

307.1(2). The methods of protection from such hazards, including but not limited to *control areas*, fire protection systems and Group H occupancies shall be indicated in the report and on the *construction documents*. The opinion and report shall be prepared by a qualified person, firm or corporation *approved* by the *building official* and provided without charge to the enforcing agency.

For buildings and structures with an occupancy in Group H, separate floor plans shall be submitted identifying the locations of anticipated contents and processes so as to reflect the nature of each occupied portion of every building and structure.

[F] 414.2 Control areas. *Control areas* shall comply with Sections 414.2.1 through 414.2.5 and the *International Fire Code*.

Exception: Higher education laboratories in accordance with Section 428 and Chapter 38 of the *International Fire Code*.

[F] 414.2.1 Construction requirements. *Control areas* shall be separated from each other by *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both.

[F] 414.2.2 Percentage of maximum allowable quantities. The percentage of maximum allowable quantities of hazardous materials per *control area* permitted at each floor level within a building shall be in accordance with Table 414.2.2.

[F] 414.2.3 Number. The maximum number of *control areas* within a building shall be in accordance with Table 414.2.2.

[F] 414.2.4 Fire-resistance rating requirements. The required *fire-resistance rating* for *fire barriers* shall be in accordance with Table 414.2.2. The floor assembly of the *control area* and the construction supporting the floor of the *control area* shall have a *fire-resistance rating* of not less than 2 hours.

Exception: The floor assembly of the *control area* and the construction supporting the floor of the *control area* are allowed to be 1-hour fire-resistance-rated in build-

ings of Types IIA, IIIA, IV and VA construction, provided that both of the following conditions exist:

1. The building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
2. The building is three or fewer *stories above grade plane*.

[F] 414.2.5 Hazardous material in Group M display and storage areas and in Group S storage areas. Hazardous materials located in Group M and Group S occupancies shall be in accordance with Sections 414.2.5.1 through 414.2.5.3.

[F] 414.2.5.1 Nonflammable solids and nonflammable and noncombustible liquids. The aggregate quantity of nonflammable solid and nonflammable or noncombustible liquid hazardous materials permitted within a single *control area* of a Group M display and storage area, a Group S storage area or an outdoor *control area* is permitted to exceed the maximum allowable quantities per *control area* specified in Tables 307.1(1) and 307.1(2) without classifying the building or use as a Group H occupancy, provided that the materials are displayed and stored in accordance with the *International Fire Code* and quantities do not exceed the maximum allowable specified in Table 414.2.5(1).

[F] 414.2.5.2 Flammable and combustible liquids. In Group M occupancy wholesale and retail sales uses, indoor storage of flammable and combustible liquids shall not exceed the maximum allowable quantities per control area as indicated in Table 414.2.5(2), provided that the materials are displayed and stored in accordance with the *International Fire Code*.

[F] 414.2.5.3 Aerosol products. The maximum quantity of aerosol products in Group M occupancy retail display areas, storage areas adjacent to retail display areas and retail storage areas shall be in accordance with the *International Fire Code*.

[F] 414.3 Ventilation. Rooms, areas or spaces in which explosive, corrosive, combustible, flammable or highly toxic dusts, mists, fumes, vapors or gases are or have the potential

**[F] TABLE 414.2.2
DESIGN AND NUMBER OF CONTROL AREAS**

STORY		PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA ^a	NUMBER OF CONTROL AREAS PER STORY	FIRE-RESISTANCE RATING FOR FIRE BARRIERS IN HOURS ^b
Above grade plane	Higher than 9	5	1	2
	7-9	5	2	2
	6	12.5	2	2
	5	12.5	2	2
	4	12.5	2	2
	3	50	2	1
	2	75	3	1
	1	100	4	1
Below grade plane	1	75	3	1
	2	50	2	1
	Lower than 2	Not Allowed	Not Allowed	Not Allowed

a. Percentages shall be of the maximum allowable quantity per control area shown in Tables 307.1(1) and 307.1(2), with all increases allowed in the notes to those tables.

b. Separation shall include fire barriers and horizontal assemblies as necessary to provide separation from other portions of the building.