but shall not be less than 32 inches for new occupancies, or 28 inches for existing occupancies. The height of doors shall not be less than 80 inches [MSFC (07) Section 1008.1.1 & 1027.7].

6.8.1 Corridor Width - New Occupancies. Corridor width for new occupancies shall be as determined in MSFC (07) Section 1005.1, but shall not be less than 36 inches when serving an occupant load of 50 or less, and not less than 44 inches when serving an occupant load of greater than 50 [MSFC (07) Section 1017.2]. Corridors within Group E adult day care centers serving an occupant load of 100 or more shall not be less than 72 inches.

6.8.2 Corridor Width - Existing Occupancies. Corridor width for existing occupancies shall be determined in accordance with MSFC (07) Section 1005.1, but shall not be less than 36 inches [MSFC (07) 1027.17.3.1].

6.9 Dead End Corridors – New and Existing Occupancies

Where more than one exit or exit access doorway is required, the exit access shall be arranged such that dead end corridors do not exceed 20 feet in length [MSFC (07) Section 1017.3 & 1027.17.4].

Exception: Fully sprinklered Group E Occupancies constructed prior to October 3, 1975 are allowed to have dead end corridors up to 35 feet in length.

6.10 Egress through Intervening Spaces – New Occupancies

Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such rooms or areas are accessory to the area served; are not a higher-hazard area, and provide a discernible path of egress travel to an exit. Egress shall not pass through kitchens, store rooms, closets or spaces used for similar purposes. An exit access shall not pass through a room which can be locked to prevent egress [MSFC (07) Section 1014.2].

6.11 Means of Egress Illumination – New and Existing Occupancies

The means of egress in all new and existing buildings shall be illuminated at all times the building is occupied [MSFC (07) Section 1006.1 & 1027.5.1]. In the event of primary power loss, an approved back-up power source shall be provided throughout the exiting system for those areas requiring two or more means of egress [MSFC (07) Section 1006.3 & 1027.5.3].

6.12 Means of Egress Identification – New and Existing Occupancies

Exit and exit access doors shall be marked by approved exit signs readily visible from any direction of egress travel in rooms or areas requiring more than one exit or exit access. Access to exits shall be marked by readily visible exit signs in cases where the exit or path of egress travel is not immediately visible to occupants. Exit sign placement shall be such that no point in an exit access corridor is more than 100 feet from the nearest visible exit sign [MSFC (07) Section 1011.1 & 1027.3]. Exit signs shall be internally or externally illuminated at all times. In the event of primary power loss, an approved back-up power source shall be provided [MSFC (07) Section 1011.5.3 & 1027.4].

6.13 Means of Egress Obstructions – New and Existing Occupancies

Obstructions shall not be placed in the required width of a means of egress. The required capacity of a means of egress system shall not be diminished along the path of egress [MSFC (07) Section 1003.6 & 1028.2].

SECTION 7 — STAIRS AND PROTECTION OF OPENINGS FOR GROUP R-3 AND R-4 OCCUPANCIES

7.1 Guardrails – New buildings (constructed after July 10, 2007)

Unguarded floor openings, open and glazed sides of stairways, landings and ramps and balconies or porches that are more than 30 inches above grade or the floor below shall be protected by guardrails in accordance with the MSFC (2007) Section 1013.1. The top of the guard for a one and two family dwellings may be constructed not less than 36 inches in height. The guards shall have balusters or ornamental patterns such that a 4-inch diameter sphere cannot pass through any opening up to a height of 34 inches. From 34-36 inches, a sphere 8-inch in diameter shall not pass.

Guardrails – Existing buildings (constructed before July 10, 2007)

Guards shall be provided at the open sides of means of egress that are more than 30 inches above the floor or grade below. The guards shall form a protective barrier not less than 36 inches high. For existing guards on the open side of stairs barriers shall be not less than 30 inches high. Open guards shall have balusters or ornamental patterns such that a 6-inch diameter sphere cannot pass through any opening up to a height of 34 inches. Existing open guards may be acceptable if approved by the code official [MSFC (07) Section 1027.6].

7.2 Stairways – New

Stairways shall have a handrail on at least one side and the rise and run shall be in accordance with the 2006 International Residential Code (IRC). Stairways shall not be less than 36 inches in clear width at all points above the permitted handrail height and below the required headroom height. The minimum clear width of the stairway at and below the handrail height, including treads and landings, shall not be less than 31.5 inches where a handrail is installed on one side and 27 inches where handrails are provided on both sides. The maximum riser height shall be 7 ¾ inches and the minimum tread depth shall be 10 inches. The riser heights shall be measured vertically between leading edges of the adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. For additional information on spiral stairs or circular stairways, please review IRC Section R314.

Stairways – Existing

Existing stairs in buildings shall be permitted to remain if the rise does not exceed 8 ¼ inches and the run is not less than 9 inches. Existing stairs can be rebuilt. Existing stairs may be acceptable if approved by the code official [MSFC (07) Section 1027.10].

7.3 Handrails – New

Handrails shall not project more than 4.5 inches on either side of the stairway. Handrails should have a minimum and maximum height of 34 inches and 38 inches, respectively, measured vertically from the nosing of the treads, shall be provided on at least one side of the stairways.

All required handrails shall be continuous running the full length of the stairs with two or more risers from a point directly above the top riser of a flight to a point directly above the lowest riser of the flight. Handrails shall not have sharp points at each end and those located adjacent to a wall shall have a space of not less than 1.5 inches between the wall and the handrail [IRC (00) Section R315].

Handrails – Existing

Stairways shall have handrails on at least one side. Handrails shall be located so that all portions of the stairway width required for egress capacity are within 44 inches of a handrail. The height of these handrails measured above stair tread nosings, shall be uniform, not less than 30 inches and not more than 42 inches. [MSFC (2007) Section 1027.13]

7.4 Storage under stairways - New

Storage under stairway is permitted provided the enclosed space is protected with at least ½ inch thick gypsum board.

SECTION 8 — FIRE RESISTIVE CONSTRUCTION FOR GROUP R-3 AND R-4 OCCUPANCIES

8.1 Occupancy separation

When a dwelling has an attached garage, a separation wall between the dwelling and garage is required to prevent the spread of smoke and fire from the garage into the home. The separation must extend from floor to ceiling or roof deck and must be constructed in accordance with the following [IRC Section R309]:

- A single layer of 1/2" gypsum wall board applied on the garage side for both new and existing construction. If there is living space directly above the garage, the ceiling must have minimum 5/8" gypsum board.

Door openings must meet one of the following requirements:

- solid-wood door at least 1-3/8 inches in thickness, or
- insulated steel door at least 1-3/8 inches in thickness, or
- a labeled door having a fire-protection rating of not less than 20 minutes.

Doors shall be self-closing and self latching from all positions. Only listed and approved self-closing devices shall be used.

8.2 Fire-resistive construction

Fire-resistive construction, including occupancy separations, area separation walls, exterior walls due to location on property, fire-resistive requirements based on type of construction, draft-stop partitions and roof coverings may be required in some occupancies. When required, they shall be maintained as specified in the MSFC (07) and MSBC (07) and shall be properly repaired, restored or replaced when damaged, altered, breached, penetrated, removed or improperly installed [MSFC (07) Section 703.1]. In general, the only fire-resistive construction in most one and two family dwellings involves the garage separation as described in Section 7.1.

SECTION 9 – FIRE RESISTIVE CONSTRUCTION FOR GROUP E AND I-4 OCCUPANCIES

9.1 Occupancy Separation – New Occupancies

Adult day care centers shall be separated from other occupancies with fire-resistive occupancy separations in accordance with the Minnesota State Building Code [MSFC (07) Section 701.1]. Table 5.1 lists the required time rating for fire-resistive occupancy separations dependent upon the classification of the adult day care center (Group E or Group I-4) and the occupancy to be separated [MSFC (07) 701.1; MSBC (07) 508.3.3]. Except for Group H and I-2 areas, where the building is equipped throughout with an approved automatic sprinkler system, the fire-resistance ratings may be reduced by one-hour but to not less than one-hour and to not less than that required for floor construction according to the type of construction.

Non-separated use design shall be in accordance with MN State Building Code [MSBC (07) 508.3.2.].

Table 9.1 Required Fire-Resistive Occupancy Separations

Group E Child Care Occupancy	U	A, B, F-2, H-4, I, M, R, S-2	F-1, H-3, H-5, S-1	H-2	H-1
Separation	1 HR	2 HR	3 HR	4 HR	Not Permitted
Group I-4 Child Care Occupancy	U	A, B, E, F-2, I, M, R, S-2	F-1, H-3, H-5, S-1	H-2, H-4	H-1
Separation	1 HR	2 HR	3 HR	4 HR	Not Permitted

9.1.1 Occupancy Separation – Existing Occupancies

Existing Group E and Group I-4 adult day care occupancies shall be separated from Group I and Group R occupancies in accordance with the State Building Code. See Table 5.1 of this document for details [MSFC (07) Section 705]. In addition, because Group H (Hazardous) occupancies are classified as such due to the presents of sufficient quantities of hazardous materials, existing Group E and Group I-4 adult day care occupancies shall also be separated from all Group H occupancies in accordance with the State Building Code [MSFC (07) Section 102.2].

Previous editions of the MUFC and MSFC required occupancy separations between adult day care centers and most other occupancy types. Therefore, existing day care centers that are lacking proper occupancy separations as prescribed by previous MUFC editions shall be provided with separations in accordance with the MSBC when in the opinion of the code official, a distinct hazard to life and property exists [MSFC (07) Section 102.1].

9.2 Accessory Use Areas – New Occupancies

Except where required for incidental use areas, fire-resistive construction shall not be required for accessory use areas not occupying more than 10 percent of the area of any floor of a building [MSFC (07) Section 701.1; MSBC (07) Section 508.3.1].

9.3 Incidental Use Areas – New Occupancies

New adult day care centers shall have their incidental use areas separated from the rest of the building by fire-resistive construction in accordance with the State Building Code [MSFC (07) Section 701.1; MSBC (07) Section 508.2]. Examples of incidental use areas include furnace rooms (over 400,000 Btu input); boiler rooms (over 15 psi and 10 hp); parking garages; laboratories and shops; waste, linen, laundry or storage rooms over 100 square feet.

9.3.1 Incidental Use Areas – Existing Occupancies

Without Fire Sprinkler Protection

In existing adult day care centers, shops; laboratories containing hazardous materials; storage rooms over 100 square feet; and rooms containing boilers or central heating plants (over 400,000 Btu input) shall be separated from the rest of the building by one-hour fire resistive construction [MSFC (07) Section 705.3].

With Fire Sprinkler Protection

Existing Group E Occupancies. Incidental use areas within existing Group E Occupancies need not be separated when the incidental use area is protected with automatic fire sprinklers.

Existing Group I-4 Occupancies. Incidental use areas within existing Group I-4 Occupancies need not be separated when the incidental use area is protected with automatic fire sprinklers and the construction of such areas is capable of resisting the passage of smoke. Doors to such areas shall be one-hour fire-rated, solid-core wood doors, or insulated steel doors. Such doors shall be self-closing [MSFC (07) Section 705.3.2].

9.4 Corridor Construction – New Occupancies

All corridors serving an occupant load greater than 30 within adult day care centers classified as Group E shall be of one-hour fire-resistive construction. Regardless of the occupant load served, all corridors within child care centers classified as Group I-4 shall be of one-hour fire-resistive construction. All openings within one-hour fire-resistive corridors shall be protected with listed 20-minute fire-rated assemblies. Fire doors shall be self-closing [MSFC (07) Section 1017.1].

Exceptions:

1. *Group E and I-4 adult day care centers where the building is equipped throughout with an approved automatic sprinkler system.*
2. *Group E adult day care centers where each room used for child care has at least one door directly to the exterior at ground level and rooms for assembly purposes have at least one-half of the required means of egress doors opening directly to the exterior at ground level.*

9.4.1 Corridor Construction – Existing Occupancies

All corridors serving an occupant load greater than 30 within adult day care centers classified as Group E shall be of one-hour fire-resistive construction. All corridors serving an occupant load greater than 10 within adult day care centers classified as Group I-4 shall be of one-hour fire-resistive construction. Door openings within one-hour fire-resistive construction shall be protected by 20-minute fire-rated assemblies, insulated steel doors, or solid core wood doors not less than 1-3/4 inches thick. Fire doors shall self-closing [MSFC (07) Section 1027.17].

Exceptions:

1. *Group E and I-4 adult day care centers where the building is equipped throughout with an approved automatic sprinkler system.*

2. *Group E adult day care centers where the building is protected with an approved automatic fire alarm system which is monitored by an approved central, proprietary, or remote station service. The fire alarm system shall include automatic smoke detection throughout the exiting system and approved detection in all rooms and areas other than classrooms, child care areas and offices.*

9.5 Vertical Opening & Shaft Construction – New Occupancies

Vertical openings and shafts within new child care centers shall be constructed in accordance with the MN State Building Code [MSFC (07) Section 701.1]. Generally, all openings through a floor/ceiling assembly shall be protected with a fire-resistance rated construction. Vertical openings and shafts shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and 1 hour where connecting less than four stories. Shaft enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.

9.5.1 Vertical Opening & Shaft Construction – Existing Occupancies

Vertical openings and shafts within existing child care centers shall be protected with fire-resistance rated construction in accordance with table 5.5.1 [MSFC (07) Section 704.1].

Table 9.5.1 Required Protection for Vertical Openings and Shafts

Occupancy Classification	Conditions	Protection Required
Group E	vertical openings connecting 2 stories	no protection required
Group E	vertical openings connecting 3 to 5 stories	1-hour protection or automatic sprinklers throughout
Group E	vertical openings connecting more than 5 stories	1-hour protection
Group I-4	vertical openings connecting 2 or more stories	1-hour protection

9.6 Maintenance of Fire-Resistive Construction – New and Existing Occupancies

The required fire-resistance rating of fire-resistance-rated construction shall be maintained. Such elements shall be properly repaired, restored or replaced when damaged, altered, breached or penetrated [MSFC (07) Section 703].

SECTION 10 – INTERIOR FINISH AND DECORATIONS

10.1 Interior finish and decoration requirements for R-3 or R-4 occupancies – new and existing

Interior finish on walls and ceilings shall be Class A, B, or C (Class I, II, or III) [MSFC (07) Section 803].

10.2 Interior finish and decoration requirements for E or I-4 occupancies – new and existing

In general, interior finish within new and existing adult day care centers shall meet the following flame spread requirements [MSFC (07) Section 803].

Group E Adult Day Care Centers

Sprinklered Buildings

- Rooms and Enclosed Spaces.....Class C
- Exit Access Corridors and Exitways.....Class C
- Vertical Exits and Exit Passageways.....Class B

Unsprinklered Buildings

Rooms and Enclosed Spaces.....Class C
Exit Access Corridors and Exitways.....Class B
Vertical Exits and Exit Passageways.....Class A

Group I-4 Adult Day Care Centers

Sprinklered Buildings

Rooms and Enclosed Spaces.....Class B
Exit Access Corridors and Exitways..... Class B
Vertical Exits and Exit Passageways.....Class B

Unsprinklered Buildings

Rooms and Enclosed Spaces..... Class B
Exit Access Corridors and Exitways..... Class A
Vertical Exits and Exit Passageways.....Class A

Exception: In vertical exits of buildings less than three stories in height, Class B interior finish for unsprinklered buildings and Class C for sprinklered buildings shall be permitted.

10.3 Interior Decorative Materials – New and Existing

Artwork and teaching materials shall be limited on walls and corridors to not more than 20 percent of the wall area for Group E and I-4 adult day care centers [MSFC (07) Section 807.4.3.2 & 807.4.4.2].

10.4 Storage in Corridors and Lobbies – New and Existing

Clothing and personal effects shall not be stored in corridors and lobbies of child care centers unless - the corridor is protected by an approved automatic sprinkler system, **OR** the storage is contained within metal lockers provided the minimum required egress width is maintained [MSFC (07) Section 807.4.3.1 & 807.4.4.1].

SECTION 11 – DETECTION SYSTEMS IN GROUP R-3 AND R-4 OCCUPANCIES

11.1 Smoke Alarms within homes constructed prior to July 10, 2007

Smoke alarms shall be installed in hallways or areas giving access to each separate sleeping area. Where sleeping rooms are on an upper level only, the alarm shall be placed at the center of the ceiling directly above the stairway. Smoke alarms shall also be installed on each level of the dwelling, and within basements having a stairway which opens into the dwelling unit [MSFC (07) Section 907.2.10]. Existing dwelling units not already provided with single or multiple station smoke alarms shall be provided with approved single or multiple station smoke alarms installed and maintained in accordance with MSFC (07) Section 907.2.10 (Section 8.2 below) meeting requirements for new construction.

For buildings constructed prior to August 1, 1989, alarms may receive their primary power from battery supply. For buildings constructed on or after August 1, 1989, alarms shall be connected to a centralized power source.

11.2 Smoke Alarms within homes constructed on or after July 10, 2007

A smoke alarm shall be installed in each sleeping room and at a point centrally located in the corridor or area giving access to each separate sleeping area. A smoke alarm shall be installed in each story within a dwelling unit, including basements and cellars, but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level [MSFC (2007) Section 907.2.10.1.2].

Smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source and shall be equipped with a battery backup. Wiring shall be permanent and without a disconnecting switch other than those required for over-current protection [MSFC (2007) Section 907.2.10]. When new bedrooms are created, the detector in the new bedroom shall receive its primary power from the building wiring and shall be equipped with a battery backup.

11.2.1 Interconnection in homes constructed on or after July 10, 2007

Multiple smoke alarms within the same dwelling unit must be interconnected in such a manner that the activation of one alarm will activate all other alarms throughout the dwelling.

11.3 Installation

Detector location and spacing shall be as follows, in addition to the manufacturer's instructions [NFPA 72]:

- a. Smoke detectors in rooms with ceiling slopes greater than 1-foot rise per 8 feet horizontally shall be located at the high side of the room.
- b. A smoke detector installed in a stairwell shall be so located as to ensure that smoke rising in the stairwell cannot be prevented from reaching the detector by an intervening door or obstruction.
- c. A smoke detector installed to detect a fire in the basement shall be located in close proximity to the stairway leading to the floor above.
- d. Smoke detectors shall be mounted on the ceiling at least 4 inches from a wall or on a wall with the top of the detector not less than 4 inches, or more than 12 inches, below the ceiling.
- e. Smoke detectors shall not be located within kitchens, garages, or in other spaces where temperatures can fall below 32 °F, or exceed 100 °F.
- f. Smoke detectors shall not be located within 3 feet of supply registers of a forced air heating or cooling system and doors to a kitchen or bathroom with tub or shower.
- g. For peaked ceilings, the smoke detector must be installed within 3 feet of the peak.

UL or FM (Factory Mutual) listed and approved fire-alarm systems both hardwired and wireless are also acceptable. Detectors with a battery shall emit a signal when the battery is low.

11.4 Replacement of Smoke Alarms in One- and Two-Family Dwellings.

Unless otherwise recommended by the manufacturer, single- and multiple-station smoke alarms installed in one- and two-family dwellings shall be replaced when they fail to respond to operability tests, but shall not remain in service longer than 10 years from the date of manufacture.

SECTION 12 – FIRE PROTECTION SYSTEMS FOR GROUP E AND I-4 OCCUPANCIES

12.1 Required Fire Alarm Systems – New and Existing Occupancies

12.1.1 Group E Adult Day Care Centers

Group E adult day care centers having an occupant load of 50 or more shall be provided with an approved fire alarm system [MSFC (07) Section 907.2.3 & 907.3.2].

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

Exceptions:

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

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

Exception: Adjoining or intervening room smoke detection is not required when the building is protected throughout by an approved automatic fire sprinkler system.

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

12.1.2 Group I-4 Adult Day Care Centers

Group I-4 adult day care centers shall be provided with an approved fire alarm system [MSFC (07) Section 907.2.6 & 907.3.3].

Initiation. Initiation of the system shall be by manual and automatic means. Approved automatic fire detectors shall be provided in laundry rooms, boiler and furnace rooms, mechanical and electrical rooms, shops, laboratories, kitchens, locker rooms, janitor closets, trash-collection rooms, storage rooms, lounges and similar areas. Automatic smoke detection shall be provided in waiting areas that are open to corridors.

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

SECTION 13 – FIRE SPRINKLER AND STANDPIPE SYSTEMS

13.1 Required Fire Sprinkler Systems – New Occupancies

Group E

An automatic sprinkler system shall be provided throughout all Group E fire areas greater than 20,000 square feet in area. An automatic sprinkler system shall also be provided for every Group E area below the level of exit discharge [MSFC (07) Section 903.2.2].

Exception: Where each classroom or care area has at least one exterior exit door at ground level.

Group I-4

An automatic sprinkler system shall be provided throughout all buildings containing a Group I-4 adult day care center [MSFC (07) Section 903.2.5].

13.2 Special Fire Sprinkler Requirements – New Occupancies

Fire sprinkler protection may also be required for stories and basements in excess of 1500 square feet not provided with adequate openings to the exterior, or where any portion of a basement is located more than 75 feet from a required opening [MSFC (07) Section 903.2.10].

13.2.1 Special Fire Sprinkler Requirements – Existing Occupancies

A fire sprinkler system shall be provided in basements containing a Group E or Group I-4 adult day care center when such areas exceed 2500 square feet in size and do not have 20 square feet of opening entirely above the adjoining ground level in each 50 lineal feet or fraction thereof of exterior wall on at least one side of the building. Required openings shall have a minimum dimension of 30 inches. If any portion of the basement is located more than 75 feet from required openings, the basement shall be provided with an approved automatic sprinkler system throughout [MSFC (07) Section 903.6.2].

13.3 Standpipe Systems – New Occupancies

See MSFC (07) Section 905 for complete information regarding standpipe systems.

Building Height

In general, a class III standpipe system shall be installed throughout buildings where the floor level of the highest story is located more than 30 feet above the lowest level of fire department vehicle access, or where the floor level of the lowest story is located more than 30 feet below the highest level of fire department vehicle access [MSFC (07) Section 905.3.1].

Exception: Class I standpipes are allowed in buildings equipped throughout with an approved automatic fire sprinkler system.

13.3.1 Standpipe Systems – Existing Occupancies

Standpipe systems complying with MSFC (07) Section 905 are required in existing buildings which have occupied floors located more than 50 feet above the lowest level of fire department access. The standpipes shall have an approved fire-department connection with hose connections at each floor level above or below the lowest level of fire department access [MSFC (07) Section 905.11].

SECTION 14 – PORTABLE FIRE EXTINGUISHERS

14.1 Fire Extinguisher Type and Location – New and Existing Occupancies

At least one portable fire extinguisher having a minimum rating of 2A-10BC shall be available within 75 feet of all occupied areas. Travel to another floor level to obtain the extinguisher is not acceptable. Extinguishers shall be mounted and located in conspicuous locations where they will be readily accessible and immediately available for use [MSFC (07) Section 906.1].

In Group E Occupancies equipped throughout with an approved fire sprinkler system, fire extinguishers shall be required only in laundry rooms, boiler and furnace rooms, mechanical and electrical rooms, garages, stages, projection booths, shops, laboratories, kitchens, locker rooms, janitor closets, trash collection rooms, storage rooms and similar areas.

Cooking equipment involving vegetable or animal oils and fats shall be protected by a Class K rated portable fire extinguisher [MSFC (07) Section 904.11.5].

Fire extinguishers shall be serviced and tagged by qualified personnel annually [MSFC (07) Section 906.2]

SECTION 15 – COMMERCIAL KITCHEN VENTILATION HOOD & FIRE EXTINGUISHING SYSTEM

15.1 Commercial Kitchen Ventilation Hood & Fire Extinguishing System – New and Existing Occupancies

A type I ventilation exhaust hood and an approved automatic fire-extinguishing system are required for commercial cooking operations that produce grease-laden vapors [MSFC (07) Section 609.2 & 904.2.1].

SECTION 16 – BUILDING SERVICES AND SYSTEMS

16.1 Heating Appliances – New and Existing Occupancies

Heating appliances shall be listed by a nationally recognized testing agency [MSFC (03) Section 603.5].

Exception: Unlisted appliances may be installed where permitted by the code official, provided that proper clearances from combustibles are maintained in accordance with the Mechanical Code.

Heating appliances shall be installed in accordance with the manufacturer's instructions and the State Building, Mechanical and Electrical Codes [MSFC (07) Section 603.5.2].

Portable and fixed unvented fuel-fired heating appliances are prohibited within child care centers [MSFC (07) Section 603.4 & 603.5.2].

16.2 Electrical Services – New and Existing Occupancies

Identified electrical hazards shall be corrected in accordance with the MSFC (07) Section 605 and the State Electrical Code [MSFC (07) 605.1].

Multiplug adapters, such as cube adapters, unfused plug strips or any other device not complying with the State Electrical Code shall be prohibited [MSFC (07) Section 605.4].

Relocatable power taps shall be of the polarized or grounded type, equipped with over-current protection, and shall be listed [MSFC (07) Section 605.4.1].

Extension cords shall not be used as a substitute for permanent wiring. Extension cords shall be used only with portable appliances [MSFC (07) Section 605.5].

Electrical appliances and fixtures shall be tested and listed by an approved agency and installed and used in accordance the manufacture's listing and instructions [MSFC (07) Section 605.7].

16.3 Gas Meters and Piping – New and Existing

Above-ground gas meters, regulators and piping subject to damage shall be protected by a barrier complying with MSFC (07) Section 312 or otherwise protected in an approved manner [MSFC (07) 603.9].