TABLE 406.3.5
OPEN PARKING GARAGES AREA AND HEIGHT

TYPE OF CONSTRUCTION	AREA PER TIER (square feet)	HEIGHT (in tiers)		
			Mechanical access	
			Automatic sprinkler system	
		Ramp access	No	Yes
IA	Unlimited	Unlimited	Unlimited	Unlimited
IB	Unlimited	12 tiers	12 tiers	18 tiers
IIA	50,000	10 tiers	10 tiers	15 tiers
IIB	50,000	8 tiers	8 tiers	12 tiers
IV	50,000	4 tiers	4 tiers	4 tiers

For SI: 1 square foot = 0.0929 m^2.

TABLE 412.1.2
HEIGHT AND AREA LIMITATIONS FOR AIRPORT TRAFFIC CONTROL TOWERS

TYPE OF CONSTRUCTION	HEIGHT[a] (feet)	MAXIMUM AREA (square feet)
IA	Unlimited	1,500
IB	240	1,500
IIA	100	1,500
IIB	85	1,500
IIIA	65	1,500

For SI: 1 foot = 304.8 mm, 1 square foot = 0.093 m^2.
a. Height to be measured from grade to cab floor.

TABLE 414.2.2
DESIGN AND NUMBER OF CONTROL AREAS

FLOOR LEVEL		PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA[a]	NUMBER OF CONTROL AREAS PER FLOOR[b]	FIRE-RESISTANCE RATING FOR FIRE BARRIERS IN HOURS[c]
Above grade	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	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 307.7(1) and 307.7(2), with all increases allowed in the notes to those tables.
b. There shall be a maximum of two control areas per floor in Group M occupancies and in buildings or portions of buildings having Group S occupancies with storage conditions and quantities in accordance with Section 414.2.4.
c. Fire barriers shall include walls and floors as necessary to provide separation from other portions of the building.

TABLE 414.2.4
MAXIMUM ALLOWABLE QUANTITY PER INDOOR AND OUTDOOR CONTROL AREA IN GROUP M AND S OCCUPANCIES NONFLAMMABLE SOLIDS AND NONFLAMMABLE AND NONCOMBUSTIBLE LIQUIDS[d,e,f]

CONDITION		MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA	
Material[a]	Class	Solids pounds	Liquids gallons
A. Health-hazard materials—nonflammable and noncombustible solids and liquids			
1. Corrosives[b, c]	Not Applicable	9,750	975
2. Highly toxics	Not Applicable	20[b, c]	2[b, c]
3. Toxics[b, c]	Not Applicable	1,000	100
B. Physical-hazard materials—nonflammable and noncombustible solids and liquids			
1. Oxidizers[b, c]	4	Not Allowed	Not Allowed
	3	1,150[g]	115
	2	2,250[h]	225
	1	18,000[i, j]	1,800[i, j]
2. Unstable (reactives)[b, c]	4	Not Allowed	Not Allowed
	3	550	55
	2	1,150	115
	1	Not Limited	Not Limited
3. Water (reactives)	3[b, c]	550	55
	2[b, c]	1,150	115
	1	Not Limited	Not Limited

For SI: 1 pound = 0.454 kg, 1 gallon = 3.785 L.
a. Hazard categories are as specified in the *International Fire Code*.
b. Maximum allowable quantities shall be increased 100 percent in buildings that are sprinklered in accordance with Section 903.3.1.1. When Note c also applies, the increase for both notes shall be applied accumulatively.
c. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, in accordance with the *International Fire Code*. When Note b also applies, the increase for both notes shall be applied accumulatively.
d. See Table 414.2.2 for design and number of control areas.
e. Allowable quantities for other hazardous material categories shall be in accordance with Section 307.
f. Maximum quantities shall be increased 100 percent in outdoor control areas.
g. Maximum amounts are permitted to be increased to 2,250 pounds when individual packages are in the original sealed containers from the manufacturer or packager and do not exceed 10 pounds each.
h. Maximum amounts are permitted to be increased to 4,500 pounds when individual packages are in the original sealed containers from the manufacturer or packager and do not exceed 10 pounds each.
i. The permitted quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
j. Quantities are unlimited in an outdoor control area.

TABLE 414.5.1
EXPLOSION CONTROL REQUIREMENTS[a]

MATERIAL	CLASS	EXPLOSION CONTROL METHODS	
		Barricade construction	Explosion (deflagration) venting or explosion (deflagration) prevention systems[b]
HAZARD CATEGORY			
Combustible dusts[c]	—	Not Required	Required
Cryogenic flammables	—	Not Required	Required
Explosives	Division 1.1 Division 1.2 Division 1.3 Division 1.4 Division 1.5 Division 1.6	Required Required Not Required Not Required Required Required	Not Required Not Required Required Required Not Required Not Required
Flammable gas	Gaseous Liquefied	Not Required Not Required	Required Required
Flammable liquid	IA[d] IB[e]	Not Required Not Required	Required Required
Organic peroxides	U I	Required Required	Not Permitted Not Permitted
Oxidizer liquids and solids	4	Required	Not Permitted
Pyrophoric gas	—	Not Required	Required
Unstable (reactive)	4 3 Detonable 3 Nondetonable	Required Required Not Required	Not Permitted Not Permitted Required
Water-reactive liquids and solids	3 2[g]	Not Required Not Required	Required Required
SPECIAL USES			
Acetylene generator rooms	—	Not Required	Required
Grain processing	—	Not Required	Required
Liquefied petroleum gas-distribution facilities	—	Not Required	Required
Where explosion hazards exist[f]	Detonation Deflagration	Required Not Required	Not Permitted Required

a. See Section 414.1.3.
b. See the *International Fire Code*.
c. As generated during manufacturing or processing. See definition of "Combustible dust" in Chapter 3.
d. Storage or use.
e. In open use or dispensing.
f. Rooms containing dispensing and use of hazardous materials when an explosive environment can occur because of the characteristics or nature of the hazardous materials or as a result of the dispensing or use process.
g. A method of explosion control shall be provided when Class 2 water-reactive materials can form potentially explosive mixtures.

TABLE 415.3.1
MINIMUM SEPARATION DISTANCES FOR BUILDINGS CONTAINING EXPLOSIVE MATERIALS

QUANTITY OF EXPLOSIVE MATERIAL[a]		MINIMUM DISTANCE (feet)		
		Lot lines[b] and inhabited buildings[c]		
Pounds over	Pounds not over	Barricaded[d]	Unbarricaded	Separation of magazines[d, e, f]
2	5	70	140	12
5	10	90	180	16
10	20	110	220	20
20	30	125	250	22
30	40	140	280	24
40	50	150	300	28
50	75	170	340	30
75	100	190	380	32
100	125	200	400	36
125	150	215	430	38
150	200	235	470	42
200	250	255	510	46
250	300	270	540	48
300	400	295	590	54
400	500	320	640	58
500	600	340	680	62
600	700	355	710	64
700	800	375	750	66
800	900	390	780	70
900	1,000	400	800	72
1,000	1,200	425	850	78
1,200	1,400	450	900	82
1,400	1,600	470	940	86
1,600	1,800	490	980	88
1,800	2,000	505	1,010	90
2,000	2,500	545	1,090	98
2,500	3,000	580	1,160	104
3,000	4,000	635	1,270	116
4,000	5,000	685	1,370	122
5,000	6,000	730	1,460	130
6,000	7,000	770	1,540	136
7,000	8,000	800	1,600	144
8,000	9,000	835	1,670	150
9,000	10,000	865	1,730	156
10,000	12,000	875	1,750	164
12,000	14,000	885	1,770	174
14,000	16,000	900	1,800	180
16,000	18,000	940	1,880	188
18,000	20,000	975	1,950	196

(continued)

TABLE 415.3.1—continued
MINIMUM SEPARATION DISTANCES FOR BUILDINGS CONTAINING EXPLOSIVE MATERIALS

QUANTITY OF EXPLOSIVE MATERIAL[a]		MINIMUM DISTANCE (feet)		
		Lot lines[b] and inhabited buildings[c]		
Pounds over	Pounds not over	Barricaded[d]	Unbarricaded	Separation of magazines[d, e, f]
20,000	25,000	1,055	2,000	210
25,000	30,000	1,130	2,000	224
30,000	35,000	1,205	2,000	238
35,000	40,000	1,275	2,000	248
40,000	45,000	1,340	2,000	258
45,000	50,000	1,400	2,000	270
50,000	55,000	1,460	2,000	280
55,000	60,000	1,515	2,000	290
60,000	65,000	1,565	2,000	300
65,000	70,000	1,610	2,000	310
70,000	75,000	1,655	2,000	320
75,000	80,000	1,695	2,000	330
80,000	85,000	1,730	2,000	340
85,000	90,000	1,760	2,000	350
90,000	95,000	1,790	2,000	360
95,000	100,000	1,815	2,000	370
100,000	110,000	1,835	2,000	390
110,000	120,000	1,855	2,000	410
120,000	130,000	1,875	2,000	430
130,000	140,000	1,890	2,000	450
140,000	150,000	1,900	2,000	470
150,000	160,000	1,935	2,000	490
160,000	170,000	1,965	2,000	510
170,000	180,000	1,990	2,000	530
180,000	190,000	2,010	2,010	550
190,000	200,000	2,030	2,030	570
200,000	210,000	2,055	2,055	590
210,000	230,000	2,100	2,100	630
230,000	250,000	2,155	2,155	670
250,000	275,000	2,215	2,215	720
275,000	300,000	2,275	2,275	770

For SI: 1 pound = 0.454 kg, 1 foot = 304.8 mm.

a. The number of pounds of explosives listed is the number of pounds of trinitrotoluene (TNT) or the equivalent pounds of other explosive.

b. The distance listed is the distance to lot line, including lot lines at public ways.

c. For the purpose of this table, an inhabited building is any building on the same property that is regularly occupied by people. Where two or more buildings containing explosives or magazines are located on the same property, each building or magazine shall comply with the minimum distances specified from inhabited buildings and, in addition, they shall be separated from each other by not less than the distance shown for "Separation of magazines," except that the quantity of explosive materials contained in detonator buildings or magazines shall govern in regard to the spacing of said detonator buildings or magazines from buildings or magazines containing other explosive materials. If any two or more buildings or magazines are separated from each other by less than the specified "Separation of Magazines" distances, then such two or more buildings or magazines, as a group, shall be considered as one building or magazine, and the total quantity of explosive materials stored in such group shall be treated as if the explosive were in a single building or magazine located on the site of any building or magazine of the group, and shall comply with the minimum distance specified from other magazines or inhabited buildings.

d. Barricades shall effectively screen the building containing explosives from other buildings, public ways or magazines. Where mounds or revetted walls of earth are used for barricades, they shall not be less than 3 feet in thickness. A straight line from the top of any side wall of the building containing explosive materials to the eave line of any other building, magazine or a point 12 feet above the centerline of a public way shall pass through the barricades.

e. Magazine is a building or structure, other than an operating building, approved for storage of explosive materials. Portable or mobile magazines not exceeding 120 square feet (11 m^2) in area need not comply with the requirements of this code, however, all magazines shall comply with the *International Fire Code*.

f. The distance listed is permitted be reduced by 50 percent where approved natural or artificial barriers are provided in accordance with the requirements in Note d.

TABLE 415.3.2
REQUIRED DETACHED STORAGE

DETACHED STORAGE IS REQUIRED WHEN THE QUANTITY OF MATERIAL EXCEEDS THAT LISTED HEREIN			
Material	**Class**	**Solids and Liquids (tons)[a,b]**	**Gases (cubic feet)[a,b]**
Explosives	Division 1.1 Division 1.2 Division 1.3 Division 1.4 Division 1.4[c] Division 1.5 Division 1.6	Maximum Allowable Quantity Maximum Allowable Quantity Maximum Allowable Quantity Maximum Allowable Quantity 1 Maximum Allowable Quantity Maximum Allowable Quantity	Not Applicable
Oxidizers	Class 4	Maximum Allowable Quantity	Maximum Allowable Quantity
Unstable (reactives) detonable	Class 3 or 4	Maximum Allowable Quantity	Maximum Allowable Quantity
Oxidizer, liquids and solids	Class 3 Class 2	1,200 2,000	Not Applicable Not Applicable
Organic peroxides	Detonable Class I Class II Class III	Maximum Allowable Quantity Maximum Allowable Quantity 25 50	Not Applicable Not Applicable Not Applicable Not Applicable
Unstable (reactives) nondetonable	Class 3 Class 2	1 25	2,000 10,000
Water reactives	Class 3 Class 2	1 25	Not Applicable Not Applicable
Pyrphoric gases	Not Applicable	Not Applicable	2,000

For SI: 1 ton = 906 kg, 1 cubic foot = 0.02832 M^3.

a. For materials that are detonable, the distance to other buildings or lot lines shall be as specified in Table 415.3.1 based on trinitrotoluene (TNT) equivalence of the material. For materials classified as explosives, see Chapter 33 the *International Fire Code*. For all other materials, the distance shall be as indicated in Section 415.3.1.

b. "Maximum Allowable Quantity" means the maximum allowable quantity per control area set forth in Table 307.7(1).

c. Limited to Division 1.4 materials and articles, including articles packaged for shipment, that are not regulated as an explosive under Bureau of Alcohol, Tobacco and Firearms (BATF) regulations or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles, providing the net explosive weight of individual articles does not exceed 1 pound.

TABLE 415.9.2.1.1
QUANTITY LIMITS FOR HAZARDOUS MATERIALS IN A SINGLE FABRICATION AREA IN GROUP H-5[a]

HAZARD CATEGORY		SOLIDS (pounds per square feet)	LIQUIDS (gallons per square feet)	GAS (feet^3 @ NTP/square feet)
PHYSICAL-HAZARD MATERIALS				
Combustible dust		Note b	Not Applicable	Not Applicable
Combustible fiber	Loose Baled	Note b Note b	Not Applicable	Not Applicable
Combustible liquid Combination Class I, II and IIIA	II IIIA IIIB	Not Applicable	0.01 0.02 Not Limited 0.04	Not Applicable
Cryogenic gas	Flammable Oxidizing	Not Applicable	Not Applicable	Note c 1.25
Explosives		Note b	Note b	Note b
Flammable gas	Gaseous Liquefied	Not Applicable	Not Applicable	Note b Note c
Flammable liquid Combination Class IA, IB and IC Combination Class I, II and IIIA	IA IB IC	Not Applicable	0.0025 0.025 0.025 0.025 0.04	Not Applicable
Flammable solid		0.001	Not Applicable	Not Applicable
Organic peroxide Unclassified detonable Class I Class II Class III Class IV Class V		Note b Note b 0.025 0.1 Not Limited Not limited	Not Applicable	Not Applicable
Oxidizing gas Combination of gaseous and liquefied	Gaseous Liquefied	Not Applicable	Not Applicable	1.25 1.25 1.25
Oxidizer Combination	Class 4 Class 3 Class 2 Class 1 Class 1, 2, 3	Note b 0.003 0.003 0.003 0.003	Note b 0.003 0.003 0.003 0.003	Not Applicable
Pyrophoric material		Note b	0.00125	Notes c and d
Unstable reactive	Class 4 Class 3 Class 2 Class 1	Note b 0.025 0.1 Not Limited	Note b 0.0025 0.01 Not Limited	Note b Note b Note b Not Limited
Water reactive	Class 3 Class 2 Class 1	Note b 0.25 Not Limited	0.00125 0.025 Not Limited	Not Applicable
HEALTH-HAZARD MATERIALS				
Corrosives		Not Limited	Not Limited	Not Limited
Highly toxic		Not Limited	Not Limited	Note c
Toxics		Not Limited	Not Limited	Note c

For SI: 1 pound per square foot = 4.882 kg/m^2, 1 gallon per square foot = 0.025 L/m^2, 1 cubic foot @ NTP/square foot = 0.305 M^3 @ NTP/m^2, 1 cubic foot = 0.02832 M^3.

a. Hazardous materials within piping shall not be included in the calculated quantities.

b. Quantity of hazardous materials in a single fabrication shall not exceed the maximum allowable quantities per control area in Tables 307.7(1) and 307.7(2).

c. The aggregate quantity of flammable, pyrophoric, toxic and highly toxic gases shall not exceed 9,000 cubic feet at NTP.

d. The aggregate quantity of pyrophoric gases in the building shall not exceed the amounts set forth in Table 415.3.2.

Table 421.2

Group Residence - Maximum Capacity, Combination of Categories

Category Number	Number of Residents per Category												
Category 1	12	11	10	9	8	7	6	5	4	3	2	1	0
Category 2	0	2	4	6	8	10	12	13	14	15	16	17	25
Maximum total residents	12	13	14	15	16	17	18	18	18	18	18	18	25

Table ~~424.1.6~~ 422.4.6

PERMITTED LOCATIONS AND REQUIRED SPRINKLER PROTECTION FOR DAY CARE CENTERS

I-2 Child Care Occupancy Children Under Two Years Nine Months of Age

Floor Level of Child Day Care Center	Building Construction Type									
	1A	1B	2A	2B	2C	3A	3B	4	5A	5B
Basement / Cellar	P	P	P	P	P	P	P	P	P	P
1st Story	P	P	P	P	P	P	P	P	P	P
2nd Story	PS	PS	PS	S	NP	S	NP	S	NP	NP
3rd Story	PS	PS	PS	S	NP	S	NP	S	NP	NP
4th Story and Higher	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

E Child Care Occupancy / Children Over Two Years Nine Months of Age

Floor Level of Child Day Care Center	Building Construction Type									
	1A	1B	2A	2B	2C	3A	3B	4	5A	5B
Basement / Cellar	P	P	P	P	P	P	P	P	P	P
1st Story	P	P	P	P	P	P	P	P	P	P
2nd Story	P	P	P	P	P	P	P	P	P	P
3rd Story	PS	PS	PS	S	NP	S	NP	S	NP	NP
4th Story	PS	PS	PS	S	NP	S	NP	S	NP	NP
5th to 7th Story	PS	PS	PS	NP	NP	NP	NP	NP	NP	NP
8th Story and Higher	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

B - Day Care Occupancy / Adult (Elder) Day Care

B-Use day care Facilities are not limited in where they may be located in a building	Exception (1): Adullt day care centers falling under the "Exception" to 780 CMR 424.3.3
	Exception (2): Adult day care centers of mixed-care use as described in 780 CMR 424.4.2.3

Key to Table

P = Permitted

NP = Not Permitted

S = Sprinklers Required / See 780 CMR ~~424.5~~ for Special Provisions

PS = Partial Sprinklers Required / See 780 CMR ~~424.5~~ for Special Provisions

422.5

422.5

Table ~~426.2~~ 424.2

AEROSOL CLASSIFICATION

Chemical Heat of Combustion	Aerosol Level
0-8,600 BTU/lb (0-20 kJ/g)	1
8,600-13,000 BTU/lb (20-30 kJ/g)	2
13,000 or greater BTU/lb (30 or greater kJ/g)	3

Table ~~426.4.~~ 424.4

FIRE PROTECTION REQUIREMENTS

Commodity Class[1]	Size of High-Piled Display Area[2] (sq ft) x 0.0929 for m^2	Fire Protection Requirements				
		Fire Suppression System (780 CMR 426.5)	Fire Alarm/Notification (780 CMR 426.14)	Fire Department Access Doors (780 CMR 426.8)	Hose Connections (780 CMR 426.7)	Manual Smoke and Heat Vents (780 CMR 426.16
I-IV	0 - 2,500	NR	NR	NR	NR	NR
	2,501 - 12,000	Yes	NR	NR	NR	NR
	over 12,000	Yes	Yes	Yes	Yes	Yes
High Hazard	0 - 500	NR	NR	NR	NR	NR
	501 - 2,500	Yes	NR	NR	NR	NR
	2,501 - 12,000	Yes	NR	Yes	Yes	NR
	over 12,000	Yes	Yes	Yes	Yes	Yes

NR = Not required.

1. For commodity classifications definitions, see 426.3.

Table ~~426.13.~~ 424.13

DENSITY FACTOR FOR HAZARDOUS MATERIALS EXEMPTION CALCULATIONS.

Material	Class	Solids pounds[1] (cubic feet)	Liquid gallons[1] (pounds)	Gas cubic feet[1]
		x 0.4536 for kg (x 28.32 for liters)	x 3.78 for liters (x 0.4536 for kg)	x 28.32 for liters
Oxidizers	4	Not permitted	Not Permitted	Not Permitted
	3	0.75	(0.75)	112.5
	2	1.5	(1.5)	9
	1	12	(12)	4.5
Unstable (reactive)	4	Not Permitted	Not Permitted	Not Permitted
	3	0.375	(0.375)	3.75
	2	0.3	(0.3)	1.5
	1	Unlimited	Unlimited	2.25
Toxics	All	0.65	(0.65)	1.053
Corrosives	All	6.5	0.65	1.053
Highly Toxic	All	0.0013	(0.0013)	0.026
Water Reactive	3	0.375	(0.0375)	Not Applicable
	2	0.3	(0.3)	
	1	0.375	(0.375)	

1. Quantities may be increased by 100% in sprinklered buildings

426.9

Table ~~428.9~~

RESIDENT SLEEPING ROOM LOCATION LIMITATION FOR DIFFERENT TYPES OF CONSTRUCTION

Classification of Resident	Type of Building Construction									
	1A	1B	2A	2B	2C	3A	3B	4	5A	5B
Impaired	No limit	8 st.	4 st.	2 st.	1 st.	2 st.	1 st.	2 st.	1 st.	1 st.
Partially impaired	No limit	No limit	8 st.	3 st.	1 st.	3 st.	2 st.	3 st.	2 st.	1 st.
Unimpaired	No limit	No limit	9 st.	4 st.	3 st.	4 st.	3 st.	4 st.	3 st.	2 st.

*Note: * Impaired sleeping rooms in 5B construction require either full building sprinklering or one hour fire rated separation for floor and ceiling of sleeping room walls.*

426.11

TABLE ~~428.11~~

INTERIOR FINISH REQUIREMENTS

Location	Walls	Floor	Ceiling
Sleeping rooms, Impaired	II	II[2]	II
Corridors, Impaired	I	I[1]	I
Sleeping rooms, Partially impaired	I	I[1]	I
Corridors, Partially impaired	I	I[1]	I
All other exitway access corridors	II	II[2]	II
Stairways	I	I[1]	I

Note 1: Carpet type floor coverings shall withstand a test exposure of 0.45 watts per square centimeter when tested in accordance with 780 CMR 805.0.

Note 2: Carpet type floor coverings shall withstand a test exposure of 0.22 watts per square centimeter when tested in accordance with 780 CMR 805.0.