

# 2021 Virginia Construction Code

## CHAPTER 4 SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

### SECTION 420 GROUPS I-1, R-1, R-2, R-3 AND R-4

#### 420.1 General.

Occupancies in Groups I-1, R-1, R-2, R-3 and R-4 shall comply with the provisions of [Sections 420.1](#) through [420.11](#) and other applicable provisions of this code.

#### 420.2 Separation walls.

Walls separating *dwelling units* in the same building, walls separating *sleeping units* in the same building and walls separating *dwelling* or *sleeping units* from other occupancies contiguous to them in the same building shall be constructed as *fire partitions* in accordance with [Section 708](#).

#### 420.3 Horizontal separation.

Floor assemblies separating *dwelling units* in the same buildings, floor assemblies separating *sleeping units* in the same building and floor assemblies separating *dwelling* or *sleeping units* from other occupancies contiguous to them in the same building shall be constructed as *horizontal assemblies* in accordance with [Section 711](#).

#### [F] 420.4 Automatic sprinkler system.

Group R occupancies shall be equipped throughout with an *automatic sprinkler system* in accordance with [Section 903.2.8](#). Group I-1 occupancies shall be equipped throughout with an *automatic sprinkler system* in accordance with [Section 903.2.6](#). Quick-response or residential *automatic* sprinklers shall be installed in accordance with [Section 903.3.2](#).

#### [F] 420.5 Fire alarm systems and smoke alarms.

*Fire alarm* systems and smoke alarms shall be provided in Group I-1, R-1 and R-2 occupancies in accordance with [Sections 907.2.6](#), [907.2.8](#) and [907.2.9](#), respectively. Single- or multiple-station smoke alarms shall be provided in Groups I-1, R-2, R-3 and R-4 in accordance with [Section 907.2.11](#).

#### 420.6 Smoke barriers in Group I-1, Condition 2.

*Smoke barriers* shall be provided in Group I-1, Condition 2 to subdivide every *story* used by persons receiving care, treatment or sleeping and to provide other *stories* with an *occupant load* of 50 or more persons, into not fewer than two *smoke compartments*. Such *stories* shall be divided into *smoke compartments* with an area of not more than 22,500 square feet (2092 m<sup>2</sup>) and the distance of travel from any point in a *smoke compartment* to a *smoke barrier* door shall not exceed 200 feet (60 960 mm). The *smoke barrier* shall be in accordance with [Section 709](#).

##### 420.6.1 Refuge area.

Refuge areas shall be provided within each *smoke compartment*. The size of the refuge area shall accommodate the occupants and care recipients from the adjoining *smoke compartment*. Where a *smoke compartment* is adjoined by two or more *smoke compartments*, the minimum area of the refuge area shall accommodate the largest occupant load of the adjoining compartments. The size of the refuge area shall provide the following:

1. Not less than 15 net square feet (1.4 m<sup>2</sup>) for each care recipient.
2. Not less than 6 net square feet (0.56 m<sup>2</sup>) for other occupants.

Areas or spaces permitted to be included in the calculation of the refuge area are corridors, lounge or dining areas and other low-hazard areas.

#### 420.7 Group I-1 assisted living housing units.

In Group I-1 occupancies, where a *fire-resistance corridor* is provided in areas where assisted living residents are housed, shared living spaces, group meeting or multipurpose therapeutic spaces open to the *corridor* shall be in accordance with all of the following criteria:

1. The walls and ceilings of the space are constructed as required for *corridors*.
2. The spaces are not occupied as resident sleeping rooms, treatment rooms, incidental uses in accordance with [Section 509](#), or hazardous uses.
3. The open space is protected by an *automatic* fire detection system installed in accordance with [Section 907](#).
4. In Group I-1, Condition 1, the *corridors* onto which the spaces open are protected by an *automatic* fire detection system installed in accordance with [Section 907](#), or the spaces are equipped throughout with quick-response sprinklers in accordance with [Section 903.3.2](#).
5. In Group I-1, Condition 2, the *corridors* onto which the spaces open, in the same *smoke compartment*, are protected by an *automatic* fire detection system installed in accordance with [Section 907](#), or the *smoke compartment* in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with [Section 903.3.2](#).

Copyright © 2024 International Code Council, Inc., or its licensors (ALL RIGHTS RESERVED).

Accessed by Venkatesh Shanmugam on 11/13/2024 pursuant to License Agreement with ICC. No further reproduction or distribution authorized. Any Unauthorized reproduction or distribution is a violation of the federal copyright, and subject to civil and criminal penalties thereunder.

6. The space is arranged so as not to obstruct access to the required *exits*.

#### **420.8 Group I-1 cooking facilities.**

In Group I-1 occupancies, rooms or spaces that contain a cooking facility with domestic cooking appliances shall be permitted to be open to the corridor where all of the following criteria are met:

1. In Group I-1, Condition 1 occupancies, the number of care recipients served by one cooking facility shall not be greater than 30.
2. In Group I-1, Condition 2 occupancies, the number of care recipients served by one cooking facility and within the same *smoke compartment* shall not be greater than 30.
3. The space containing the cooking facilities shall be arranged so as not to obstruct access to the required *exit*.
4. The cooking appliances shall comply with [Section 420.9](#).

#### **420.9 Domestic cooking appliances.**

In Group I-1 occupancies, installation of cooking appliance used in domestic cooking facilities shall comply with all of the following:

1. The types of cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves.
2. Domestic cooking hoods installed and constructed in accordance with [Section 505](#) of the *International Mechanical Code* shall be provided over cooktops or ranges.
3. Cooktops and ranges shall be protected in accordance with [Section 904.14](#).
4. A shutoff for the fuel and electrical supply to the cooking equipment shall be provided in a location to which only staff has access.
5. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.
6. A portable fire extinguisher shall be provided. Installation shall be in accordance with [Section 906](#) and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance.

##### **Exceptions:**

1. Cooking facilities provided within care recipients' individual dwelling units are not required to comply with this section.
2. Cooktops and ranges used for care-recipient training or nutritional counseling are not required to comply with Item 3 of this section

#### **420.10 Group R cooking facilities.**

In Group R occupancies, cooking appliances used for domestic cooking operations shall be in accordance with [Section 917.2](#) of the *International Mechanical Code*.

#### **420.11 Group R-2 dormitory cooking facilities.**

Domestic cooking appliances for use by residents of Group R-2 college *dormitories* shall be in accordance with [Sections 420.11.1](#) and [420.11.2](#).

##### **420.11.1 Cooking appliances.**

Where located in Group R-2 college *dormitories*, domestic cooking appliances for use by residents shall be in compliance with all of the following:

1. The types of domestic cooking appliances shall be limited to ovens, cooktops, ranges, warmers, coffee makers and microwaves.
2. Domestic cooking appliances shall be limited to approved locations.
3. Cooktops and ranges shall be protected in accordance with [Section 904.14](#).
4. Cooktops and ranges shall be provided with a domestic cooking hood installed and constructed in accordance with [Section 505](#) of the *International Mechanical Code*.

##### **420.11.2 Cooking appliances in sleeping rooms.**

Cooktops, ranges and ovens shall not be installed or used in sleeping rooms.