

FIGURE D.4.6.1(b) Stored-Pressure Dry Powder Extinguisher with Wand Applicator.

or hand scoop, the G-1 agent needs to be applied to the fire by hand. When G-1 is applied to a metal fire, the heat of the fire causes the phosphorus compounds to generate vapors that blanket the fire and prevent air from reaching the burning metal. The graphite, being a good conductor of heat, cools the metal to below the ignition point. Each extinguishing agent is listed for use on the specific combustible metal fires for which it has been found acceptable, as determined by individual investigations. Such information, together with the recommended method of application limitations, is given on the agent container. It is important to note that dry powder extinguishing agents should not be confused with dry chemical extinguishing agents. (See D.4.5.)

D.4.7 Wet Chemical Extinguisher. Fire extinguishers of this type are available in hand portable models of 1½ gal (6 L) and 2½ gal (9.46 L). The extinguishing agent can be comprised of, but is not limited to, solutions of water and potassium acetate, potassium carbonate, potassium citrate, or a combination of these chemicals (which are conductors of electricity). The liquid agent typically has a pH of 9.0 or less. On Class A fires, the agent works as a coolant. On Class K fires (cooking oil fires), the agent forms a foam blanket to prevent reignition. The water content of the agent aids in cooling and reducing the temperature of the hot oils and fats below their autoignition point. The agent, when discharged as a fine spray directly at cooking appliances, reduces the possibility of splashing hot grease and does not present a shock hazard to the operator.

In recent years, the development of high-efficiency cooking equipment with high-energy input rates and the widespread use of vegetable oils with high autoignition temperatures has highlighted the need for a new Class K fire extinguisher. The wet chemical extinguisher was the first extinguisher to qualify to the new Class K requirements.

In addition to offering rapid fire extinguishment, a thick foam blanket is formed to prevent reignition while cooling both the appliance and the hot cooking oil. Wet chemical extinguishers also offer improved visibility during fire fighting as well as minimizing cleanup afterward. (See Figure D.4.7.)

D.4.8 Water Mist Extinguisher. Fire extinguishers of this type are available in 2.5 gal (9.5 L) and 1.75 gal (6.6 L) sizes. They have ratings of 2-A:C. The agent is limited to distilled water,

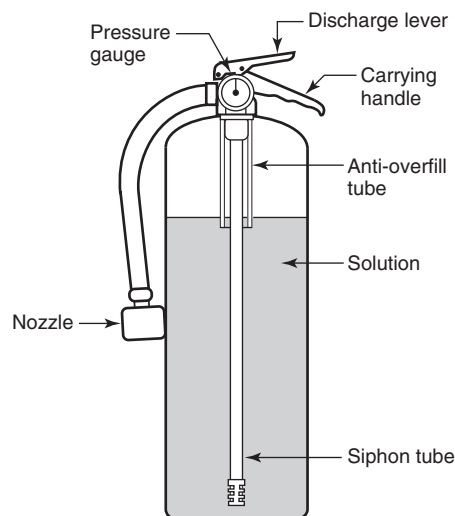


FIGURE D.4.7 Wet Chemical Extinguisher.

which is discharged as a fine spray. In addition to being used as a regular water extinguisher, water mist extinguishers are used where contaminants in unregulated water sources can cause excessive damage to personnel or equipment. Typical applications include operating rooms, museums, and book collections. (See Figure D.4.8.)

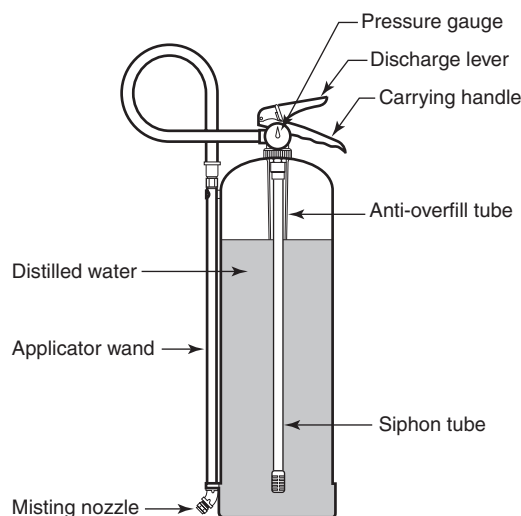


FIGURE D.4.8 Water Mist Extinguisher.

Annex E Distribution

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

E.1 Distribution of Fire Extinguishers.

E.1.1 Portable fire extinguishers are most effectively utilized when they are readily available in sufficient number and with adequate extinguishing capacity for use by persons familiar with their operation.

E.1.2 In fire emergencies where fire extinguishers are relied upon, someone usually has to travel from the fire in order to

obtain the device and then return to the fire before beginning extinguishing operations. This takes time, with the number of seconds governed mainly by the travel distance involved in securing the fire extinguisher and placing it in operation.

E.1.3 Sometimes fire extinguishers are purposely kept nearby (as in welding operations); however, since a fire outbreak usually cannot be prejudged as to location, fire extinguishers are more often strategically positioned throughout areas.

E.1.4 Travel distance is the actual distance the user of the fire extinguisher will need to walk. Consequently, travel distance will be affected by partitions, location of doorways, aisles, piles of stored materials, machinery, and so forth.

E.2 Arrangement in a Building. The actual placement of fire extinguishers can best be accomplished through a physical survey of the area to be protected. In general, selected locations should have the following characteristics:

- (1) Provide uniform distribution
- (2) Provide easy accessibility
- (3) Be relatively free from blocking by storage and equipment, or both
- (4) Be near normal paths of travel
- (5) Be near entrance and exit doors
- (6) Be free from the potential of physical damage
- (7) Be readily visible
- (8) Be determined on a floor-by-floor basis

E.3 Class A Fire Extinguisher Distribution.

E.3.1 Table 6.2.1.1 provides the criteria for determining the minimum number and rating of fire extinguishers for Class A fire protection in accordance with the occupancy hazard. In certain instances, through a fire protection analysis of specific areas, process hazards, or building configurations, fire extinguishers with higher ratings can be required. This does not mean, however, that the recommended maximum travel distances can be exceeded.

E.3.2 Where the floor area of a building is less than 3000 ft² (279 m²), at least one fire extinguisher of the minimum size recommended should be provided.

E.3.3 The first step in calculating Class A fire extinguisher needs is to determine the proper class of occupancy (light, ordinary, or extra hazard). Depending on the Class A numerical rating of the fire extinguisher, the maximum area that it will protect can be determined. For example, each 2-A-rated fire extinguisher will protect an area of 3000 ft² (279 m²) in an ordinary hazard occupancy and 6000 ft² (557 m²) in a light hazard occupancy. The requirements in Table 6.2.1.1 also specify that the travel distance (actual walking distance) from any point to the nearest fire extinguisher shall not exceed 75 ft (22.9 m). It is necessary to select fire extinguishers that fulfill both the calculation requirement and travel distance requirements for a particular class of occupancy.

E.3.4 If a building floor area is unobstructed and circular in shape with a radius of 75 ft (22.9 m), it would be possible to place one fire extinguisher at the center without exceeding the 75 ft (22.9 m) travel distance. In that case, an area of 17,700 ft² (1644 m²) could be assigned to one fire extinguisher of adequate A rating; for example, a light hazard occupancy could be protected with a 6-A-rated fire extinguisher (6 × 3000 ft²). However, because buildings are usually rectangular in shape, the largest square area that can be formed with no point more than

75 ft (22.9 m) from the center is 11,250 ft² (1045 m²), which is the area of a square [106 ft × 106 ft (32 m × 32 m)] inscribed within a 75 ft (22.9 m) radius circle. (See Figure E.3.4.)

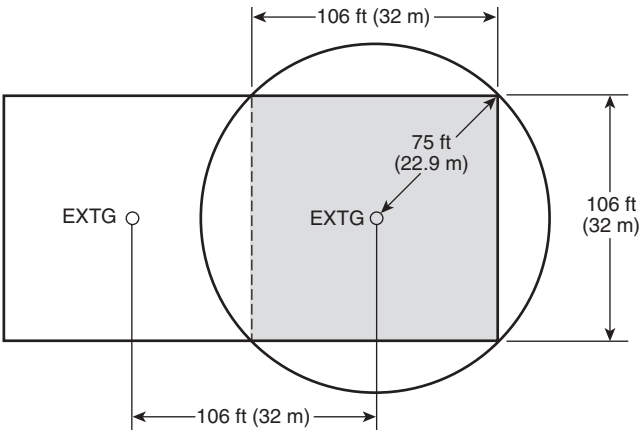


FIGURE E.3.4 Extinguishers Placed 106 ft (32 m) Apart to Comply with 75 ft (22.9 m) Travel Distance and 11,250 ft² (1045 m²) Maximum Floor Area per Extinguisher.

E.3.5 The area that can be protected by one fire extinguisher with a given A rating is shown in Table E.3.5. These values are determined by multiplying the maximum floor area per unit of A, shown in Table 6.2.1.1, by the various A ratings until a value of 11,250 ft² (1045 m²) is exceeded.

Table E.3.5 Maximum Area in Square Feet to Be Protected per Extinguisher

Class A Rating Shown on Extinguisher	Light Hazard Occupancy	Ordinary Hazard Occupancy	Extra Hazard Occupancy
1-A	—	—	—
2-A	6,000	3,000	—
3-A	9,000	4,500	—
4-A	11,250	6,000	4,000
6-A	11,250	9,000	6,000
10-A	11,250	11,250	10,000
20-A	11,250	11,250	11,250
30-A	11,250	11,250	11,250
40-A	11,250	11,250	11,250

For SI units, 1 ft² = 0.0929 m².
Note: 11,250 ft² is considered a practical limit.

E.3.6 The quantity of extinguishers for buildings of 10,000 ft² to 500,000 ft² (929 m² to 46,452 m²) is shown in Table E.3.6. The table was developed based on the calculations required by 6.2.1.2.1. Exact quantities can be determined by interpolating between floor sizes shown in the table or by using the calculation method in 6.2.1.2.1.

Table E.3.6 Quantity of Extinguishers for Class A Hazards

Area (ft ²)	Light Hazard			Ordinary Hazard					Extra Hazard			
	2-A	3-A	4-A and up	2-A	3-A	4-A	6-A	10-A and up	4-A	6-A	10-A	20-A and up
	6000	9000	11,250	3000	4500	6000	9000	11,250	4000	6000	10,000	11,250
10,000	2	2	1	4	3	2	2	1	3	2	1	1
20,000	4	3	2	7	5	4	3	2	5	4	2	2
30,000	5	4	3	10	7	5	4	3	8	5	3	3
40,000	7	5	4	14	9	7	5	4	10	7	4	4
50,000	9	6	5	17	12	9	6	5	13	9	5	5
60,000	10	7	6	20	14	10	7	6	15	10	6	6
70,000	12	8	7	24	16	12	8	7	18	12	7	7
80,000	14	9	8	27	18	14	9	8	20	14	8	8
90,000	15	10	8	30	20	15	10	8	23	15	9	8
100,000	17	12	9	34	23	17	12	9	25	17	10	9
110,000	19	13	10	37	25	19	13	10	28	19	11	10
120,000	20	14	11	40	27	20	14	11	30	20	12	11
130,000	22	15	12	44	29	22	15	12	33	22	13	12
140,000	24	16	13	47	32	24	16	13	35	24	14	13
150,000	25	17	14	50	34	25	17	14	38	25	15	14
160,000	27	18	15	54	36	27	18	15	40	27	16	15
170,000	29	19	16	57	38	29	19	16	43	29	17	16
180,000	30	20	16	60	40	30	20	16	45	30	18	16
190,000	32	22	17	64	43	32	22	17	48	32	19	17
200,000	34	23	18	67	45	34	23	18	50	34	20	18
210,000	35	24	19	70	47	35	24	19	53	35	21	19
220,000	37	25	20	74	49	37	25	20	55	37	22	20
230,000	39	26	21	77	52	39	26	21	58	39	23	21
240,000	40	27	22	80	54	40	27	22	60	40	24	22
250,000	42	28	23	84	56	42	28	23	63	42	25	23
260,000	44	29	24	87	58	44	29	24	65	44	26	24
270,000	45	30	24	90	60	45	30	24	68	45	27	24
280,000	47	32	25	94	63	47	32	25	70	47	28	25
290,000	49	33	26	97	65	49	33	26	73	49	29	26
300,000	50	34	27	100	67	50	34	27	75	50	30	27
310,000	52	35	28	104	69	52	35	28	78	52	31	28
320,000	54	36	29	107	72	54	36	29	80	54	32	29
330,000	55	37	30	110	74	55	37	30	83	55	33	30
340,000	57	38	31	114	76	57	38	31	85	57	34	31
350,000	59	39	32	117	78	59	39	32	88	59	35	32
360,000	60	40	32	120	80	60	40	32	90	60	36	32
370,000	62	42	33	124	83	62	42	33	93	62	37	33
380,000	64	43	34	127	85	64	43	34	95	64	38	34
390,000	65	44	35	130	87	65	44	35	98	65	39	35
400,000	67	45	36	134	89	67	45	36	100	67	40	36
410,000	69	46	37	137	92	69	46	37	103	69	41	37
420,000	70	47	38	140	94	70	47	38	105	70	42	38
430,000	72	48	39	144	96	72	48	39	108	72	43	39
440,000	74	49	40	147	98	74	49	40	110	74	44	40
450,000	75	50	40	150	100	75	50	40	113	75	45	40
460,000	77	52	41	154	103	77	52	41	115	77	46	41
470,000	79	53	42	157	105	79	53	42	118	79	47	42
480,000	80	54	43	160	107	80	54	43	120	80	48	43
490,000	82	55	44	164	109	82	55	44	123	82	49	44
500,000	84	56	45	167	112	84	56	45	125	84	50	45

For SI units, 1 ft² = 0.0929 m².

E.3.7 Table E.3.6 provides a breakdown of extinguisher quantities by floor. Extinguisher quantities must be determined on a floor-by-floor basis, and Table E.3.6 should not be used for determining extinguisher quantities based on the total square footage of all floors in multistory buildings. Table E.3.7 provides a comparison of the quantities of extinguishers for two 90,000 ft² (8361 m²) buildings.

Table E.3.7 Comparison of Extinguishers for One-Story vs. Multistory Buildings

Building Type	Area of Coverage	2-A Light	3-A Light	4-A Light
Single story	90,000 ft ²	15	10	8
Three stories × 3 floors	30,000 ft ² × 3 floors	15 (5 × 3)	12 (4 × 3)	9 (3 × 3)

E.3.8 The following examples of distribution illustrate the number and placement of fire extinguishers according to occupancy type and rating. The sample building is 150 ft × 450 ft (45.7 m × 137.2 m) and has a floor area of 67,500 ft² (6271 m²). Although one method of placing fire extinguishers is given, a number of other locations could have been used with comparable results.

E.3.9 Example 1 demonstrates placement at the maximum protection area limits [11,250 ft² (1045 m²)] allowed in Table 6.2.1.1 for each class of occupancy. Installing fire extinguishers with higher ratings will not change the calculated quantity of extinguishers, because the calculations are based on the maximum protection area limit of 11,250 ft² (1045 m²) for the higher-rated extinguishers.

Example 1:

$$\frac{67,500 \text{ ft}^2}{11,250 \text{ ft}^2} = 6 \begin{cases} 4\text{-A extinguishers for light hazard occupancy} \\ 10\text{-A extinguishers for ordinary hazard occupancy} \\ 20\text{-A extinguishers for extra hazard occupancy} \end{cases}$$

E.3.10 Placement of the calculated quantity of six extinguishers, along outside walls as shown in Figure E.3.10, would not be acceptable because the travel distance rule is clearly violated. The shaded areas indicate “voids” that are farther than 75 ft (22.9 m) to the nearest extinguisher. The dots represent extinguishers.

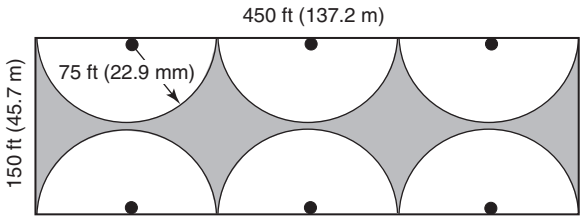


FIGURE E.3.10 A Diagrammatic Representation of Extinguishers Located Along the Outside Walls of a 450 ft × 150 ft (137.2 m × 45.7 m) Building.

E.3.11 Example 1 shows that calculations using the maximum protection area limits [11,250 ft² (1045 m²)] allowed in Table 6.2.1.1 for the sample building will not provide sufficient ex-

tinguishers to also satisfy the travel distance requirement. Performing additional calculations using extinguishers with lower ratings will result in more extinguishers. The goal of performing additional calculations is to develop an economic solution that satisfies the calculated quantity of extinguishers required while meeting the travel distance requirement.

E.3.12 Example 2 is for extinguishers having the minimum ratings permitted by Table 6.2.1.1 with corresponding minimum protection areas. As the number of lower-rated extinguishers increases, meeting the travel distance requirement generally becomes less of a problem. As shown in Figure E.3.12, providing 12 extinguishers mounted on building columns would both satisfy the calculated quantity of extinguishers for light hazard occupancy and meet the maximum travel distance requirement.

Example 2:

$$\begin{aligned} \frac{67,500 \text{ ft}^2}{6000 \text{ ft}^2} &= 12 \text{ 2-A extinguishers for light hazard occupancy} \\ \frac{67,500 \text{ ft}^2}{3000 \text{ ft}^2} &= 23 \text{ 2-A extinguishers for ordinary hazard occupancy} \\ \frac{67,500 \text{ ft}^2}{4000 \text{ ft}^2} &= 17 \text{ 4-A extinguishers for extra hazard occupancy} \end{aligned}$$

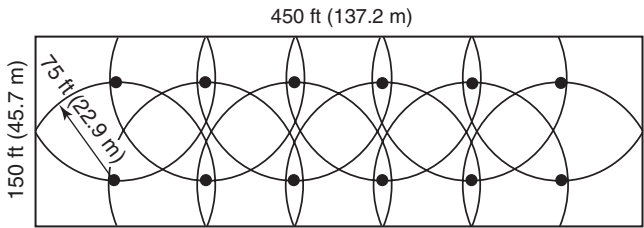


FIGURE E.3.12 Configuration Representing 12 Fire Extinguishers Mounted on Building Columns in Which Requirements for Both Travel Distance and Fire Extinguisher Distribution Are Met.

E.3.13 Example 2 results in an excessive number of extinguishers for satisfying the 75 ft (22.9 m) travel distance rule for ordinary and extra hazard occupancies. Therefore, a new set of calculations are developed for extinguishers having ratings that correspond to the protection areas of 6000 ft² (557 m²) in order to result in a calculated quantity of 12 extinguishers, which satisfies the 75 ft (22.9 m) travel distance rule as shown in Figure E.3.10.

E.3.14 Example 3 is for fire extinguishers having ratings that correspond to protection areas of 6000 ft² (557 m²). The calculated quantity of 12 fire extinguishers with the ratings shown in Example 3 could be mounted as shown in Figure E.3.10, which conforms to both the calculation requirement and the travel distance requirement.

$$\frac{67,500 \text{ ft}^2}{6000 \text{ ft}^2} = 12 \begin{cases} 2\text{-A extinguishers for light hazard occupancy} \\ 4\text{-A extinguishers for ordinary hazard occupancy} \\ 6\text{-A extinguishers for extra hazard occupancy} \end{cases}$$

E.3.15 Sample Problem. A light hazard occupancy office building is to be protected by portable fire extinguishers. The floor area is 11,100 ft² (1031 m²) and of unusual design. (See Figure E.3.15.)

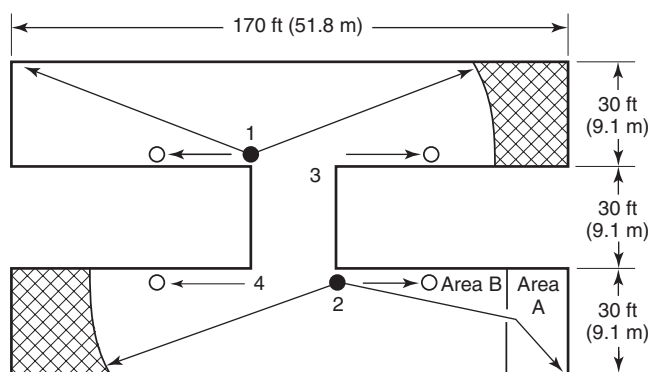


FIGURE E.3.15 Floor Plan for Sample Problem.

The most common fire extinguisher selections would be 2½ gal (9.46 L) stored-pressure water models rated 2-A. According to Table 6.2.1.1 and Table E.3.5, two fire extinguishers are needed ($11,100 \div 6000 = 2$). The travel distance requirement is 75 ft (22.9 m) maximum.

The two units are placed at points 1 and 2, and a check is made on the travel distance requirement. Because of the area's unusual shape, it is found that the shaded areas exceed the 75 ft (22.9 m) distance. Two additional fire extinguishers (at points 3 and 4) are needed. The additional fire extinguishers afford more flexibility in placement, and alternate locations are indicated. It is important to consider any partitions, walls, or other obstructions in determining the travel distance.

As an additional item, consider that Area A contains a small printing and duplicating department that uses flammable liquids. This area is judged to be an ordinary Class B hazard. A 10-B:C or 20-B:C fire extinguisher should be specified to protect this area.

There are now two alternatives to be considered. First, a fifth fire extinguisher, either carbon dioxide or ordinary dry chemical, with a rating of 10-B:C or 20-B:C could be specified. Second, the water fire extinguisher at point 2 could be replaced with a multipurpose dry chemical fire extinguisher that has a rating of at least 2-A:10-B:C. It should be located keeping in mind the 75 ft (22.9 m) travel distance for the 2-A protection and the 30 ft or 50 ft (9.1 m or 15.25 m) travel distance required for the Class B protection that this fire extinguisher provides.

E.3.16 Extinguisher Selection and Placement for Class A Hazards. One method of selecting appropriate extinguisher sizes and locations is outlined as follows:

- (1) Classify the area to be protected as light, ordinary, or extra hazard in accordance with 5.4.1.
- (2) Determine the total square footage of the floor of the building where the extinguishers will be installed (floor area).
- (3) Divide the floor area by the maximum area to be protected per extinguisher in accordance with Table E.3.5. This is typically done for each maximum area per extinguisher for the hazard classification selected.
- (4) Using a sketch of the floor showing walls, partitions, and furnishings, determine the fewest number of extinguishers that will satisfy the 75 ft (22.9 m) travel distance rule.
- (5) Select the number of extinguishers determined in accordance with E.3.16(3) that is the closest to, but not fewer than, the number determined in accordance with E.3.16(4).

(Note: This provides the minimum number of extinguishers and the rating of those extinguishers for that floor of the building.)

- (6) Adjust the quantity and/or rating to suit a strategic arrangement in the building:
 - (a) The final locations of extinguishers can be selected based on the strategic arrangement determined in accordance with Section E.2 and the total number and rating determined by E.3.16(5).
 - (b) Where the number of extinguishers that are necessary to satisfy the strategic arrangement in Section E.2 matches a higher quantity determined in E.3.16(3), adjustments can be made to the extinguisher rating to match that quantity.

E.4 Class B Fire Extinguisher Distribution.

E.4.1 Normal Class B fire hazards fall into two quite different general categories regarding requirements for fire extinguishers. One condition is where the fire does not involve flammable liquids in appreciable depth, such as spilled fuel on an open surface, a fire involving vapors issuing from a container or piping system, or a running fire from a broken container.

E.4.2 The other condition is where the fire involves flammable liquids in appreciable depth [defined as a depth of liquid greater than ¼ in. (6.3 mm)], such as fires involving open tanks of flammable liquids commonly found in industrial plants (e.g., dip tanks used for coating, finishing, treating, or similar processes).

E.4.3 In situations where flammable liquids are not in appreciable depth, fire extinguishers should be provided according to Table 6.3.1.1. Once the type of hazard is determined, the selected Class B fire extinguisher should have a rating equal to or greater than that specified and be so located that the maximum travel distance is not exceeded.

E.4.4 The reason the basic maximum travel distance to Class B fire extinguishers is 50 ft (15.25 m), as opposed to 75 ft (22.9 m) for Class A fire extinguishers, is that flammable liquid fires reach their maximum intensity almost immediately. It is imperative that the fire extinguisher be brought to the fire in a much shorter period of time than that allowed for a slower developing Class A fire.

E.4.5 Even though Table 6.3.1.1 specifies maximum travel distances for Class B fire extinguisher placement, judgment should be exercised in actually establishing them. The fire extinguisher can be placed closer to the hazard it is protecting, up to a point where the fire extinguisher itself might be involved in the fire or access to it is made difficult because of flame, heat, or smoke.

E.4.6 Where an entire room or area is judged to be a Class B hazard (such as an automobile repair garage), fire extinguishers should be placed at regular intervals so that the maximum walking distance from any point to the nearest fire extinguisher does not exceed the travel distances specified in Table 6.3.1.1. One fire extinguisher can be installed to provide protection against several hazards, provided travel distances are not exceeded.

For fires in flammable liquids of appreciable depth, a Class B fire extinguisher is provided on the basis of two numerical units of Class B extinguishing potential per 1 ft² (0.0929 m²) of flammable liquid surface for the largest tank within the area. The travel distance requirements in Table 6.3.1.1 should also be used to locate fire extinguishers for spot hazard protec-

tion; however, the type of hazard and the availability of the fire extinguisher should be carefully evaluated.

E.4.7 Where fixed Class B extinguishing systems are installed, the provision of portable fire extinguishers can be waived for that one hazard but not for the structure, other special hazards, or the rest of the contents. Sometimes a burning tank can result in burning liquid spills outside the range of the fixed equipment, or the fire could originate adjacent to the tank rather than in its liquid content. Therefore, having portable fire extinguishers available is desirable, even though hazards of this type are protected with fixed extinguishing systems.

E.5 Class C Fire Extinguisher Distribution.

E.5.1 To protect fire extinguisher operators in situations where live electrical equipment could be encountered, fire extinguishers with Class C ratings are required.

E.5.2 When the power to a piece of electrical equipment is cut off, the fire changes character to that of a Class A, a Class B, or a combined Class A and B fire, depending on the nature of the burning electrical components and any material burning in the immediate vicinity.

E.5.3 De-energizing electrical equipment eliminates the possibility of shock hazards to the fire extinguisher operator if the operator accidentally comes into physical contact with the equipment, or if the operator brings any conductive part of a fire extinguisher within arcing distance. De-energizing also eliminates fault currents from prolonging the fire or from being a source of reignition. Switches or circuit breakers that cut electric power to specific equipment can prevent hazardous side effects (e.g., plunging an entire multi-story building into darkness or shutting down the essential electric power that supplies life-support equipment). Often, fires involving an electrical component are relatively minor and, by using a short application of a Class C extinguishant, can be effectively extinguished without disturbing electrical continuity.

E.5.4 The capacity of the fire extinguishers supplied for each major Class C hazard situation should be individually judged according to the following factors:

- (1) Size of the electrical equipment
- (2) Configuration of the electrical equipment (particularly the enclosures of units) that influences agent distribution
- (3) Effective range of the fire extinguisher stream
- (4) Amount of Class A and B material involved

Each of these factors influences the amount and type of agent needed, the desired rate of agent discharge, the associated duration of application, and the potential wastage factors.

E.5.5 For large installations of electrical apparatus where the power continuity is critical, fixed fire protection is desirable. At locations where such fixed systems are installed, it is practical to also provide Class C portable fire extinguisher units to handle quickly discovered fires: obviously, the number and size of these units can be reduced under such conditions.

E.6 Class D Fire Extinguisher Distribution.

E.6.1 For Class D hazards, the availability of special portable fire extinguishers (or equivalent equipment to contain or extinguish any fire developing in a combustible metal) is particularly important. Extinguishing equipment for such fires should be located no more than 75 ft (22.9 m) from the hazard.

E.6.2 Use of the wrong fire extinguisher can instantly increase or spread the fire. Quantitatively, the amount of agent needed is normally measured by the surface area of combustible metals that might become involved, plus the potential severity of the fire as influenced by the shape and form of the metal. Because fires in magnesium fines are more difficult to extinguish than fires involving magnesium scrap, the amount of agent needed to handle fires in magnesium fines is correspondingly greater. Fire extinguishers labeled for Class D fires are not necessarily equally effective on all combustible metal fires. Often, fire extinguishers so labeled might be hazardous when used on some metal fires. Unless the effect of the extinguishing agent is known for the metal being considered, tests should be made with representative material.

E.7 Class K Fire Extinguisher Distribution. Only Class K fire extinguishers are recommended for cooking grease fires. Maximum travel distance is 30 ft (9.15 m) as defined in 6.6.2.

Annex F Selection of Residential Fire-Extinguishing Equipment

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

F.1 Definitions.

F.1.1 General Use Residential Fire Extinguisher. A fire extinguisher that has been specifically investigated, tested, and listed for use only in and around the home (one- and two-family dwellings and living units within multifamily structures) for the purpose of suppressing or extinguishing a fire.

F.1.2 Special Purpose Residential Fire Extinguisher. A fire extinguisher designed, tested, and listed for a particular type of hazard as specified on its label.

F.2 Multifamily Structure Guidelines. The provisions of this annex section apply to the selection, installation, and maintenance of fire-extinguishing equipment for one- and two-family dwellings and living units within multifamily structures. The fire-extinguishing equipment is intended as a first line of defense to cope with fires of limited size. This equipment is needed even though the dwelling or living unit is protected by an automatic sprinkler system, fire or smoke alarm system, or both; single-station smoke detectors; or other fixed fire suppression or detection system. The recommendations given herein are minimum. Depending upon the conditions existing in each living unit, additional extinguishers or extinguishers of larger capacity might be advisable.

For more information on automatic sprinkler systems for the residence, see NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*, and NFPA 13R, *Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies*. For more information about fire or smoke alarm systems, or both, and single-station smoke detectors, see NFPA 72, *National Fire Alarm and Signaling Code*.

The purpose of this annex is to provide guidance for the owners and occupants of one- and two-family dwellings and living units within multifamily structures in the selection, use, installation, and maintenance of fire-extinguishing equipment.