IMPORy NOTICE ABOUT THIS DOCUMENT

NFPA codes and standards, of which the document contained herein is one, are developed through a consensus standards development process approved by the American National Standards Institute. This process brings together volunteers representing varied viewpoints and interests to achieve consensus on fire and other safety issues. While the NFPA administers the process and establishes rules to promote fairness in the development of consensus, it does not independently test, evaluate, or verify the accuracy of any information or the soundness of any judgments contained in its codes and standards.

The NFPA disclaims liability for any personal injury, property or other damages of any nature whatsoever, whether special, indirect, consequential or compensatory, directly or indirectly resulting from the publication, use of, or reliance on this document. The NFPA also makes no guaranty or warranty as to the accuracy or completeness of any information published herein.

In issuing and making this document available, the NFPA is not undertaking to render professional or other services for or on behalf of any person or entity. Nor is the NFPA undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances.

The NFPA has no power, nor does it undertake, to police or enforce compliance with the contents of this document. Nor does the NFPA list, certify, test or inspect products, designs, or installations for compliance with this document. Any certification or other statement of compliance with the requirements of this document shall not be attributable to the NFPA and is solely the responsibility of the certifier or maker of the statement.

NOTICES

All questions or other communications relating to this document and all requests for information on NFPA procedures governing its codes and standards development process, including information on the procedures for requesting Formal Interpretations, for proposing Tentative Interim Amendments, and for proposing revisions to NFPA documents during regular revision cycles, should be sent to NFPA headquarters, addressed to the attention of the Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

Users of this document should be aware that this document may be amended from time to time through the issuance of Tentative Interim Amendments, and that an official NFPA document at any point in time consists of the current edition of the document together with any Tentative Interim Amendments then in effect. In order to determine whether this document is the current edition and whether it has been amended through the issuance of Tentative Interim Amendments, consult appropriate NFPA publications such as the National Fire Codes® Subscription Service, visit the NFPA website at www.nfpa.org, or contact the NFPA at the address listed above.

A statement, written or oral, that is not processed in accordance with Section 16 of the Regulations Governing Committee Projects shall not be considered the official position of NFPA or any of its Committees and shall not be considered to be, nor be relied upon as, a Formal Interpretation.

The NFPA does not take any position with respect to the validity of any patent rights asserted in connection with any items which are mentioned in or are the subject of this document, and the NFPA disclaims liability of the infringement of any patent resulting from the use of or reliance on this document. Users of this document are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, is entirely their own responsibility.

Users of this document should consult applicable federal, state, and local laws and regulations. NFPA does not, by the publication of this document, intend to urge action that is not in compliance with applicable laws, and this document may not be construed as doing so.
Licensing Policy

This document is copyrighted by the National Fire Protection Association (NFPA). By making this document available for use and adoption by public authorities and others, the NFPA does not waive any rights in copyright to this document.

1. Adoption by Reference – Public authorities and others are urged to reference this document in laws, ordinances, regulations, administrative orders, or similar instruments. Any deletions, additions, and changes desired by the adopting authority must be noted separately. Those using this method are requested to notify the NFPA (Attention: Secretary, Standards Council) in writing of such use. The term “adoption by reference” means the citing of title and publishing information only.

2. Adoption by Transcription – A. Public authorities with lawmaking or rule-making powers only, upon written notice to the NFPA (Attention: Secretary, Standards Council), will be granted a royalty-free license to print and republish this document in whole or in part, with changes and additions, if any, noted separately, in laws, ordinances, regulations, administrative orders, or similar instruments having the force of law, provided that: (1) due notice of NFPA’s copyright is contained in each law and in each copy thereof; and (2) that such printing and republication is limited to numbers sufficient to satisfy the jurisdiction’s lawmaking or rule-making process. B. Once this NFPA Code or Standard has been adopted into law, all printings of this document by public authorities with lawmaking or rule-making powers or any other persons desiring to reproduce this document or its contents as adopted by the jurisdiction in whole or in part, in any form, upon written request to NFPA (Attention: Secretary, Standards Council), will be granted a nonexclusive license to print, republish, and vend this document in whole or in part, with changes and additions, if any, noted separately, provided that due notice of NFPA’s copyright is contained in each copy. Such license shall be granted only upon agreement to pay NFPA a royalty. This royalty is required to provide funds for the research and development necessary to continue the work of NFPA and its volunteers in continually updating and revising NFPA standards. Under certain circumstances, public authorities with lawmaking or rule-making powers may apply for and may receive a special royalty where the public interest will be served thereby.

3. Scope of License Grant – The terms and conditions set forth above do not extend to the index of this document.

(For further explanation, see the Policy Concerning the Adoption, Printing, and Publication of NFPA Documents, which is available upon request from the NFPA.)
NFPA 170

Standard for
Fire Safety Symbols

1999 Edition

This edition of NFPA 170, Standard for Fire Safety Symbols, was prepared by the Technical Committee on Fire Safety Symbols and acted on by the National Fire Protection Association, Inc., at its May Meeting held May 17–20, 1999, in Baltimore, MD. It was issued by the Standards Council on July 22, 1999, with an effective date of August 13, 1999, and supersedes all previous editions.

Changes other than editorial are indicated by a vertical rule in the margin of the pages on which they appear. These lines are included as an aid to the user in identifying changes from the previous edition.

This edition of NFPA 170 was approved as an American National Standard on August 13, 1999.

Origin and Development of NFPA 170

The 1994 edition of NFPA 170 represented the completion of an effort to combine four previously separate documents that covered fire safety symbols for different purposes. These documents included the following:

NFPA 171, Public Fire Safety Symbols
NFPA 172, Fire Protection Symbols for Architectural and Engineering Drawings
NFPA 174, Fire Protection Symbols for Risk Analysis Diagrams
NFPA 178, Symbols for Fire Fighting Operations.

The Technical Committee on Fire Safety Symbols believes that placing all fire safety symbols in one document will make it easier for users of symbols to find the one(s) most appropriate for their application. It will also eliminate duplication between these and eventually other NFPA documents.

The origin of NFPA 170 placed these four documents in one document but did not combine them, except for definitions that were in each document.

For the second edition of NFPA 170, the Technical Committee on Fire Safety Symbols completely restructured the text into a logical and cohesive arrangement. The duplication of symbols that occurred during the aforementioned consolidation of documents was eliminated. New symbols added included those for camping prohibitions, smoke barriers, illuminated exit signs, and belowground tanks.

For the third edition of NFPA 170, changes included the following:

- Upgrading recommendations on pre-incident planning to requirements (new Chapter 6)
- Adding new symbols for pull station, area of refuge, and cooking prohibitions
- Clarifying the symbols for smoke detectors, battery-powered emergency lights, and fire service/telephone stations
- Recognizing the phaseout of halon now taking place, and the introduction of clean agents

The fourth edition further recognizes the introduction of clean agents by adding new symbols for clean agent and automatic mist systems. A new appendix (Appendix C) was added to include symbols that can be used for life safety planning.
Technical Committee on Fire Safety Symbols

Thomas R. Wood, Chair
Boca Raton Fire Rescue Services, FL [E]

Phillip A. Brown, American Fire Sprinkler Assn., Inc., TX [U]
Randal G. Brown, Randal Brown & Assoc., Ltd, Canada [U]
Lydia A. Buttersworth, Smithsonian Institution, DC [E]
Randal S. Chaney, Wansa HPR Engg, CA [I]
Scott D. Corrin, University of California-Riverside, CA [SE]
David C. Cox, Fire Safety Displays Co., ME [M]
William P. MacDonald, New York Power Authority, NY [U]
James M. Mundy, Jr., Siemens Cerberus Division, NY [U]

Edward P. Quinn Jr., General Accident Insurance, NY [I]
George R. Riggs, Engineered Fire Systems, Inc., Ak [IM]
Brad Schiffer, Brad Schiffer /Tacon, Inc., FL [SE]
John Soto, Simplex Time Recorder, VT [M]
James J. Vorse, Johnson Controls Inc., ME, WI [U]
Harry J. Walsh, Pennsylvania Lumbermens Mutual Insurance Co., PA [I]
Derk White, The CAD Zone, OR [SE]

David R. Hague, NFPA Staff Liaison

This list represents the membership at the time the Committee was balloted on the text of this edition. Since that time, changes in the membership may have occurred. A key to classifications can be found at the back of this document.

NOTE: Membership on a committee shall not in and of itself constitute an endorsement of the Association or any document developed by the committee on which the member serves.

Committee Scope: This Committee shall have primary responsibility for documents on fire safety symbols including those for building design plans, investigation diagrams, maps, and for public fire safety. It shall coordinate its work with NFPA technical committees and other groups dealing with subjects to which fire safety symbols apply.
Contents

Chapter 1 General ........................................... 170–4
  1-1 Scope ............................................. 170–4
  1-2 Purpose .......................................... 170–4
  1-3 Units ............................................. 170–4

Chapter 2 Definitions ...................................... 170–4
  2-1 Official NFPA Definitions ......................... 170–4
  2-2 Definitions of Terms Used in the Standard .... 170–4

Chapter 3 Symbols for General Use ....................... 170–4
  3-1 Introduction ..................................... 170–4
  3-2 Symbols for General Use ......................... 170–5

Chapter 4 Symbols for Use by the Fire Service .......... 170–7
  4-1 Introduction ..................................... 170–7
  4-2 Symbols for Use by the Fire Service .......... 170–7

Chapter 5 Symbols for Use in Architectural and
  Engineering Drawings and Insurance
  Diagnoses ............................................ 170–9
  5-1 Introduction ..................................... 170–9
  5-2 Symbols for Site Features ....................... 170–9
  5-3 Symbols for Building Construction ............. 170–9
  5-4 Water Supply and Distribution
    Symbols ........................................... 170–11
  5-5 Symbols for Control Panels ..................... 170–12
  5-6 Symbols Related to Means of Egress .......... 170–13
  5-7 Symbols for Fire Alarms, Detection, and
    Related Equipment ................................ 170–15
  5-8 Symbols for Fire Extinguishing Systems ....... 170–15
  5-9 Symbols for Portable Fire Extinguishers ....... 170–17
  5-10 Symbols for Fire-Fighting Equipment ........... 170–17
  5-11 Symbols for Smoke/Pressurization
    Control ............................................... 170–17
  5-12 Miscellaneous Symbols ......................... 170–18

Chapter 6 Symbols for Use in Pre-Incident
  Planning Sketches .................................. 170–18
  6-1 Introduction ..................................... 170–18
  6-2 Access Features, Assessment Features,
    Ventilation Features, and Utility
    Shutoffs ........................................... 170–19
  6-3 Detection/Extinguishing Equipment ............. 170–19
  6-4 Water Flow Control Valves and Water
    Sources ........................................... 170–20
  6-5 Equipment Rooms ................................ 170–20
  6-6 Identification of Hazardous Materials ......... 170–21

Chapter 7 Referenced Publications ....................... 170–21
  Appendix A Explanatory Material ................. 170–21
  Appendix B Additional Explanatory Information
    on Chapters 1 through 5 ......................... 170–24
  Appendix C Symbols for Life Safety Planning ....... 170–28
  Appendix D Referenced Publications ............... 170–30
  Appendix E Informatory Publications ............... 170–30

Index .................................................. 170–32
Chapter 1 General

1-1 Scope. This standard presents symbols used for fire safety and associated hazards.

1-2 Purpose. The purpose of this standard is to standardize the symbols used in representing fire and associated hazards.

1-3 Units. Metric units of measurement used in this standard shall be in accordance with the International System of Units (SI). One unit (liter), outside of but recognized by SI, is commonly used in international fire protection. For conversion factors, see Table 1-3.

Chapter 2 Definitions

2-1 Official NFPA Definitions.

Approved.* Acceptable to the authority having jurisdiction.

Authority Having Jurisdiction.* The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure.

Labeled. Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of production of labeled equipment or materials, and whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

Listed.* Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

Shall. Indicates a mandatory requirement.

Should. Indicates a recommendation or that which is advised but not required.

2-2 Definitions of Terms Used in the Standard.

Pre-Incident Planning. A written document resulting from the gathering of general and detailed information/data to be used by public emergency response agencies and private industry for determining the response to reasonable anticipated emergency incidents at a specific facility.

Referent.* An object or concept (message) represented by a symbol.

Self-Luminous. A type of sign that is self-energized with respect to luminosity and requires no external power source.

Supplementary Indicators.* Figures, numbers, subscripts, or letter abbreviations used to enhance the effectiveness of symbols.

Symbol.* A graphic representation of a referent.

Chapter 3 Symbols for General Use

3-1 Introduction.

3-1.1 Scope. This chapter presents general referents and symbols for fire prevention and visual alerting for fire and related life safety emergencies.

3-1.2 Purpose. This chapter provides uniformity in the selection of symbols that are designed to assist in locating exits, fire safety alerting equipment, and safe areas.

3-1.3* The fundamental imagery for symbols, as well as their background color and shape, is designated in this chapter.

3-1.4* This chapter does not specify viewing distance, size, or optimal combinations of symbols, words, or other presentations.

3-1.5* Symbol Presentation.

Table 1-3 Metric Conversion Factors

<table>
<thead>
<tr>
<th>Name of Unit</th>
<th>Unit Symbol</th>
<th>Conversion Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liter</td>
<td>L</td>
<td>1 gal = 3.785 L</td>
</tr>
<tr>
<td>Cubic decimeter</td>
<td>dm³</td>
<td>1 gal = 3.785 dm³</td>
</tr>
<tr>
<td>Pascal</td>
<td>Pa</td>
<td>1 psi = 6894.757 Pa</td>
</tr>
<tr>
<td>Meter</td>
<td>m</td>
<td>1 ft = 0.3048 m</td>
</tr>
<tr>
<td>Millimeter</td>
<td>mm</td>
<td>1 in. = 25.4 mm</td>
</tr>
</tbody>
</table>

1999 Edition
3.2* Symbols for General Use.

3.2.1 Emergency Exit.

Characteristics: Square field; background green; door opening white; image in green or black.

Application: The identification and location of an emergency exit.

Example: The location of an exit for use in a fire emergency.

3.2.2 Emergency Exit Route.

Characteristics: Square field; background green; door opening white; image in green or black.

Application: The identification and location of a route to be used in an emergency.

Example: The direction to a fire exit.

3.2.3 Accessible Emergency Exit.

Characteristics: Square field; background green; door opening white; image in green or black.

Application: The identification of an emergency exit that is accessible to disabled users, as specified by ANSI A117.1, Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.

Example: The location of a fire exit that is accessible to disabled users.

3.2.4 Accessible Emergency Exit Route.

Characteristics: Square field; background green; door opening white; image in green or black.

Application: The identification of a route that leads to an emergency exit that is accessible to disabled users.

Example: The location of the route toward a fire exit that is accessible to disabled users.

3.2.5 Not an Exit.

Characteristics: Square field; background green; door opening white; image in green or black.

Application: The identification of an emergency exit that is accessible to disabled users, as specified by ANSI A117.1, Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.

Example: The location of an exit for use in a fire emergency.
Characteristics: Square field; background white; door frame green; door opening white; image in green or black; red circle and diagonal slash.

Application: The identification of doors that do NOT lead to an exit.

Example: The location of an interior door such as one leading to a closet, interior courtyard, or basement.

3-2.6 Use Stairs in Case of Fire.

Characteristics: Square field; red flame; black figure; white background.

Application: An instruction to the user to use stairs (downward egress) in case of fire.

Example: The identification that stairs are to be used in case of fire.

3-2.7 Use Stairs in Case of Fire.

Characteristics: Square field; red flame; black figure; white background.

Application: An instruction to the user to use stairs (upward egress) in case of fire.

Example: The identification that stairs are to be used in case of fire.

3-2.8 Do Not Use Elevator in Case of Fire.

Characteristics: Square field; red flame; black figures; white background; red circle and slash.

Application: An instruction not to use elevators in case of fire.

Example: Posted near elevator call button.

3-2.9 No Smoking.

Characteristics: Circular field; red circle and slash; black image; white background.

Application: The identification of areas in which smoking is prohibited.

Example: The identification of areas, such as those for flammable liquid storage, where smoking could lead to fire or explosion.

3-2.10 No Campfires.

Characteristics: Circular field; red circle and slash; black image; white background.

Application: The identification of areas, such as municipal parks, where campfires are not permitted.

Example: Posted near elevator call button.

3-2.11 Manually Activated Alarm Initiating Device (Manual Pull Station).

Characteristics: Rectangular field; white background; red flame; black hand; red box; red horn; red wave.

Application: An instruction to actuate an alarm initiating device in a fire emergency.

Example: Posted above a manually activated initiating device.

3-2.12 No Cooking.

Characteristics: Square field; white background; red flame; black pot and steam; red circle and slash.

Application: An instruction not to cook food in an area.

Example: Posted inside a guest room in a hotel or a student room in a college dormitory.
Chapter 4 Symbols for Use by the Fire Service

4-1 Introduction.
4-1.1 Scope. This chapter presents standard referents and symbols that shall be used for visually alerting fire fighters and other emergency responders during fire and related emergencies.
4-1.2 Purpose.
4-1.2.1 The purpose of this chapter is to present uniform fire-fighting symbols in order to improve communication wherever symbology is employed in order to provide information to fire fighters and other emergency responders.
4-1.2.2 This chapter provides uniformity in the selection of symbols that are intended to assist fire fighters in locating utilities and fire-fighting equipment.
4-1.2.3* Fundamental shapes of symbols, as well as the background color and shape, are designated in this chapter.
4-1.3* Symbol Presentation.
4-1.3.1* Symbol Shapes. The shape of symbols shall be as illustrated in Section 4-2.
4-1.3.2 Symbol Background.
4-1.3.2.1 The symbol background shall be square.
4-1.3.2.2 The symbol background color shall be red, white, or blue as designated and shall meet the requirements of ANSI Z535.1, Safety Color Code, for safety red, white, or blue.
4-1.3.2.3 Symbol Color. The symbol color shall be safety white or blue and shall meet the requirements of ANSI Z535.1, Safety Color Code, for safety white or blue.
4-1.3.4 Symbol Orientation. Symbol orientation shall not be altered from that shown in this chapter.
4-2* Symbols for Use by the Fire Service.
4-2.1 Fire Department Automatic Sprinkler Connection — Siamese.
4-2.2 Fire Department Automatic Sprinkler Connection — Single.
4-2.3 Fire Department Standpipe Connection.
4-2.4 Fire Department Combined Automatic Sprinkler/Standpipe Connection.
4-2.5* Fire Hydrant (All Types).

**Characteristics:** Square field; red background; white symbol.

**Application:** The identification and location of a fire hydrant.

**Example:** The location of fire hydrants, wall hydrants, underground hydrants, or other fire-fighting water supplies.

4-2.6 Automatic Sprinkler Control Valve.

**Characteristics:** Square field; red background; white symbol.

**Application:** The identification and location of an automatic sprinkler control valve.

**Examples:**
- The location of control valves for automatic sprinkler systems.
- On doors of rooms containing control valves.

4-2.7 Electric Panel or Electric Shutoff.

**Characteristics:** Square field; red background; white symbol.

**Application:** The identification and location of an electrical panel or other electric shutoff device.

**Examples:**
- The location of electric panels or other electric control devices that can be located in basements or mechanical rooms.

4-2.8 Gas Shutoff Valve.

**Characteristics:** Square field; red background; white symbol; red letter G.

**Application:** The location of a gas shutoff valve.

**Examples:**
- The location of gas shutoff valves.
- On doors of rooms containing gas shutoff valves.

4-2.9 Fire-Fighting Hose or Standpipe Outlet.

**Characteristics:** Square field; red background; white symbol.

**Application:** The location of a fire-fighting hose or a standpipe outlet.

**Examples:**
- The location of interior fire-fighting hose stations and standpipe outlets in buildings and structures.
- The location on bridges or elevated highways.

4-2.10 Fire Extinguisher.

**Characteristics:** Square field; red background; white symbol.

**Application:** The location of a fire extinguisher.

**Example:** The location of fire extinguishers in buildings and exterior locations.

4-2.11 Directional Arrow.

**Characteristics:** Square field; background (red or blue) to correspond to accompanying sign; or white symbol.

**Application:** Direction to the location of fire-fighting equipment or utility. Always used in conjunction with, and adjacent to, another symbol indicating the particular equipment or utility.

4-2.12 Diagonal Directional Arrow.

**Characteristics:** Square field; background (red or blue) to correspond to accompanying sign; white symbol.

**Application:** Direction to the location of fire-fighting equipment or utility. Always used in conjunction with, and adjacent to, another symbol indicating the particular equipment or utility.
4.2.13 Child Care Center.

Characteristics: Square field; blue infant and hands; white background.

Application: The identification and location of child care centers.

Examples:
- On the door opening into child care centers.
- At a fire department command or access point indicating presence and location of child care centers.

Chapter 5 Symbols for Use in Architectural and Engineering Drawings and Insurance Diagrams

5.1* Introduction.
5.1.1 Scope. This chapter presents symbols that shall be used in drawings and diagrams.
5.1.2* Purpose. The purpose of this chapter is to provide uniformity in the use of fire safety and related symbols in the preparation of drawings and diagrams.
5.1.3* Application. The symbols in this chapter are intended for, but not limited to, architectural and engineering drawings, fire detection and suppression drawings, and fire risk and/or loss analysis diagrams.
5.1.4* Symbol Presentation.

5.1.4.1* Symbol Shapes. The shape of symbols shall be as illustrated in Sections 5-2 through 5-12.

5.1.4.2 Screened Lines. Screened lines in the chapter shall not be considered part of the symbol, but shall be used to represent the piping, wiring, or mounting surface associated with the symbol.

5.1.4.3 Symbol Scale. All scales for symbols on any one drawing shall be the same relative size.

5.1.4.4* Symbol Orientation. Symbols shall be oriented to the walls, piping, electrical lines, and so forth to which they are attached.

5.2 Symbols for Site Features.
5.2.1 Buildings.
5.2.1.1 The exterior walls of buildings shall be outlined in single thickness lines if other than fire rated and double thickness lines if fire rated.
5.2.1.2* The perimeter of canopies, loading docks, and other open-walled structures shall be shown by broken lines.

5.2.2 Railroad Tracks. Railroad tracks shall be shown by a single line with cross dashes.

5.2.3* Streets. Streets shall be shown.

5.2.4* Bodies of Water. Rivers, lakes, and so forth shall be outlined.

5.2.5 Fences.
5.2.5.1 Fences shall be shown by lines with x’s evenly spaced.

5.2.5.2* Gates shall be shown.

5.2.6 Property Lines. The notation given below shall indicate property lines.

5.2.7 Fire Department Access. The symbol for fire department access shall be as follows:

F.D.
(8) 2-hour fire-rated

(9) 2-hour fire-rated/smoke barrier

(10) 3-hour fire-rated

(11) 3-hour fire-rated/smoke barrier

(12) 4-hour fire-rated

(13) 4-hour fire-rated/smoke barrier

5-3.3.2* Parapet.

Comments: One cross for each 6 in. (150 mm) parapet extends above roof. (Shown is plan view of symbol.)

5-3.4 Symbols for Floor Openings, Wall Openings, Roof Openings, and Their Protection.

5-3.4.1 Opening in Wall

5-3.4.2 Rated Fire Door in Wall (less than 3 hours).

5-3.4.3 Fire Door in Wall (3-hour rated).

5-3.4.4 Elevator in Combustible Shaft.

5-3.4.5 Elevator in Noncombustible Shaft.

5-3.4.6 Open Hoistway.

5-3.4.7 Escalator.

5-3.4.8 Stairs in Combustible Shaft.

5-3.4.9 Stairs in Fire-Rated Shaft.

5-3.4.10 Stairs in Open Shaft.

5-3.4.11 Skylight.

5-3.5* Special Symbols for Cross Sections. The following symbols shall be used to indicate features of cross sections. It is recognized that descriptive notes often are required.

5-3.5.1 Roof, Floor Assemblies.

5-3.5.1.1 Fire-Resistive Floor or Roof.

5-3.5.1.2 Wood Jointed Floor or Roof.

5-3.5.1.3 Other Floors or Roofs.

5-3.5.1.4 Floor/Ceiling or Roof/Ceiling Assembly.

5-3.5.1.5 Floor on Ground.

5-3.5.1.6 Truss Roof.

5-3.5.1.7 Steel deck on steel joists.

5-3.6 Miscellaneous Features. A number of features related to fire protection that do not fall under 5-3.1 through 5-3.5 are given below.

5-3.6.1 Boiler.

5-3.6.2 Chimney.

Comments: Describe height and construction.

1999 Edition
5-3.6.3 Fire Escape.

5-3.6.4 Tank, Aboveground.
5-3.6.4.1 Horizontal.
Comments: Indicate type, dimensions, construction, capacity, pressurization, and content.
5-3.6.4.2 Vertical.
Comments: Indicate type, dimensions, construction, capacity, pressurization, and content.
5-3.6.5 Tank, Belowground.
Comments: Indicate type, dimensions, construction, capacity, pressurization, and content.

5-4 Water Supply and Distribution Symbols.
5-4.1 Mains, Pipe.
5-4.1.1 Public Water Main.
Comments: Indicate pipe size and material.
5-4.1.2 Private Water Main.
Comments: Indicate pipe size and material.
5-4.1.3 Water Main Under Building.
Comments: Indicate pipe size and material.
5-4.1.4 Suction Pipe.
Comments: Indicate pipe size and material.
5-4.1.5 Thrust Block.

5-4.6 Riser.

5-4.2 Valves (General).
5-4.2.1 Valve in Pit.
Comments: Basic shape. Indicate valve size.
5-4.2.2 Post-Indicator Valve.
Comments: Indicate valve size.
5-4.2.3 Key-Operated Valve.
Comments: Indicate valve size.
5-4.2.4 OS & Y Valve (Outside Screw and Yoke, Rising Stem).
Comments: Indicate valve size.
5-4.2.5 Indicating Butterfly Valve.
Comments: Indicate valve size.
5-4.2.6 Nonindicating Valve (Nonrising-Stem Valve).
Comments: Indicate valve size.
5-4.2.7 Check Valve.
Comments: Basic shape. Indicate valve size, direction of flow.
5-4.2.8 Backflow Preventer — Double Check Type.
Comments: Also referred to as a double check valve assembly.
5-4.2.9 Backflow Preventer — Reduced Pressure Zone (RPZ) Type.
5-4.2.10 Pressure Regulating Valve.

5-4.2.11 Pressure Relief Valve.

5-4.2.12 Float Valve.

5-4.3 Meter.

Comments: Indicate type.

5-4.4* Hydrants.

5-4.4.1 Private Hydrant, One Hose Outlet.

Comments: Indicate size, type of thread, or connection.

5-4.4.2 Public Hydrant, Two Hose Outlets.

Comments: Indicate size, type of thread, or connection.

5-4.4.3 Public Hydrant, Two Hose Outlets, and Pumper Connection.

Comments: Indicate size, type of thread, or connection.

5-4.4.4 Wall Hydrant, Two Hose Outlets.

Comments: Indicate size, type of thread, or connection.

5-4.4.5 Private Housed Hydrant, Two Hose Outlets.

Comments: Indicate size, type of thread, or connection.

5-4.5 Fire Department Connections.

5-4.5.1 Siamese Fire Department Connection.

Comments: Specify type, size, and angle.

5-4.5.2 Freestanding Siamese Fire Department Connection.

Comments: Sidewalk or pit type, specify size.

5-4.5.3 Single Fire Department Connection.

Comments: Specify type, size, thread, and angle.

5-4.6 Fire Pumps.

5-4.6.1 Fire Pump with Drives.

5-4.6.2 Freestanding Test Header.

Comments: Freestanding. Specify number and sizes of outlets.

5-4.6.3 Wall-Mounted Test Header.

Comments: Wall. Specify number and sizes of outlets.

5-4.7 Screen/Strainer.

5-5 Symbols for Control Panels.

5-5.1 Control Panel.

Comments: Basic shape.

(1) Fire Alarm Control Panel

(2) Fire System Annunciator

(3) Fire Alarm Transponder or Transmitter

1999 Edition
5-6 Symbols Related to Means of Egress.
5-6.1 Emergency Light, Battery-Powered.

Comments:
Number of lamps on unit to be indicated. Indicate whether light head(s) [lamp(s)] is remote from battery.

5-6.2 Illuminated Exit Sign, Single Face.

Comments:
Indicate direction of flow for the face.

5-6.3 Illuminated Exit Sign, Double Face.

Comments:
Indicate direction of flow for each face.

5-6.4 Combined Battery-Powered Emergency Light and Illuminated Exit Sign.

Comments:
Number of lamps on unit to be indicated. Indicate whether light head(s) [lamp(s)] is remote from battery. Indicate direction of flow for the face.

5-7 Symbols for Fire Alarms, Detection, and Related Equipment.

5-7.1 Signal Initiating Devices and Switches.
5-7.1.1* Manual Station.

Comments:
Basic shape.

(1) Halon

5-7.1.2 Abort Switch.

Comments:
Basic shape.

5-7.1.1* Fire Service or Emergency Telephone Station.

Comments:
Basic shape.

(1) Accessible

(2) Jack

(3) Handset

(4) Foam

(5) Wet Chemical

(6) Pull Station

(7) *Clean Agent

(8) Water Mist

(9) Deluge Sprinkler
5-7.1.2 Automatic Detection and Supervisory Devices.

Comments: Basic shape.

5-7.1.2.1* Heat Detector (Thermal Detector).

Comments: Symbol orientation not to be changed.
(1) Combination — Rate of Rise and Fixed Temperature

5-7.1.2.2 Smoke Detector.

Comments: Symbol orientation not to be changed.
(1) Photoelectric Products of Combustion Detector

5-7.1.2.3* Smoke Detector for Duct.

5-7.1.2.4* Gas Detector.

5-7.1.2.5 Flame Detector.

Comments: Indicate ultraviolet (UV), infrared (IR), ultraviolet/infrared (UV/IR), or visible radiation-type detectors. Symbol orientation not to be changed.

1999 Edition
5.7.1.2.6 Flow Detector/Switch.

5.7.1.2.7 Pressure Detector/Switch.

Comments: Specify type — water, low air, high air, and so forth. Symbol orientation not to be changed.

5.7.1.2.8 Level Detector/Switch.

Comments: Symbol orientation not to be changed.

5.7.1.2.9 Tamper Detector.

Comments: Alternate term — tamper switch.

5.7.1.2.10 Valve with Tamper Detector/Switch.

5.7.2 Indicating Appliances.

5.7.2.1 Speaker/Horn (Electric Horn).

(1) Mini-Horn

5.7.2.2 Bell (Gong).

5.7.2.3 Water Motor Alarm (Water Motor Gong).

Comments: Shield optional.

5.7.2.4 Horn with Light.

(1) Horn with light as separate assembly

(2) Horn with light as one assembly

5.7.2.5 Light (Lamp, Signal Light, Indicator Lamp, Strobe).

5.7.3 Related Equipment.

5.7.3.1 Door Holder.

5.8* Symbols for Fire Extinguishing Systems.

5.8.1 Various Types of Fire Extinguishing Systems.

5.8.1.1 Water-Based Systems.

5.8.1.1.1 Wet Charged System.

(1) Automatically actuated

(2) Manually actuated

5.8.1.2 Dry System.

(1) Automatically actuated

(2) Manually actuated

5.8.1.3 Foam System.

(1) Automatically actuated

(2) Manually actuated

5.8.1.4 Water Mist Extinguishing System.

(1) Automatically actuated

(2) Manually actuated

5.8.1.2 Dry Chemical Systems.

5.8.1.2.1 For Liquid, Gas, and Electrical Fires.

(1) Automatically actuated

1999 Edition
(2) Manually actuated

5-8.1.2.2 For Fires of All Types (Except Metals).
(1) Automatically actuated

(2) Manually actuated

5-8.1.3 Systems Utilizing a Gaseous Medium.
5-8.1.3.1 Carbon Dioxide System.
(1) Automatically actuated

(2) Manually actuated

5-8.1.3.2 Halon System or Clean Agent Extinguishing System.
(1) Automatically actuated

(2) Manually actuated

5-8.1.4 Supplementary Symbols.
5-8.1.4.1 Fully Sprinklered Space.

5-8.1.4.2 Partially Sprinklered Space.

5-8.1.4.3 Nonsprinklered Space.

5-8.1.4.4 Water Spray System.

5-8.2* Symbols for Fire Sprinklers.
5-8.2.1 Upright Sprinkler.

5-8.2.2 Pendent Sprinkler.

5-8.2.3 Upright Sprinkler; Nippled Up.

5-8.2.4 Pendent Sprinkler; on Drop Nipple.

5-8.2.5 Sprinkler, with Guard.

5-8.2.6 Sidewall Sprinkler.

5-8.2.7 Outside Sprinkler.

5-8.2.8 Symbols for Piping, Valves, Control Devices, and Hangers.

5-8.3.1 Sprinkler Piping and Branch Line.

5-8.3.2 Pipe Hanger.

5-8.3.3 Angle Valve (Angle Hose Valve).

5-8.3.4 Check Valve (General). See symbol in 5-4.2.7.

5-8.3.5 Alarm Check Valve.

Comments: Specify size, direction of flow.
5-8.3.6 Dry Pipe Valve.

Comments: Specify size.

5-8.3.7 Dry Pipe Valve with Quick Opening Device (Accelerator or Exhaustor).

Comments: Specify size and type.

5-8.3.8 Deluge Valve.

Comments: Specify size and type.

5-8.3.9 Preaction Valve.

Comments: Specify size and type.

5-9 Symbols for Portable Fire Extinguishers.

5-9.1 Portable Fire Extinguisher.

Comments: Basic shape.

5-9.2 Water Extinguisher.

5-9.3 Foam Extinguisher.

5-9.4 Dry Chemical Extinguishers.

5-9.4.1 For Liquid, Gas, or Electrical Fires.

Comments: BC-type.

5-9.4.2 For Fires of All Types (Except Metals).

Comments: ABC-type.

5-9.5 CO₂ Extinguishers.

5-9.6 Halon or Clean Agent Extinguishers.

5-9.7 Extinguisher for Metal Fires.

5-10 Symbols for Fire-Fighting Equipment.

5-10.1 Fire-Fighting Equipment.

Comments: Basic shape.

5-10.2 CO₂ Reel Station.

5-10.3 Dry Chemical Reel Station.

5-10.4 Foam Reel Station.

5-10.5 Hose Station, Dry Standpipe.

5-10.6 Hose Station, Charged Standpipe.

5-10.7 Monitor Nozzle, Dry.

Comments: Specify orifice size.

5-10.8 Monitor Nozzle, Charged.

Comments: Specify orifice size.

5-11 Symbols for Smoke/Pressurization Control.

5-11.1 Purge Controls.

5-11.1.1 Manual Control.

5-11.2 Fans.

Comments: Arrow indicates direction of flow.

5-11.2.1 General.
5-11.2.2 Duct.

5-11.2.3 Roof.

5-11.2.4 Wall.

5-11.3 Dampers.
5-11.3.1 Fire.

5-11.3.2 Smoke.

5-11.3.3 Fire/Smoke.

5-11.3.4 Barometric.

5-11.4 Pressurized Stairwell.

Comments: Orient as required for base or head injection.

5-11.5 Ventilation Openings.

Comments: Orient as required for intake or exhaust.

5-12 Miscellaneous Symbols.

5-12.1 Agent Storage Container.

Comments: Specify type of agent and mounting.

(1) Foam

5-12.2 Special Spray Nozzle.

Comments: Specify type, orifice, size, other required data (shown here on pipe).

5-12.3 Fusible Link.

Comments: Specify degrees.

5-12.3.1* Fusible Link with Electrothermal Feature.

Comments: Specify degrees.

5-12.4 Solenoid Valve.

Chapter 6 Symbols for Use in Pre-Incident Planning Sketches

6-1 Introduction.

6-1.1 Scope. This chapter presents symbols that shall be used in pre-incident planning sketchs.

6-1.2 Purpose. The purpose of this chapter is to provide uniformity in the use of fire safety and related symbols in the preparation of pre-incident planning sketches.

6-1.3 Application. The symbols in this chapter are provided to assist fire service or emergency response personnel who are responsible for preparing and using pre-incident planning sketches.
6-1.4* Symbol Shapes. The symbol shapes were chosen for their ease of reproduction through either freehand drawing or with the use of templates.

6-2* Access Features, Assessment Features, Ventilation Features, and Utility Shutoffs.

6-2.1 Access Features.
6-2.1.1 Fire Department Access Point.
6-2.1.2 Fire Department Key Box.
6-2.1.3 Roof Access.

6-2.2 Assessment Features.
6-2.2.1 Fire Alarm Annunciator Panel.
6-2.2.2 Fire Alarm Reset Panel.
6-2.2.3 Fire Alarm Voice Communication Panel.

6-2.3 Ventilation Features.
6-2.3.1 Skylight.

6-2.4 Utility Shutoffs.
6-2.4.1 Electric Shutoff.
6-2.4.2 Domestic Water Shutoff.
6-2.4.3 Gas Shutoff.
6-2.4.3.1 Specific Variations.
6-2.4.3.1.1 LP-Gas Shutoff.
6-2.4.3.1.2 Natural Gas Shutoff.
6-2.4.3.1.3 Compressed Natural Gas Shutoff.

6-3 Detection/Extinguishing Equipment.
6-3.1 Duct Detector.
6-3.2 Heat Detector.
6-3.3 Smoke Detector.
6-3.4 Flow Switch (Water).

1999 Edition
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Symbol</th>
</tr>
</thead>
</table>
| 6-3.5   | Manual Pull Station             | ![Symbol]
| 6-3.6   | Tamper Switch                   | ![Symbol]
| 6-3.7   | Halon System                    | ![Symbol]
| 6-3.8   | Dry Chemical System             | ![Symbol]
| 6-3.9   | CO₂ System                      | ![Symbol]
| 6-3.10  | Wet Chemical System             | ![Symbol]
| 6-3.11  | Foam System                     | ![Symbol]
| 6-3.12  | Clean Agent System              | ![Symbol]
| 6-3.13  | Beam Smoke Detector             | ![Symbol]
| 6-4.4   | Hose Cabinet or Connection      | ![Symbol]
| 6-4.5   | Wall Hydrant                    | ![Symbol]
| 6-4.6   | Test Header (Fire Pump)         | ![Symbol]
| 6-4.7   | Inspector’s Test Connection     | ![Symbol]
| 6-4.8   | Fire Hydrant                    | ![Symbol]
| 6-4.9   | Fire Department Connection      | ![Symbol]
| 6-4.10  | Drafting Site                   | ![Symbol]
| 6-4.11  | Water Tank                      | ![Symbol]
| 6-5     | Equipment Rooms                 | ![Symbol]
| 6-5.1   | Air-Conditioning Equipment Room | ![Symbol]
| 6-5.2   | Elevator Equipment Room         | ![Symbol]
| 6-5.3   | Emergency Generator Room        | ![Symbol]
| 6-5.4   | Fire Pump Room                  | ![Symbol]
APPENDIX A

Chapter 7 Referenced Publications

7.1 The following documents or portions thereof are referenced within this standard as mandatory requirements and shall be considered part of the requirements of this standard. The edition indicated for each referenced mandatory document is the current edition as of the date of the NFPA issuance of this standard. Some of these mandatory documents might also be referenced in this standard for specific informational purposes and, therefore, are also listed in Appendix D.

7.1.1 NFPA Publication. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 704, Standard System for the Identification of the Hazards of Materials for Emergency Response, shall be permitted to be used to identify the location of hazardous materials within a structure.

APPENDIX A Explanatory Material

Appendix A is not a part of the requirements of this NFPA document but is included for informational purposes only: This appendix contains explanatory material, numbered to correspond with the applicable text paragraphs.

A-2-1 Approved. The National Fire Protection Association does not approve, inspect, or certify any installations, procedures, equipment, or materials; nor does it approve or evaluate testing laboratories. In determining the acceptability of installations, procedures, equipment, or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure, or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization that is concerned with product evaluations and is thus in a position to determine compliance with appropriate standards for the current production of listed items.

A-2-1 Authority Having Jurisdiction. The phrase “authority having jurisdiction” is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau; labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.

A-2-2 Referent. A referent may be abstract such as a condition concept, function, relationship, fact, or action.

A-2-2 Supplementary Indicators. Effectiveness of symbols can be supplemented by figures, numbers, subscripts, or letter abbreviations. These supplementary indicators may be placed inside of or adjacent to the symbol as seen fit. A legend of these indicators, with their meaning, should accompany each set of documents on which they are used.

A-2-3 Symbol. Ideally, a symbol should be graphically simple, should be readily understood, should have a strong impact, and should be easily remembered. Such information.

A-3-1.2 Symbol and Supplementary Indicators. Effectiveness of symbols can be supplemented by figures, numbers, subscripts, or letter abbreviations. These supplementary indicators may be placed inside of or adjacent to the symbol as seen fit. A legend of these indicators, with their meaning, should accompany each set of documents on which they are used.

A-3-1.3.2 Exception Example of a prohibition symbol.

A-3-1.3 Symbol and Supplementary Indicators. Effectiveness of symbols can be supplemented by figures, numbers, subscripts, or letter abbreviations. These supplementary indicators may be placed inside of or adjacent to the symbol as seen fit. A legend of these indicators, with their meaning, should accompany each set of documents on which they are used.

A-3-1.2.3 Changes in line thickness, scale, or details are not recommended. In practice, symbols may be combined with other symbols or devices such as words and lighted panels to provide optimal visual alerting.

A-3-1.2.4 The user is referred to other standards, such as those prepared by the NFPA Committee on Safety to Life and the ANSI Z535 Committee on Safety Signs and Colors, for such information.

A-3-1.3 Reflective material or self-luminous materials can be used. Consideration needs to be given to the proper mounting of self-luminous symbols in well-lighted locations to ensure charging by exposure to ambient light.

A-3-1.3.2 Exception Example of a prohibition symbol.
A-4.1.3 Reflective material or self-luminous materials can be used. Consideration needs to be given to the proper mounting of self-luminous symbols in well-lit locations to ensure charging by exposure to ambient light.

A-4.2 Use of the symbols is not restricted to the examples cited.

A-4.2.5 The symbol can be of particular use where vehicles or snowfall frequently obscures hydrant locations.

A-5.1 This chapter on architectural and engineering symbols draws heavily on the symbols already developed by various societies, agencies, and industry.

A-5.1.2 The symbols in this chapter are intended to be simple, transferable by use of templates, and limited to those referents that are used repetitively in a set of drawings.

A-5.1.3 The effectiveness of the symbols in this chapter can be enhanced by the use of supplementary figures, subscripts, numbers, or letter abbreviations. Devices infrequently used in a given set of drawings and diagrams are not standardized by this document. They usually are accompanied by narrative description, either on the drawing or in specifications.

A-5.1.4 Diagram Preparation and Contents. Where appropriate, diagrams include, but are not limited to, the following. (See Figure A-5.1.4.)

(1) Title block indicating:
   a. Name of company or organization
   b. Person making drawing and date of drawing
   c. Name and location of facility involved
(2) “North” direction arrow properly oriented to the position of buildings shown.
(3) Scale of diagram, if used, or “not to scale.” Scale may be given with a bar measurement if reduction copies are to be made.

Figure A-5.1.4 Diagram to exemplify the use of symbols for risk analysis drawing.

A-5.1.4.1 Drawing scale, line thickness, and so forth are the subject of standards on drawing practice.

A-5.1.4.4 The following are examples of symbol orientation.

A-5.2.1.2 The following are examples of open-walled structures.

A-5.2.3 The following is an example of a street.

A-5.2.4 The following are examples of bodies of water.

A-5.2.5 The following is an example of a fence with a gate.
A-5-3.1 The following is an example of building construction identification. (See NFPA 220, Standard on Types of Building Construction.)

A-5-3.2 See Figure A-5-3.2 for an example of height symbols used for a building.
A-5-3.3.1 See Figures A-5-3.3.1 (a) and (b) for examples of wall symbols.
A-5-3.3.2 See Figure A-5-3.3.1 (a) for examples of parapet symbols used for a building.
A-5-3.5 See Figure A-5-3.5 for an example of cross-section symbols used for a building.
A-5-4.4 For 5-4.4.1 through 5-4.4.5, symbol elements can be utilized in any combination to fit the type of hydrant.

A-5-7.1.1 Electrical or mechanical actuation can be shown.
A-5-7.1.1.1 The telephones referred to in 5-7.1.1.1 are those for a dedicated system for fire and related emergencies.
A-5-7.1.1.2 Temperature rating of heat detectors can be shown.
A-5-7.1.1.3 Velocity can be shown.
A-5-7.1.2.4 Drawing should show the type of gas or gases being monitored. Drawing should indicate the lower explosive limit (LEL) and/or the upper explosive limit (UEL) of gas or gases.
A-5-8 These symbols are intended for use in identifying the type of system installed to protect an area within a building.
A-5-8.2 For 5-8.2.1 through 5-8.2.7, temperature rating of sprinkler and other characteristics can be shown in legends where a limited number of an individual type of sprinkler is called for by the design.
A-5-8.3 See also Section 5-4 for related symbols.
A-5-12.3.1 The electrothermal link (ETL) is a multipurpose dual-response fusible link/release device. These devices are used in various applications, such as smoke/damper control and door closures. The symbol should be shown with its rated thermal point.
A-6-1.4 Triangle symbols are used for access features, ventilation features, and utility shutoffs and can point at a specific location or direction. Diamond symbols identify a specific location by touching a wall. Circle symbols are used for all piping system appendatures, such as valves, since most pipes are round.

Square symbols are used for room designations, as they represent most rooms having four sides.

Figure A-5-3.2 Examples of building height symbols. (Figure includes copyrighted material of Insurance Services Office with its permission. Copyright, Insurance Services Office, 1975.)

Figure A-5-3.3.1(a) Symbols used to note wall ratings and parapets on life safety plans and risk analysis plans/cross sections.

Figure A-5-3.3.1(b) Symbol used to note wall ratings on design and construction documents.

Figure A-5-4.4 Symbol for the 5-4.4.1 through 5-4.4.5, symbol elements can be utilized in any combination to fit the type of hydrant.
**Appendix B Additional Explanatory Information on Chapters 1 through 5**

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

B-1 (Reserved.)

B-2 (Reserved.)

B-3 Additional Explanatory Information on Chapter 3.

B-3.1 Symbol Testing. Two or more versions of a symbol were developed for the referents listed in Chapter 3. The effectiveness of each of these symbols was evaluated by testing its meaningfulness (i.e., understandability) with groups of different participants. On the basis of these results, a symbol was selected for each referent. In some cases, the symbols were refined graphically to incorporate modifications suggested by the test results. Symbol development and refinement included the efforts of research psychologists, graphic designers, safety engineers, and fire professionals.

The life safety symbols were tested in the course of several different research projects during a 7-year period. These results are referenced in a series of publications by the National Bureau of Standards.

Although a variety of testing procedures were used to assess understandability, the basic method consisted of asking people either to write down short definitions or to pick the correct definition from a set of carefully selected choices. In several studies, data on symbol preference and rated effectiveness also were obtained.

For these testing efforts, one set of participants consisted of 222 industrial personnel and 78 students; another set consisted of 271 miners and mine personnel; and another set consisted of 94 paid volunteers. No major differences between participant groups were observed for the symbols selected for Chapter 3.

In addition to the studies of understandability, a detailed assessment was made of exit symbol visibility. This study used a laboratory optical viewing system to present a set of exit symbols included in a much larger set (108) of safety and information symbols. Three viewing conditions that simulated smoke were used (luminance of 0.085, 0.060, and 0.032 candela/m²). Forty-two participants were familiarized with a randomly selected set of exit symbols to identify the separate effects of understandability and visibility. The symbol given in Chapter 3 was the symbol that was most frequently identified correctly under all three viewing conditions. In addition, the identification data were virtually the same whether participants had been familiarized with the symbol or not — suggesting that the symbol has high initial understandability. (This suggestion is reinforced by the high percentages of correct identification found in those studies that evaluated understandability.)

The results of the visibility testing program are important because an exit symbol must be both well understood and visible when under degraded viewing conditions such as smoke.

The goal of the overall testing program was to identify versions or elements of symbols for the selected referents that appeared to be most effective in communicating the intended message. It is recognized that further education and/or supplemental word messages may be useful in optimizing the effectiveness of these symbols with the general public. Nevertheless, the symbols selected have demonstrated good initial understandability. Symbols for the referents generally showed good understandability (better than 85 percent correct identifi-
B-5.2 Discussion of Basic Symbols.

B-5.2.1 Symbol Testing. Inevitably, when a new standard is introduced to a field in which standardized symbols are not established and everyone is acting independently, controversy looms over the effort as to which (whose) alleged “standard” should be used. Such controversy can only be met with a national logic for meeting the standardization task. Such logic was used in developing former NFPA 172, now incorporated into Chapter 5.

B-5.2.2 This symbology effort ultimately employed the following steps:

1. Identify problem. Is a standard for fire protection symbols needed?
2. Identify referents. What devices should be symbolized?
3. Consider applicability to fire protection and other disciplines.
4. Develop a system of symbol selection. Can a system be identified so that referents and symbols can be rationally selected or developed? (See B-5.1.)
5. Can a scheme of basic shapes be used in developing symbol sets for categories of referents?
6. Adhere to the scheme. Make exceptions only where an overwhelming level of usage makes changes unreasonable.
7. Avoid conflicts. Are there other practices and/or standards with which the proposed standard might be in conflict?

B-5.2.3 To accomplish step B-5.2.2(5), two factors had to be considered. First, there is very little agreement on symbols throughout North America. For the most part, various industry segments disagree on symbols and even on basic shapes. Second, the ISO Committee on Fire Protection Symbols for Use on Drawings completed most of its work on this subject before 1980 and proposed a set of basic symbol shapes.

B-5.2.4 With the two foregoing considerations, the NFPA Committee on Fire Safety Symbols was able to develop a set of basic shapes for symbols to be used on fire protection drawings. The following basic shapes were selected by uniting the ISO proposed basic shapes and, where existing, the North American common practice. Thus, the collection of shapes (menu) represents a compromise with the sole major objective of developing a symbols standard aimed at a common language to improve future communication among users of fire protection drawings worldwide.

B-5.2.5 The collection of basic shapes in Table B-5.2.5 is broken down into a major classification of symbol elements and a supplementary set of symbol elements that can be used singly or in combination with other symbol elements. These basic symbol shapes and relative sizes are not exclusive of all the shapes and sizes that were used in developing former NFPA 172 (now incorporated into Chapter 5). They are a guide that was used in developing the family scheme.

It is recognized that former NFPA 172 did not include all the fire safety symbols that can be required on architectural and engineering drawings. Table B-5.2.5 can therefore be used as a basis for future development of Chapter 5 or for the design of specialized symbols by the draftperson.

Symbol elements have definite meanings and therefore should always be represented at the same relative size when used in different symbols.

1999 Edition
Figure B-5.1 Symbol selection procedure.

1. Proposed referent
2. Is it within committee scope?
   - Yes → Reject
   - No → Has referent been considered before?
   - Yes → Reject
   - No → Select (new) symbol
3. Is symbol used for another referent?
   - Yes → Modify
   - No → Is symbol graphic?
   - Yes → Can symbol be modified?
     - Yes → Modify
     - No → Add further definition (possible tests)
4. Are meaning and use clear?
   - Yes → Does symbol agree with design logic?
     - Yes → Accept
     - No → Proposed standard
   - No → Acceptable?
<table>
<thead>
<tr>
<th>General Referent</th>
<th>Shape</th>
<th>Relative Size</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MAJOR ELEMENTS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatically actuating systems</td>
<td>○</td>
<td>5/32 in. dia.</td>
<td>Detection, extinguishment.</td>
</tr>
<tr>
<td>Manually actuating systems</td>
<td></td>
<td>5/32 in. square</td>
<td>Manual alarm system.</td>
</tr>
<tr>
<td>Control panel</td>
<td></td>
<td>3/16 in. x 3/32 in.</td>
<td>Supplementary element is used to describe the panel.</td>
</tr>
<tr>
<td>Portable fire extinguisher</td>
<td>△</td>
<td>3/16 in. sides</td>
<td>Supplementary element is used to further describe the extinguisher.</td>
</tr>
<tr>
<td>Fire-fighting equipment</td>
<td></td>
<td>1/4 in. sides</td>
<td>Supplementary element is used to describe a specific device.</td>
</tr>
<tr>
<td><strong>SUPPLEMENTARY ELEMENTS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water system components</td>
<td>○</td>
<td>3/32 in. dia.</td>
<td>General shape, a circle. Shading of this element indicates a wet device.</td>
</tr>
<tr>
<td>Foam agent</td>
<td></td>
<td>3/16 in. dia.</td>
<td></td>
</tr>
<tr>
<td>Dry chemical agent</td>
<td></td>
<td>3/16 in. square</td>
<td></td>
</tr>
<tr>
<td>Gaseous agent</td>
<td></td>
<td>1/8 in. sides</td>
<td></td>
</tr>
<tr>
<td>Nozzle</td>
<td></td>
<td></td>
<td>Used on pipe or other symbol.</td>
</tr>
<tr>
<td>Pressure notation</td>
<td></td>
<td></td>
<td>Used with another symbol shape, such as a detector or a tank.</td>
</tr>
<tr>
<td>Switch (electrical) or contact</td>
<td></td>
<td>0.075 in. dia.</td>
<td></td>
</tr>
</tbody>
</table>
The NFPA Committee on Fire Safety Symbols was able to identify a set of shapes for symbols to be used on fire protection drawings and diagrams (see Table B-5.2.5). The shapes were selected through a reconciliation of the symbols presented in former NFPA 172 (now incorporated into Chapter 5), the general shapes being drafted by ISO and, where existent, the common practice in North America. Thus, the family of shapes represents a compromise, with the major objective of developing a common language to improve future communication among users of fire protection diagrams worldwide.

### B-5.3 Use of Color Coding

#### B-5.3.1 General

The use of color coding to indicate various types of building construction is recommended and can be justified. Where used, color coding should be in conformity with this appendix to maximize communication. Where color coding is not used, it is necessary to rely on printed detail.

#### B-5.3.2 Table B-5.3.2 presents a recommended system for color coding.

### Appendix C Symbols for Life Safety Planning

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

#### C.1 Egress Component Identifier

**Comments:** Specify egress component.
- EX#: Exit number
- HE = Horizontal exit
- EP = Exit passageway
- CP = Common path of travel
- PD = Public discharge
- RD = Room number
- ES = Escape

#### C.1.1 Egress Component Capacity

**Comments:** Specify allowable number of persons through egress component (e.g., < 25>).

---

1. Relative is emphasized since it is not the intent here to specify actual dimensions. For comparisons, this column lists the sizes of the symbols presented here.

1999 Edition
C.1.3 Governing Component Capacity.

Comments: Specify maximum capacity of the egress path.

C.1.4 Travel Distance.

Comments: Left side: Distance to egress component. Right side: Egress component identifier.

C.1.5 Occupancy Capacity.


C.1.6 Fire Door.

(1) Non-rated

(2) Non-rated smoke-resistant

(3) 20-minute fire-rated

(4) 20-minute fire-rated, smoke-resistant

(5) 1/2-hour fire-rated

(6) 1/2-hour fire-rated, smoke-resistant

(7) 3/4-hour fire-rated

(8) 3/4-hour fire-rated, smoke-resistant

(9) 1-hour fire-rated, smoke-resistant

(10) 1-hour fire-rated, smoke-resistant

(11) 1/2-hour fire-rated

(12) 1/2-hour fire-rated, smoke-resistant

(13) 2-hour fire-rated

(14) 2-hour fire-rated, smoke-resistant

(15) 3-hour fire-rated

1999 Edition
Appendix D Referenced Publications

D-1 The following documents or portions thereof are referenced within this standard for informational purposes only and are thus not considered part of the requirements of this standard unless also listed in Chapter 7. The edition indicated here for each reference is the current edition as of the date of publication of this standard.


Appendix E Informatory Publications

E-1 This appendix lists publications that are for informational purposes only.


Dutch Standard N.E.N. 1415, the Netherlands, Symbols for Protection Against Fire on Building Drawings, Antwerp, Belgium, 1974.


Improved Risk Mutuals, “Protection Symbols.”


Improved Risk Mutuals, “Protection Symbols.”


Johnson Controls, Inc., “Abbreviations and Symbols,” Milwaukee, WI.


Massachusetts Fire Alarms—Fire Safety Symbols,” Lowell, MA.


Oklahoma State University, “OSU Safety Department Fire Alarm Symbols,” OK.


Salem, Massachusetts Fire Department, “Fire Alarm Symbols,” Salem, MA.


University of Maryland, “Firemen’s Training Course,” Section II — Advanced, College Park, MD.
INDEX

The copyright in this index is separate and distinct from the copyright in the document that it indexes. The licensing provisions set forth for the document are not applicable to this index. This index may not be reproduced in whole or in part by any means without the express written permission of the National Fire Protection Association, Inc.

A-

Abnormal tasks .................................................. 5-3.6.4
Access, fire department ......................................... 5-2
Fire alarm planning sketch symbols ............................. 6-2.3
Air-conditioning equipment rooms ............................... 6-5.1
Alarms, fire .......................................................... 5-7
Manual .......................................................... 5-7.3.4, A-5-1.4(2)
Approved (definition) ............................................. 2.1, A-2
Architectural drawings, symbols for ............................ 5-2, A-5-2.1.2
Arrows, directional ................................................ 4-2.11 to 4.2.12, A-5-1.4(2)
Authority having jurisdiction (definition) ...................... 2.1, A-2

B-

Boiler rooms ........................................................ 5-5.6, A-5-5.1
Boilers ............................................................. 5-5.6, A-5-5.1
Building construction, symbols for ............................. 3-2.10
Buildings, symbols for ............................................. 3-2.10

C-

Campfire prohibition .............................................. 5-2.10
Child care center .................................................. 4-2.15
Chimneys ............................................................ 5-4.6.2
Compressed natural gas shut off ................................. 5-4.5.3
Connections, fire department ..................................... 5-2.4.3.1
Construction, building, symbols for ........................... 5-3, A-5-3.1
Central devices, sprinkler system ............................... 5-4.5
Central panels ..................................................... 5-5, Table B-5.2.5
Cooking prohibition ............................................... 5-2.11
Cross-sections ..................................................... 5-3.5, A-5-3.3.1 to A-5-3.5

D-

Definitions ......................................................... Chap. 2, A-2
Detection equipment and systems ................................ 5-7, Table B-5.2.5
Pre-incident planning sketch symbols .......................... 6-5
Diagrams: see also Drawings and diagrams, symbols for .......................... 5-3.4.4 to 5-3.4.5
Preparation and contents ........................................ 5-3.4.4
Directional arrows ................................................ 4-2.11 to 4.2.12, A-5-1.4(2)
Door holders ....................................................... 5-7.3.4
Doors, fire .......................................................... 5-3.4.2 to 5-3.4.3, C-1.6
Drawings and diagrams, symbols for .......................... 5-3.4.4
Alarms, fire ....................................................... 5-7
Appliances .......................................................... 5-4.5.3
Brochures .......................................................... 5-4.5.3
Building construction ............................................. 5-3.5.3
Central devices, sprinkler system ............................... 5-4.5
Control panels ..................................................... 5-5
Distributions of symbols .......................................... 5-4 to 5-4.2
Detection equipment ............................................. 5-7
Development ....................................................... 5-6.2
Extinguishers, portable fire ...................................... 5-6.2
Extinguishing systems ............................................ 5-6.2
Fire-fighting equipment ......................................... 5-4.10
Means of egress .................................................. 5-6.5
Means of egress .................................................. 5-6.5
Perimeter protection .............................................. 5-4.2
Orientation ........................................................ 5-4.4, A-5-4.4
Pre-incident planning sketch symbols .......................... 5-3.4.4, A-5-3.4
Presentation ........................................................ 5-4.4, A-5-4.4

Scale .............................................................. 5-3.4.3, A-5-4.3(3)
Screened lines ..................................................... 5-4.2
Selection procedure .............................................. 2.1, A-2
Shapes .............................................................. 5-4.1.6, A-5-4.1.6, B-5.4.1 to B-5.6.2
Site features ...................................................... 5-5, A-5-5.2, B-5.2.4
Smoke/pressurization control .................................. 5-1.1
Sprinkler ........................................................... 5-4.2
Sprinkler systems ................................................ 5-4.2
Testing .............................................................. B-5.2.1
Unicorner ............................................................ 5-4.1
Water supply and distribution .................................... 5-4
Dry chemical extinguishing systems ............................ 5-8.1.2, 5-8.8
Dry chemical portable fire extinguishers ....................... 5-8.4

E-

Egress, means of .................................................. 5-4.5.5
Electric panel or electric shutoff ................................ 5-4.5.5
Electrical/transformer rooms .................................... 5-6.7
Elevators ............................................................ 5-6.7
Building construction symbols .................................. 5-3.4.4 to 5-3.4.5
Equipment rooms ................................................ 5-6.8
Prohibition of use ................................................ 5-6.8
Engineering drawings, symbols for ............................. 5-6.8
Drawings and diagrams, symbols for ........................... 5-6.8

F-

Fence ............................................................... 5-4.5.2
Fire department access .......................................... 5-4.5.2
Fire department connections ..................................... 5-4.5.2
Painting ............................................................ 5-4.5.2
Fire service use symbols ........................................ 5-4.5.2
Pre-incident planning sketch symbols .......................... 5-4.5.2
Fire escapes ....................................................... 5-3.6.5
Fire-fighting equipment ......................................... 5-3.5.4.2 to 5-3.5.4.3
Fire-fighting hoses ............................................. 5-4.10
Fire hydrants ...................................................... 5-4.10
Fire pumps .......................................................... 5-4.10
Fire risk diagrams: see also Risk analysis drawings ......... 5-4.10
Fire service use symbols ........................................ 5-4.10
Painting ............................................................ 5-4.10
Background ....................................................... 4-1.3.3
Color .............................................................. 4-1.3.3, 4-1.3.4.2, 4-1.3.5
Descriptions of symbols ......................................... 5-4.2
Fundamental imagery ............................................ 4-1.3.3
Orientation ........................................................ 4-1.3.3
Presentation ....................................................... 5-4.1.4
Shapes .............................................................. 4-1.3.3, 4-1.3.4.1, 4-1.3.5.2, A-4.1.3.1, B-4.4
Testing .............................................................. 5-4.1.4

1992 Edition

INDEX

Uniformity in use of ........................................ 4-1.2
Use .......................................................... A-4.2
Floor assemblies ............................................... 5-7.1.2.5
Floor openings ............................................... 5-3.3, 5-3.4
Fusible links .................................................. 5-12.3, A-5-12.3.1

I-

Indicating appliances ...................................... 5-7.2
Insurance diagrams, symbols for ...................... App. E
International System of Units (SI) ....................... 1-3

J-

Labeled (definition) ........................................ 3-1
Life safety planning symbols ......................... A-5-3.3.1 to A-5-3.3.2, App. C
Light 

Emergence .................................................. 56
Indicating ...................................................... 5-7.2, 4 to 5-7.2.5
Lined (definition) ......................................... 5-4.7, A-5-4.7.1, A-6.1.3
Low analysis diagrams for ................................ Drawings and diagrams, symbols for
LP-Gas shutoff ............................................. 6-3-4.5.1.3

M-

Mains, pipe .................................................. 5-4.1
Manual alarm ................................................ 5-4.1

Mean of evens ................................................ see also Exits
Drawing and diagram symbols ........................... 5-4.5
Life safety planning symbols ......................... 5-1

Measurement, units of ..................................... 1-3
Meters ......................................................... 5-4.3

Natural gas shutoff ......................................... 6-4.3.1.2

O-

Openings (floor, wall, roof) .............................. 5-5.4

Parapets ...................................................... 5-3.3.2, A-5-3.5.2
Piping, sprinkler system .................................. 5-8.3
Pre-incident planning (definition) .................. 5-8.2
Pre-incident planning sketches, symbols for ....... 6-6.3, A-6-6.3
Access features ............................................. 6-2.3
Application .................................................. 6-4.3
Assessment features ...................................... 6-4.2
Detection/extinguishing equipment .................. 6-5
Equipment rooms ........................................... 6-5
Hazardous materials, identification of ............ 6-6.6
Shapes ........................................................ 6-1.4, A-6-1.4
Uniformity in use of ...................................... 6-1.2
Utility shutoffs ............................................. 6-2.4
Ventilation features ....................................... 6-2.5
Water flow control valves and water sources ..... 6-4.1
Pressurization control .................................... 5-11
Pressurization panel ....................................... 6-2.4
Prohibition symbols ....................................... 5-1.3.2, A-5-1.3.2
Orientation .................................................. 6-1.2
Types .......................................................... 5-2.3, 6-2.3.2 to 5-2.3.10, 6-3.12
Property lines ............................................... 6-2.6
Pump rooms ................................................. 6-5.4
Pumps, fire .................................................... 6-4.6
Pre-incident planning symbols ...................... 6-4.6
Pre-incident planning sketch symbols ............ 6-4.6
Purpose of standard ...................................... 1-2

R-

Railroad tracks ............................................. 5-2.2
Referenced publications ................................. Chap. 7, App. D
Referent (definition) ...................................... 2-2, A-2-2
Refuge, area of ............................................ 3-2.13
Risk analysis drawings ................................. see also Drawings and diagrams, symbols for
Symbols used for .......................................... A-5-3.3.1 to A-5-3.3.2
Roof assemblies ............................................ 5-3.3.1
Roof openings ............................................. 5-3.4

S-

Scope of standard .......................................... 1-1
Screen, strainer ............................................. 5-4.7
Self-luminous ............................................... A-3-4.1.3
Definition .................................................... 2-2
Shall (definition) .......................................... 2-1
Should (definition) ....................................... 2-1
Shutoff valves, gas ......................................... 4-2.8
Shutoffs, utility ............................................ 4-2.7 to 4-2.8, 6-2.4
Smoke fire department connections .................. Drawings and diagram symbols 5-4.3.1 to 5-4.3.2
Fire service use symbols ................................. 4-2.1
Skylights ..................................................... 5-3.4.11, 6-2.5.1
Smoke control ............................................. Drawings and diagram symbols 5-4.11
Pre-incident planning sketch symbols ............ 6-2.4

1999 Edition
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoke detectors</td>
<td>Drawing and diagram symbols . . . 5-7.1.2.2 to 5-7.1.2.3, A-5.1.2.5</td>
</tr>
<tr>
<td>Pre-incident planning symbols</td>
<td>6-5.3, A-6.1.3</td>
</tr>
<tr>
<td>Smoke vents</td>
<td>6-2.5</td>
</tr>
<tr>
<td>Smoking prohibition</td>
<td>5-2.9</td>
</tr>
<tr>
<td>Sprinkler systems</td>
<td>Drawing and diagram symbols . . . 6-8.1.4, 6-8.2 to 6-8.3</td>
</tr>
<tr>
<td>Fire service use symbols</td>
<td>6-2.1 to 6-2.2, 6-4.4, 6-4.6</td>
</tr>
<tr>
<td>Pre-incident planning sketch symbols</td>
<td>6-2.2.5, 6-4.1 to 6-4.3</td>
</tr>
<tr>
<td>Stairs</td>
<td>Building construction symbols . . 5-3.4.8 to 5-3.4.10</td>
</tr>
<tr>
<td>Use in case of fire, symbols for</td>
<td>5-2.4 to 6-2.7</td>
</tr>
<tr>
<td>Standpipes</td>
<td>Fire department connections . . . 4-2.5 to 4-2.4</td>
</tr>
<tr>
<td>Outlets</td>
<td>4-2.9</td>
</tr>
<tr>
<td>Stairs</td>
<td>5-2.3, A-5.2.3</td>
</tr>
<tr>
<td>Supplementary indicators (definition)</td>
<td>2/A/2</td>
</tr>
<tr>
<td>Symbols (definition)</td>
<td>2/A/2</td>
</tr>
<tr>
<td>Walls</td>
<td>5-3.3.1, A-5.3.1</td>
</tr>
<tr>
<td>Water, bodies of</td>
<td>5-2.4, A-5.2.4</td>
</tr>
<tr>
<td>Water flow control valves</td>
<td>6-4.1 to 6-4.3</td>
</tr>
<tr>
<td>Water flow detectors/alarms</td>
<td>Drawing and diagram symbols . . . 5-7.1.2.6, 5-7.2.3, Table B-5.2.5</td>
</tr>
<tr>
<td>Pre-incident planning sketch symbols</td>
<td>6-2.2.5, 6.3.1</td>
</tr>
<tr>
<td>Water tanks</td>
<td>6-4.11</td>
</tr>
<tr>
<td>Water supply and distribution</td>
<td>5-4.1, Table B-5.2.5</td>
</tr>
<tr>
<td>Water-based extinguishing systems</td>
<td>5-6.1.1</td>
</tr>
</tbody>
</table>

**U**

- Underground tanks | 5-3.6.5
- Utility shutoffs  | 6-2.4

**V**

- Valves  
  - Drawing and diagram symbols | Table B-5.2.5
  - Gas shutoff                  | 6-4.2
  - Solenoid                     | 6-4.4
  - Sprinkler control            | 6-4.6
  - Sprinkler system             | 6-5.3
  - Water flow control           | 6-4.1 to 6-4.3
  - Ventilation features         | 5-11.5, 6-2.3
  - Vents, smoke                 | 6-2.5.2

**W**

- Wall openings  | 5-3.4
- Gas           | 5-3.1.1, A-5.3.1
- Water, bodies of | 5-2.4
- Water flow control | 6-4.1 to 6-4.3
- Water flow detectors/alarms | Drawing and diagram symbols . . . 5-7.1.2.6, 5-7.2.3, Table B-5.2.5 |
- Pre-incident planning sketch symbols | 6-2.2.5, 6.3.1
- Water shutoff  | 6-2.4.2
- Water supply and distribution | 5-4.1, Table B-5.2.5
- Water tanks    | 6-4.11
- Water-based extinguishing systems | 5-6.1.1
Symbols for Chapter 3 of NFPA 170, 1999 Edition
(See reverse side for Chapter 4 symbols.)

- **Emergency Exit**
- **Accessible Emergency Exit**
- **Accessibility Exit Route**
- **Use Stairs in Case of Fire**
- **Use Stairs in Case of Fire**
- **Not an Exit**
- **Accessible Emergency Exit**
- **Do Not Use Elevator in Case of Fire**
- **No Smoking**
- **No Campfires**

* Image can be green or black
** Arrow can be green or black
Symbols for Chapter 4 of NFPA 170, 1999 Edition

- Fire Department Automatic Sprinkler Connection — Siamese
- Fire Hydrant (All Types)
- Fire-Fighting Hose or Standpipe Outlet
- Fire Department Automatic Sprinkler Connection — Single
- Automatic Sprinkler Control Valve
- Fire Extinguisher
- Fire Department Standpipe Connection
- Electric Panel or Electric Shutoff
- Directional Arrow
- Fire Department Combined Automatic Sprinkler/Standpipe Connection
- Gas Shutoff Valve
- Child Care Center

* Background can be red or blue