NEMA Z535.2 91 ■ 6470247 0500572 4 ■

American National Standard

ANSI Z535.2-1991

Environmental and Facility Safety Signs

National Electrical Manufacturers Association
2101 L Street, N.W.,
Suite 300
Washington, DC 20037-1580
(202) 457-8400

American National Standard

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Safety color sheet for use with ANSI Z535.1, Z535.2, Z535.3, Z535.4 and Z535.5-1991

Color Name	Munsell Notation Hue	Value/Chroma	Equivalent CIE Data (Y%)	x	y	Approximate PMS Color
Safety Red	7.5R	4.0/14	12.00	0.5959	0.3269	15 parts Warm Red 1 part Rubine Red 1/4 part Black
Safety Orange	5.0YR	6.0/15	30.05	0.5510	0.4214	13 parts Yellow 3 parts Warm Red 1/4 part Black
Safety Brown	5.0YR	2.75/5.0	5.52	0.4766	0.3816	9 parts Yellow 7 parts Warm Red 4-1/2 parts Black
Safety Yellow	5.0Y	8.0/12	59.10	0.4562	0.4788	Pantone 108 C
Safety Green	7.5G	4.0/9.0	12.00	0.2110	0.4121	Pantone 3415 C
Safety Blue	2.5PB	3.5 /10	9.00	0.1691	0.1744	13-1/2 parts Process Blue 2-1/2 parts Reflex Blue
Safety Purple	10.0P	4.5 /10	15.57	0.3307	0.2245	Pantone 253 C
Safety White	N	1.0 (5R-5Y)	78.70	0.3101	0.3163	White
Safety Gray	N	5.0/	19.80	0.3101	0.3163	1-1/2 parts Black 1/2 part Reflex Blue 13 parts Trans. White
[illegible]	N	5.0/	19.80	0.3101	0.3163	Black

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ANSI®
Z535.2-1991

American National Standard for Environmental and Facility Safety Signs

Secretariat

National Electrical Manufacturers Association
National Institute of Standards and Technology

Approved June 1991

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Foreword (This foreword is not a part of American National Standard for Environmental and Facility Safety Signs, Z535.2-1991.) This standard, approved by ANSI on June 6, 1991 is a revision of the American National Standard for Safety Signs, Z35.1, 1972.

In 1979, the Z53 Committee on Safety Colors was combined with the Z35 Committee on Safety Signs to form the Z535 Committee on Safety Signs and Colors. This committee has the following scope:

> "To develop standards for the design, application, and use of signs, colors, and symbols intended to identify and warn against specific hazards and for other accident prevention purposes."

Five subcommittees were created and assigned the tasks of updating the Z53 and Z35 standards, and writing two new standards. The five standards include:

Z535.1 - Safety Color Code, which updates Z53.1 (1979).

Z535.2 - Environmental and Facility Safety Signs, which updates Z35.1 (1972).

Z535.3 - Criteria for Safety Symbols, a new standard.

Z535.4 - Product Safety Signs and Labels, a new standard.

Z535.5 - Accident Prevention Tags (for Temporary Hazards), which updates Z35.2 (1974).

Together, these five standards contain information needed to specify formats, colors, and symbols for safety signs used in environmental and facility applications (Z535.2), product applications (Z535.4), and accident prevention tags (Z535.5).

It is desirable that new signs, labels, symbols and colors specified after the approval of this standard, comply with the standard.

Neither the Foreword, nor the informative Annex, are to be considered part of this standard.

This standard was formulated to provide a visual system of hazard identification as related to potential hazards in the environment to provide for the design, application and use of visual alerting devices utilizing this visual alerting system.

The committee met many times to consider the best form for this revision. From these meetings, the decision was reached to write a performance-type standard that the observer, the manufacturer, and the user can utilize with the least amount of confusion. The committee also decided to combine the Z35.1-1972 standard with the Z35.4-1973 American National Standard for Information Signs. In addition to these changes, the committee has attempted to incorporate elements from the International Standard ISO 3864, Safety Signs and Colors that are appropriate to the American environment.

Suggestions for improvement of this standard are welcome. They should be sent to the American National Standards Institute, 11 W. 42nd Street, New York, New York 10036.

This standard was processed and approved for submittal to ANSI by the American National Standards Committee on Safety Signs and Colors, Z535. Committee approval of this standard does not necessarily imply that all committee members voted for its approval, but that a consensus of all members was obtained.

American National Standards Committee Z535 had the following members at the time it processed and approved this standard:

Belinda L. Collins, Ph.D., Chairperson
Carrol E. Burtner, P.E., Secretary
Robert C. Vanstrum, Z535.2 Subcommittee Chairperson

Organization Represented	*Name of Representative*
Alliance of American Insurers	Thomas F. Bresnahan Harry R. Winchell (Alt.)

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American Society of Safety Engineers	Thomas J. Reilly, CSP, P.E.
	Jack H. Dobson, Jr. (Alt.)
American Welding Society	A.F. Manz
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Association for Finishing Processes of the Society of Manufacturing Engineers	Gary M. Bell
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Dorris & Associates	Alan L. Dorris, Ph.D.
	Russell E. Marhefka(Alt.)
Edison Electric Institute	Klaus Broscheit
	Matthew C. Mingoia (Alt.)
	M.F. Borleis (Alt.)
Exchange Carriers Standards Association	Robert A. Naser
Farm & Industrial Equipment Institute	L. Dale Baker
Federal Highway Administration	J. Travis Brooks, P.E.
FMC Corporation	Albert O. Hughes
Hale Color Consultants	William N. Hale, Jr.
Hand Tools Institute	I. James Elmore
	Russ Szpot (Alt.)
Hoist Manufacturers Institute	Michael G. Miller, Ph.D.
Industrial Safety Equipment Association	R.L. Fisk
	Frank Wilcher, Jr. (Alt.)
	Peter Wood(Alt.)
International Brotherhood of Painters & Allied Trades	Richard D. White
International Business Machines	Grant F. Ferris
International Staple, Nail & Tool Association	John Kurtz
Inter-Society Color Council	Fred W. Billmeyer, Ph.D.
LNA	Louis Nelson
National Institute of Standards and Technology	Belinda L. Collins, Ph.D.
	Gerald L. Howett, Ph.D. (Alt.)
National Electrical Manufacturers Association	John C. Dutton
National Safety Council	James P. Kaletta
	Joseph Slifka (Alt.)
Rural Electrification Administration	Harvey Bowles
Safety Equipment Distributors	Larry Nandrea
	Lee Stone (Alt.)
Society of Environmental Graphic Designers	Nora Olgyay
	Sonia Slobojan Swigart (Alt.)
System Safety Society	Robert Cunitz, Ph.D.
3M Company	Robert C. Vanstrum
Underwriters Laboratories, Inc.	A.N. Angonese
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W. Peck (Alt.)
U.S. Coast Guard ..... Marc B. Mandler, Ph.D.
United Technologies ..... Steven A. Green
W.H. Brady Co. ..... Donald Lex

The ANSI Z535.2 Subcommittee had the following membership while this standard was being developed:

James Arndt	Thomas Bresnahan
S. Tebbs Chechester	Belinda Collins, Ph.D.
Donald Consalvo	Robert J. Cunitz, Ph.D.
John C. Dutton	T. Duncan Ellison
Steven Green	Nick Hale
William A Herring	Gerald L. Howett, Ph.D.
Albert O. Hughes	Thomas Jamrose
Tobert D. Jordan	Brian Pierman
Dennis J. Seal	Lee Stone
Robert Sido	Alan L. Dorris, Ph.D.
Robert C. Vanstrum	Steven Mesner
Steven Pennington	

The Task Force responsible for the writing and structuring of the standard had the following personnel:

Steven Green
Steven Pennington
Lee Stone
Robert Vanstrum

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American National Standard

for Environmental and Facility Safety Signs

1 Introduction

Hazards should be eliminated wherever possible. If they cannot be eliminated, a visual hazard-alerting message should be provided to inform the observer of the hazard, the degree of hazard, and appropriate actions to take to avoid injury. To achieve these objectives, it is most important to have an easily recognizable and highly conspicuous hazard alerting system such as is presented in this document.

In addition, the diversity of culture and background in the American society increases the need to standardize a visual alerting identification system for safety signage. The great need to eliminate accidents and suffering among individuals who may be exposed to hazards, requires the use of standard formats, sizes, colors, shapes, and a firm understanding of the degree of hazard. This document contains the elements that complement and reinforce, yet maintain a distinctive separation between the main levels of hazard severity.

This standard therefore sets forth a three level hazard alert system which uses three different signal words, color coding, and signal word configurations. Use of it will allow the observer of a hazard alerting sign to distinguish the degree of the hazard and take appropriate actions to avoid injury. This standard provides a useful, logical, consistent framework for designing safety signs that is essential for their understandability.

The ultimate application of the visual alerting messages will be up to those responsible for affixing these messages. This standard is intended to provide specifications for signs to convey a safety alert message that is clearly and rapidly understood regardless of the viewers' background. In certain areas of the country where other languages are used, consideration should be given to providing messages in those languages.

This standard sets forth a hazard communication system which was designed to complement the ANSI Z535.4-1991 standard which covers safety signs and labels for products. While these standards are similar in many respects, they each address different physical and visual requirements. The Z535 Committee on Safety Signs and Colors has recognized and affirmed the need for these two standards.

2 Scope and purpose

2.1 Scope

This standard establishes requirements for a uniform visual system of identification related to potential hazards in the environment. It provides for the design, application, and use of signs and placards employing this visual alerting system.

2.2 Purpose

The primary purpose of this standard is to provide an effective means of communicating information concerning environmental hazards to the observer, so that injury resulting from the hazard(s) can be avoided. In addition, communication of other important information for the safety and well-being of the observer is also included. In order to do this, it is necessary to minimize the number of layouts and design formats while providing flexibility to meet individual consumer needs and situations.

2.2.1 This standard covers signs used at fixed locations in the environment, such as industrial facilities, as well as larger, movable signs that may be used on a temporary basis, as opposed to product labels or chemical labels.[1]

2.2.2 Subsections of 5.1, 5.2, and 5.3 of this standard may be used for product labels as otherwise defined in ANSI Z535.4-1991 if it is desired to have the same graphic system to conform with environmental signs.

[1] Note: For chemical products and chemical mixtures follow ANSI Z129.1-1988.

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2.2.3 There are a number of existing American National Standards which are recognized for particular industries or specific uses. Compliance with these standards may be considered for such particular industry or use. It is not the intent of this ANSI Z535.2 standard to replace existing standards or regulations, which are uniquely applicable to a specific industry or use. It is the intent to encourage adoption of this standard in subsequent revisions of other standards and regulations.

2.2.4 This standard is being issued with the objective of minimizing the proliferation of non-standard hazard alerting devices and achieving application of a national uniform system for the recognition of hazards in the environment. Where portions of other standards and regulations can be modified to reflect the concepts of this standards, such modifications should be made.

3 Application and exceptions

3.1 Application

Should any of the requirements of this standard be in conflict with any federal, state, or municipal rules, regulations or guidelines, such conflict shall not invalidate the other significant specifications such as those pertaining to color, size, legend, or symbols, or prohibit their implementation.

3.2 Exceptions

These requirements do not include labels or signs for containers of chemicals and chemical mixtures[1] and hazardous substances[2], in-plant vehicular movement (except as defined in section 5.8) public streets and highways[3], railroads, air transport, marine operations, or safety bulletins and posters.

3.2.1 Section 6 and subsections 7.1 through 7.5 of ANSI Z535.4 (1991) may be used for both environmental signs and product labels if it is desirable to have the same graphic system for purposes of uniformity (see also 2.2.2).

4 Definitions

4.1 accident: An occurrence in a sequence of events that produces unintended injury, death or property damage.

4.2 color: Colors specified in this standard shall conform to ANSI Safety Color Code, Z535.1-1991.

4.3 decal: See safety sign.

4.4 hazard: A source of potential injury to a person.

4.5 label: See safety sign.

4.6 may: This word is understood to be permissive.

4.7 panel: Area of a safety sign having a distinctive background color different from adjacent areas of the sign or which is clearly delineated by a line, border, or margin. There may be up to three (3) panels per sign: signal word, message, and symbol.

4.7.1 message panel: Area of a safety sign that contains those words related to: identification of the hazard, how to avoid the hazard, and/or the probable consequences of not avoiding the hazard.[4]

4.7.2 signal word panel: Area of a safety sign that contains the signal word.

4.7.3 symbol/pictorial panel: Area of a safety sign that contains the symbol/pictorial.

4.8 pictorial: See symbol/pictorial.

4.9 placard: See safety sign.

4.10 safety sign: A visual alerting device in the form of a sign, label, decal, placard or other marking which advises the observer of the nature and degree of the potential hazard(s) which can cause injury or death. It can also provide safety precautions or evasive actions to take, or provide other directions to eliminate or reduce the hazard.[5]

4.10.1 environmental safety sign: Sign or placard in a work or public area that provides safety information about the immediate environment.

4.10.2 product safety sign: Sign, label, or decal permanently affixed to a product that provides safety information about the product.[5]

4.11 shall: This word is understood to be mandatory.

4.12 should: This word is understood to be advisory.

4.13 signal word: The word or words that designate a degree or level of safety alerting. Specific signal words are defined here and the definition repeated where they appear in subsequent sections

---

2) See Reference 8.

3) See Reference 7.

4) Listed in order of priority. Where avoidance and consequence information is obvious, inclusion in the message panel is less important.

5) Note: For chemicals and chemical mixtures, follow ANSI Z129.1-1988.

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(see section 5 inclusive). The word or words shall always be located in a distinctive panel located in the uppermost portion of the safety sign.

4.13.1 Danger: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.[6]

4.13.2 Warning: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.[7]

4.13.3 Caution: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.[8]

4.13.4 Notice signs: Signs used to indicate a statement of company policy directly or indirectly related to the safety of personnel or protection of property.

4.13.5 general safety signs (Safety First, Be Careful, Think, etc.): Signs used to indicate general instructions relative to safe work practices, reminders of proper safety procedures, and the location of safety equipment.

4.13.6 fire safety: Signs used to indicate the location of emergency fire fighting equipment. (Note: These signs indicate the location of equipment, etc., and not the direction to such equipment, etc.)

4.13.7 directional arrow signs: Signs used to indicate the direction to entrances, exits, emergency equipment, safety equipment, and other locations important to safety.

4.14 surround/surround shape: A geometric configuration around the symbol/pictorial which can convey additional safety information.

4.15 symbol/pictorial: A graphic representation intended to convey a message without use of words. It may represent a hazard, hazardous situation or precaution to avoid a hazard, the result of not avoiding the hazard or any combination of these messages.

5 Sign classification

5.1 DANGER signs

5.1.1 Definition - DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

5.1.2 Signal word panel

Danger signs shall have the signal word "DANGER" in white letters on a red oval background with a white border on a black rectangular field, and this distinctive panel shall appear in the uppermost portion of the sign. No other signal word or symbol shall be used within this distinctive shape and color arrangement.

5.1.3 Illustration

The DANGER signal word panel shall be designed as illustrated below:



5.1.4 Message panel

The message shall be in black or red letters on a white background.

5.1.5 Symbol panel

The symbol panel, if used, shall be square with a black or red symbol on a white background.

5.2 WARNING signs

5.2.1 Definition - WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

5.2.2 Signal word panel

Warning signs shall have the signal word "WARNING" in black letters within an orange truncated diamond on a black rectangular background. This distinctive panel shall be located at the uppermost portion of the sign. No other word or symbol shall be used within this distinctive shape or color arrangement.

5.2.3 Illustration

The WARNING signal word panel shall be designed as illustrated below:



6) Note: DANGER or WARNING should not be considered for property damage accidents *unless personal injury risk appropriate to these levels is also involved.* CAUTION (and NOTICE) are permitted for property-damage-only accidents.
7) See footnote 6.
8) See footnote 6.

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5.2.4 Message panel

The message shall be in black letters on an orange background.

5.2.5 Symbol panel

The symbol panel, if used, shall be square with a black symbol on an orange background.

5.3 CAUTION signs

5.3.1 Definition - CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

5.3.2 Signal word panel

Caution signs shall have the signal word "CAUTION" in yellow letters within a black rectangular background, and this distinctive panel shall be located in the uppermost portion of the sign. No other signal word or symbol shall be used with this distinctive color or signal shape arrangement.

5.3.3 Illustration

The CAUTION signal word panel shall be designed as illustrated below:



5.3.4 Message panel

The message shall be in black letters on a yellow background.

5.3.5 Symbol panel

The symbol panel, if used, shall be square with a black symbol on a yellow background.

5.4 NOTICE and informational signs

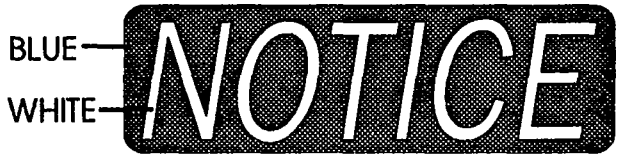
5.4.1 Definition - NOTICE is used to indicate a statement of company policy as the message relates directly or indirectly to the safety of personnel or protection of property. This signal word should not be associated directly with a hazard or hazardous situation and must not be used in the place of "DANGER," "WARNING," or "CAUTION."

5.4.2 Signal word panel

These signs shall have the signal word "NOTICE" in white letters on a blue background on a rectangular field, and this distinctive panel shall be located in the uppermost portion of the visual alerting device. No other signal word or symbol shall be used within this distinctive shape and color arrangement.

5.4.3 Illustration

The NOTICE signal word panel shall be designed as illustrated below:



5.4.4 Message panels

The message shall be in blue or black letters on a white background.

5.4.5 Symbol panel

The symbol panel, if used, shall be square with a blue or black symbol on a white background.

5.5 General safety signs

5.5.1 Definition: General safety sign legends are used to indicate general instructions relative to safe work practices, reminders of proper safety procedures, and the location of safety equipment.

5.5.2 Signal word panel

These safety signs may have the signal words "SAFETY FIRST," "BE CAREFUL," "THINK," etc. in white letters on a green background on a rectangular field, and this distinctive panel shall appear in the upper most portion of this sign. Other signal words that convey the general safety message as described in section 5.5.1 are allowed. Signal words that are not in accordance with the above definition shall not be used and these include DANGER, WARNING, and CAUTION.

5.5.3 Illustration

The general safety signal word panel shall be designed as illustrated below:



5.5.4 Message panels

The message shall be in green or black letters on a white background.

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5.5.5 Symbol panel

The symbol panel, if used, shall be square with a green or black symbol on a white background.

5.6 One panel signs

Guidelines for one panel signs covering sign categories defined in 5.1 through 5.5 inclusive are described in Annex A. While compatible with the system employed for multi-panel signs, they should not be used until thoroughly tested (see A1.8).

5.7 Fire safety

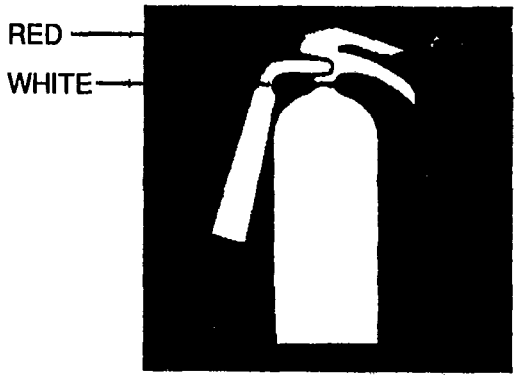
5.7.1 Definition: Fire safety signs are used to indicate the location of emergency fire fighting equipment. (Note: These signs indicate the location of equipment, etc., and not the direction to such equipment, etc.).

5.7.2 Signal word panel

These fire safety signs do not have a signal word.

5.7.3 Illustration

A typical fire safety sign is illustrated below:



5.7.4 Message Panels: The message panel shall be in red letters on a white background in either a square or rectangular field.

5.7.5 Symbol panel: The symbol panel, if used, shall be red on white or white on red.

5.8 Directional arrow signs

5.8.1 Definition: Directional arrows are used to indicate the direction to entrances, exits, emergency equipment, safety equipment, and other locations important to safety.

5.8.2 Directional arrow sign panels: This directional arrow symbol shall be in white on a black or colored background on a rectangular field, and this distinctive symbol shall appear in the uppermost portion of the visual alerting device when used by itself or in conjunction with general safety or fire safety signs. When these directional arrows are used in conjunction with DANGER, WARNING, CAUTION, or NOTICE signs, the arrows shall be in a lower sign panel. The color of the arrows shall be in the same color arrangement as the message or symbol as described in the definition section 5.0 inclusive. (i.e., The arrow on a warning sign shall have a black arrow on an orange background.)

5.8.3 Illustration

This distinctive shape shall be designed as illustrated below:



5.9 Special signs

5.9.1 Definitions: These signs have been developed for special uses and have been separated from the other categories of hazard alerting devices by special layout. These visual alerting devices are covered by other standards as listed in the Reference section.

5.10 Sign classification selection

5.10.1 It is not the intent of this standard to define precisely degrees of hazard or where the various hazard level signs are to be used.

5.10.2 When no federal, state, or local government code, regulation, standard, or guideline specifically requires the use of a particular hazard alerting signal word it shall be up to those responsible to select the appropriate hazard classification. Each situation requiring the use of a hazard alerting device must be reviewed with regard to the definitions given in section 4.0 inclusive and 5.0 inclusive.

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6 Sign design/layout

6.1 Three panel signs shall be as illustrated as in figure 1.

6.2 Two panel signs shall be as illustrated in figure 2.

6.3 One panel signs shall be as illustrated in figure 3. (see also ANSI Z535.3-1991, *Criteria for Safety Symbols).*

NOTE - Symbol-only signs should use the hazard classification surround shapes as described in Annex A.

6.4 Application of panel layouts by sign classification as defined in section 5.0 inclusive shall be as follows: (see figures 1, 2, & 3).

Table 1

Sign Classification	Permitted	Prohibited or Not Used	*Optional One-Panel
DANGER	A through G	H, I, J	*K or L
WARNING	A through G	H, I, J	*K or L
CAUTION	A through G	H, I, J	*K or L
NOTICE	A through G	H, I, J	*K
GENERAL SAFETY	ALL	...	*K
FIRE SAFETY	H, I, J	A through G	...
DIRECTIONAL	C, D, E, F, G	A, B, H, I	...
SPECIAL	Not Applicable	...	...

* These one-panel signs shall use (K) or be in the shape of (L) the "surround shape" to indicate level of hazard/type of sign as described in Annex A.

7 Sign color

7.1 Color specifications The color of sign finishes shall conform to the approved color specifications as outlined in sections 7.1.1 through 7.1.3 inclusive.

7.1.1 Opaque colors shall conform to those colors specified in American National Standard Z535.1-1991.

7.1.2 Retroreflective colors shall conform to those colors specified in Federal Specification FP-85.

7.1.3 Fluorescent colors shall conform to those colors specified in American National Standard Z535.1-1991.

NOTE - All color measurements should be made in accordance with the methods defined in the above standards or references.

8 Symbols and pictorials

8.1 General

Symbols and pictorials may be used to clarify, supplement or substitute for the worded message found in the message panel of safety signs.

8.1.1 Symbol panels shall be square in shape whenever they appear. For single panel signs, the square may be rotated to indicate a diamond (see Annex A).

8.1.2 Symbols and pictorials are graphic representations chosen to clearly convey a specific alerting message.

8.1.3 The conveyed message of a symbol or pictorial is to describe the nature of the hazard, potential consequences of the hazard, or evasive/avoidance actions to be taken. These symbols or pictorials must also be compatible with worded messages when used in combination.

8.2 Colors

8.2.1 All colors of symbols and pictorials shall be as specified in sections 5.1 through 5.7 inclusive.

8.3 Surround shapes

8.3.1 Only those surround shapes as described in Annex A are suggested for use in this Standard.

8.4 Symbol use

Because certain symbols and pictorials are not readily understood by the observer, only symbols or pictorials previously validated for recognition and understanding by research or common usage should be used. Approved symbols are given in the Z535.3-1991. Standard as well as in standards and references listed in the Reference section.

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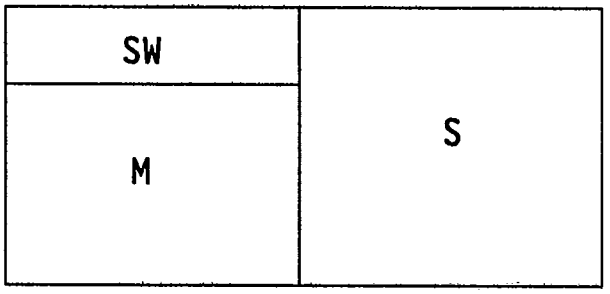
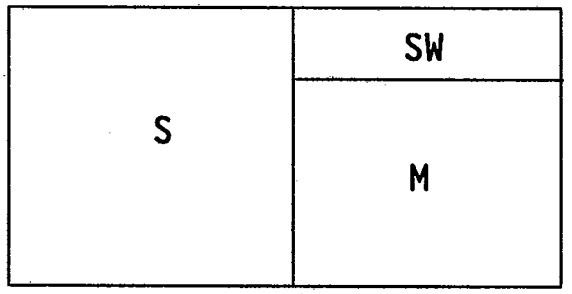
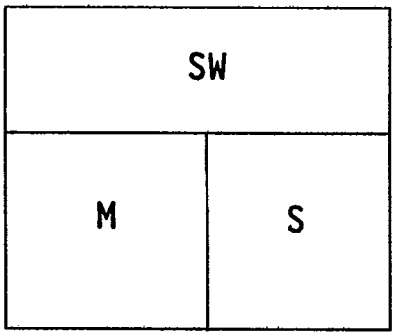
Figure 1 - Three panel signs



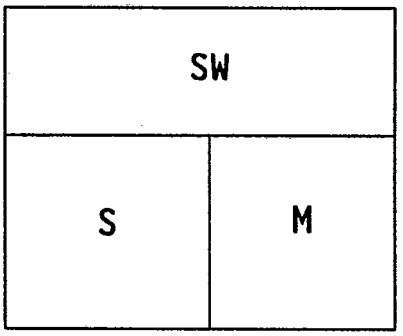
A



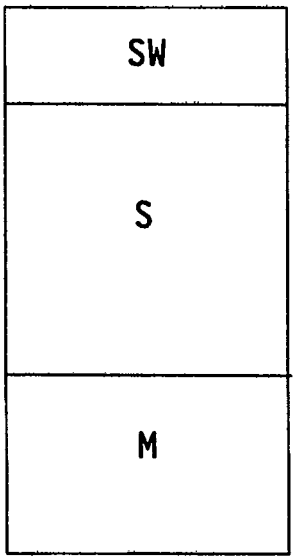
B



C



D



E

Code:

SW - Signal word

M - Word message

S - Symbol

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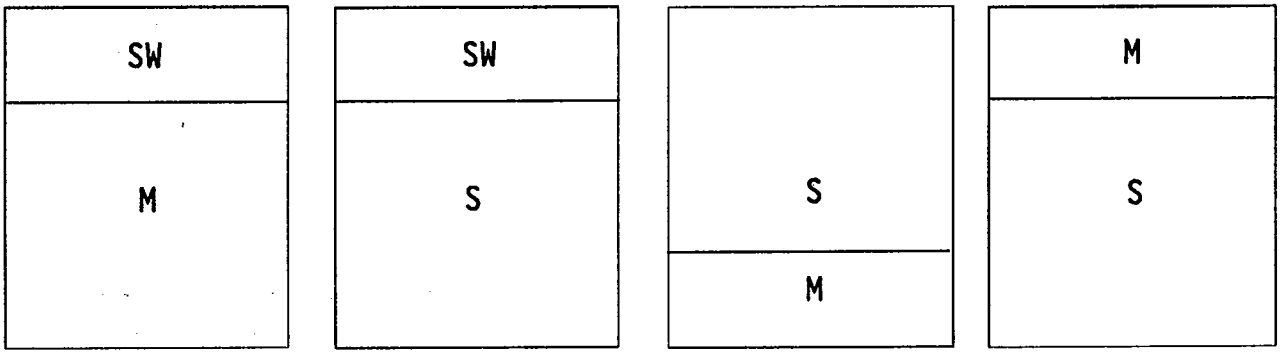
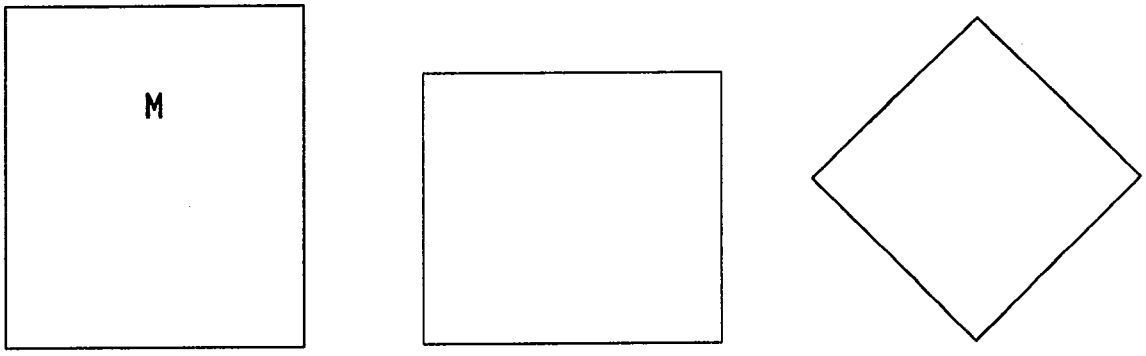
Figure 2 - Two panel signs



F G H I

Figure 3 - One panel signs



J K L

Code:

SW - Signal word

M - Word message

S - Symbol

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9 Letter style and size

9.1 Letter style

9.1.1 Signal words shall be sans serif letters in upper case only.

9.1.2 Message panel lettering shall be in sans serif letters in upper case only or in combinations or upper case and lower case letters as deemed appropriate.

9.1.3 Examples of acceptable lettering styles are: Medium, Folio Medium, New Gothic Bold, Poster Gothic, and Helvetica.

9.2 Letter size

9.2.1 Balance and legibility shall be determined by the combination of the signal word message panel length and the size of a symbol or pictorial, if used. Legibility is influenced by letter height, width, spacing and stroke width.

9.2.2 The overall size of the lettering shall be determined by the total length of the message and the distance from which the sign can be easily read. The message should be as concise as possible. Letters shall be adequately spaced and not crowded.

9.2.3 Minimum letter height shall be one unit in height for every 150 units of safe viewing distance from the hazard alerting device for Signal Words and one unit in height for every 300 units viewing distance for other words (see Reference 15). This distance will be determined by the user for each specific case where a safety sign is needed. Safe viewing distances for the signal word panel may be longer than required for the word message panel.

10 Sign finish

10.1 Sign finish shall be of durable materials with colors in accordance with American National Standard Z535.1-1991.

11 Sign placement

11.1 Signs shall be so placed to alert and inform the viewer in sufficient time to take appropriate evasive actions to avoid the potential harm from the hazard.

11.2 Safety signs shall be so placed that they are legible, nondistracting, and not hazardous in themselves.

11.3 Safety signs shall not be located in areas where they may be removed by the motion of the hazardous device, or rendered ineffective by situational conditions of the hazard. These alerting devices shall not be blocked by moveable panels such as doors, windows, racks, gates, etc.

12 Illumination

12.1 All hazard alerting devices shall be displayed with illumination or reflectorization as needed for adequate legibility under normal operating conditions. Where illumination is inadequate or colors not recognizable, use supplemental illumination[9] (see Reference 16).

12.2 Consideration should be given for situations other than normal operating conditions, such as emergency conditions, visibility, power failure, etc. Where illumination may be interrupted, the sign should be equipped with emergency lighting or reflectorization, or both.

13 References

1. American National Standards Institute (ANSI). *Safety Color Code.* ANSI Z535.1-1991.

2. American National Standards Institute (ANSI). *Criteria for Safety Symbols.* ANSI Z535.3-1991.

3. American National Standards Institute (ANSI). *Product Safety Signs and Labels.* ANSI Z535.4-1991.

4. American National Standards Institute (ANSI). *Accident Prevention Tags (for Temporary Hazards).* ANSI Z535.5-1991.

5. American National Standards Institute (ANSI). *Radio Frequency Radiation Hazard Warning Symbol.* ANSI C95.2-1982 (R1988).

6. American National Standards Institute (ANSI). *Radiation Symbol.* ANSI N2.1-1989.

7. Department of Transportation, Federal Highway Administration. *Manual on Uniform Traffic Control Devices* (MUTCD) Title 23, CFR, Washington, D.C. 1979.

[9] Supplemental illumination includes portable illumanation such as flashlights.

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8. Department of Transportation. *Hazardous Materials Warning Placards and Labels,* Title 49, Code of Federal Regulations, Parts 100-199.

9. National Fire Protection Association. ANSI/NFPA 70 (1990), *National Electrical Code.*

10. National Fire Protection Association. *Symbols for Fire Fighting.* NFPA 178-1986.

11. National Electrical Manufacturing Association. NEMA (260-1991). *Safety Labels for Padmounted Switchgear and Transformers Sited in Public Areas.*

12. Society of Automotive Engineers (SAE). *Slow Moving Vehicle Identification Symbol* - ANSI/SAE S276.2. Warrendale, PA: SAE, June 1968.

13. International Organization for Standardization (ISO) 3864, *Safety Signs and Colors,* ISO: Geneva, Switzerland, 1984-03-01.

14. American National Standards Institute (ANSI). *Standard for Hazardous Industrial Chemicals - Precautionary Labeling.* ANSI Z129.1-1988.

15. Smith, S.L. Letter Size and Legibility. *Human Factors,* 1979, 21, 661-670.

16. Collins, B.L., Kuo, B.Y., Mayerson, S.E., Worthey, J.A., and Howett, G.L. *Safety Color Appearance Under Selected Light Sources,* NBSIR 86-3493, December 1986.

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Annex A
(informative)
One panel signs

This Annex is not a part of American National Standard Z535.2, but is provided as a guideline for one-panel sign requirements referenced by the Standard.

A1.0 Surround shapes

A1.1 General discussion

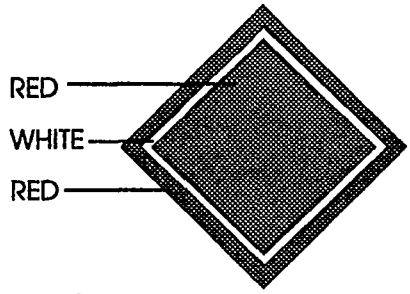
Surround shapes are geometrical figures that surround a symbol or pictorial that conveys added information about the message. For the purpose of this Standard, surround shapes should be used as an additional graphic representation to delineate hazard classifications. While not necessary on multi-panel safety signs which carry hazard level information by signal word, **they are necessary on single-panel symbol-only hazard alerting devices**. The following information presented in this Annex is provided as a guideline and is to be used when signal panel symbol/pictorial-only hazard alerting devices are used. Additionally these surround shapes may be used on multi-panel safety signs if appropriate.

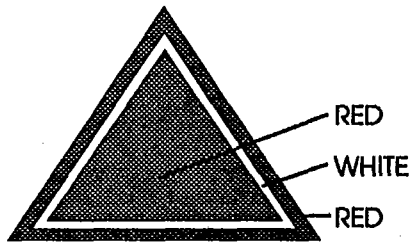
A1.2 DANGER level

A1.2.1 A red diamond or triangle with a white border should be used exclusively for the DANGER classification hazard alert devices.

A1.2.2 The color should be consistent with those specified in section 5.1 of this document.

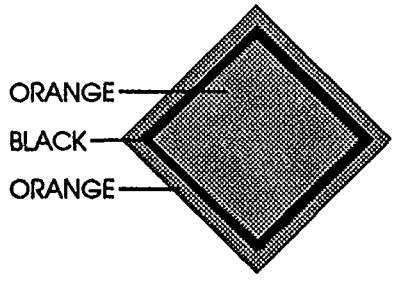
A1.2.3 The DANGER SURROUND SHAPES should be as illustrated below:

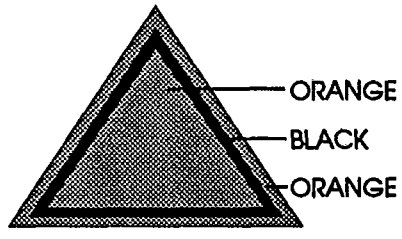




A1.3 WARNING level

A1.3.1 An orange diamond (triangle) with a black border shall be used exclusively on the WARNING classification hazard alerting device. The colors should be consistent with those specified in section 5.2 of this document. The WARNING surround shapes should be as illustrated below:





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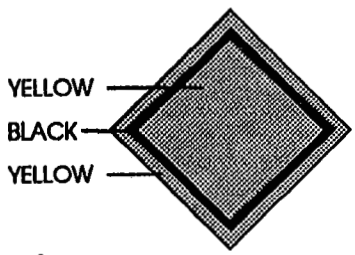
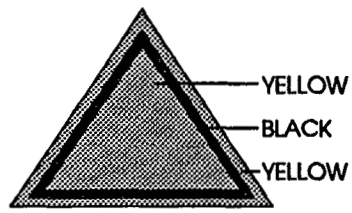
A1.4 CAUTION level

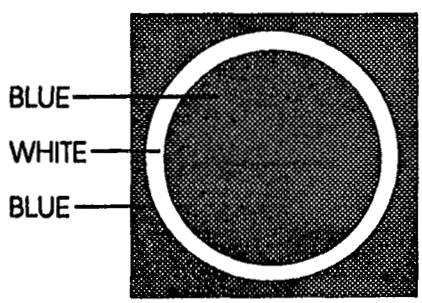
A1.4.1 A yellow diamond (triangle) with a black border should be used exclusively on the caution classification hazard alerting device. The colors should be consistent with those specified in Section 5.3 of this document. The CAUTION surround shape should be as illustrated below:





A1.5 NOTICE level

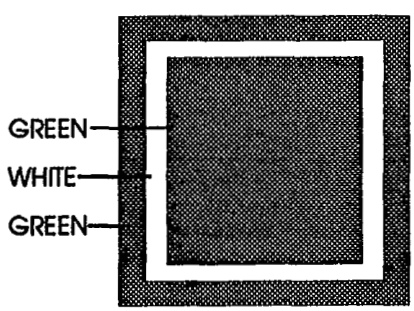
A1.5.1 A blue circular disc with an optional white border should be used on the NOTICE classification. The colors should be consistent with those specified in Section 5.4 of this document. The NOTICE surround shape should be as illustrated below:



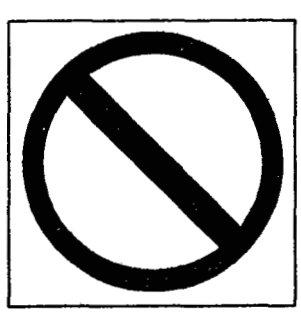
A1.6 General safety level

A1.6.1 A green solid square with an optional white border should be used on the General Safety signs. The colors should be consistent with those specified in Section 5.5 of this document. The General Safety surround shape should be as illustrated below:

A1.7 Prohibition



A circle with a 45° slash angled downward from upper left to lower right - may be used at any level to indicate PROHIBITION.





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A1.7.1 The colors used should be consistent with the category of sign and hazard level* as defined in Section 5 of this document.

Examples:

DANGER - Red circle/slash on white

WARNING - Black circle/slash on orange

CAUTION - Black circle/slash on yellow

NOTICE - White circle/slash on blue

* Where the prohibiting message is purely for information, with no hazard alert intended, the white circle/slash on blue should be used.

A1.8 Limitation of use

Single-panel only signs (symbol signs) should not be used alone until they become accepted through community recognition and understanding, research and/or common usage. Added message panels are recommended to promote education.

A1.9 There are no surround shapes associated with the alerting devices in the Directional, Fire Safety, or Special Signs classification.

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