NEMA Z535.5 91 ■ 6470247 0500641 8 ■

American National Standard

ANSI Z535.5-1991

Accident Prevention Tags (for Temporary Hazards)

NEMA

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

American National Standard

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

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
Safety Black	N	5.0/	19.80	0.3101	0.3163	Black

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

ANSI®
Z535.5-1991

American National Standard

for Accident Prevention Tags (for Temporary Hazards)

Secretariat

National Electrical Manufacturers Association
National Institute Of Standards And Technology

Approved December 1991

American National Standards Institute, Inc.

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

American National Standard

An American National Standard implies a consensus of those substantially concerned with its scope and provisions. An American National Standard is intended as a guide to aid the manufacturer, the employer, the consumer, and the general public. The existence of an American National Standard does not in any respect preclude anyone, whether they have approved the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards. American National Standards are subjected to periodic review and users are cautioned to obtain the latest editions.

ADVISORY NOTE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of publication. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute, 11 W. 42nd Street, New York, New York, 10036.

Published by

National Electrical Manufacturers Association
2101 L Street, N.W., Suite 300, Washington, D.C. 20037

Copyright © 1991 by National Electrical Manufacturers Association
All rights reserved.

No part of this publication may be reproduced in any form,
in an electronic retrieval system or otherwise, without
the prior written permission of the publisher.

Printed in the United States of America

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

Contents

		Page
Foreword		ii
1	Introduction	1
2	Scope and purpose	1
2.1	Scope	1
2.2	Purpose	1
3	Definitions	1
4	Accident prevention tag classifications	2
4.1	**DANGER** tags	2
4.2	**WARNING** tags	2
4.3	**CAUTION** tags	2
5	General tag criteria	2
5.1	Signal word and message panels	2
5.2	Signal word panel design	2
5.3	Tag colors	2
5.4	Accident prevention tag location and attachment methods	4
5.5	Letter style, viewing distance, tag size and shape	4
5.6	Symbols	4
5.7	Life expectancy	4
5.8	Authorization	4
6	Employee training and understandability	4
6.1	Employee training	4
7	References	4

Figures

1	Tags with signal word panel designs from ANSI Z535.2-1991	3
2	Tags with signal word panel designs from ANSI Z535.4-1991	3

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

Foreword (This foreword is not part of American National Standard for Accident Prevention Tags (for Temporary Hazards) Z535.5-1991.)This standard, approved by ANSI December 1991, updates and revises the American National Standard Z35.2 published in 1974.)

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, 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.

The Foreword is not considered part of this standard.

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 submission to ANSI by the Accredited Standards Committee on Safety Signs and Colors, Z535. Committee approval of the standard does not necessarily imply that all members voted for its approval. At the time of approval the Z535 Committee had the following members:

Belinda L. Collins, Ph.D., Chairperson
Carrol E. Burtner, P.E., Secretary
Gary M. Bell, Z535.5 Subcommittee Chairperson

Organization Represented	*Name of Representative*
Alliance of American Insurers	Charles F. Sparrell
American Society of Safety Engrs.	Thomas J. Reilly, CSP, P.E. Thomas J. Bresnahan (Alt.)
American Welding Society	A.F. Manz Marvin E. Kennebeck, Jr. (Alt.)
Association of American Railroads	M.C. Mitchell A.L. Steinfield (Alt.)
Avery International Research Center	James F. Thomas Ralph F. Lundregan (Alt.)
Caterpillar, Inc.	James E. Carr
Chemical Manufacturers Association	Claudette Cofta
Chemical Specialties Manufacturers Association	Soonya McDavid
Computer and Business Equipment Manufacturers Association	Grant F. Ferris
Construction Industry Manufacturers Association	Thomas A Standard, P.E.
Corning Glass	William P. Whitney, Ph.D. P. Bruce Adams (Alt.)

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

Department of the Air Force	Richard L. Baird
	Joseph C. DelRio (Alt.)
Dorris & Associates	Alan Dorris, Ph.D.
	Russell E. Marhefka (Alt.)
Edison Electric Institute	Klaus Broscheit
	Mathew C. Mingoia (Alt.)
	M. F. Borleis (Alt.)
Equipment Manufacturers Institute	L. Dale Baker
Exchange Carriers Standards Association	Mildred Paret
	O.J. Gusella, Jr. (Alt.)
Federal Highway Administration	J. Travis Brooks, P.E.
FMC Corporation	Albert O. Hughes
	James F. Bennett (Alt.)
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	Richard L. Fisk
	Judy Salamone (Alt.)
	Frank E. Wilcher, Jr. (Alt.)
International Brotherhood of Painters & Allied Trades	Richard F. Morgan
	Richard D. White (Alt.)
International Business Machines	Marta Kustas
International Staple, Nail & Tool Association	John Kurtz
Inter-Society Color Council	Fred W. Billmeyer, Ph.D.
	Norbert L. Johnson (Alt.)
LNA	Louis Nelson
	Amelia Kennedy (Alt.)
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.)
National Spray Equipment Manufacturers Association	Gary M. Bell
	Don R. Scarbrough (Alt.)
Rural Electrification Administration	Harvey Bowles
	James C. Arnold, Jr. (Alt.)
Safety Equipment Distributors	Larry Nandrea
	Lee Stone (Alt.)
Society of Environmental Graphic Designers	Nora Olgya
	Sonia Slobojan Swigart (Alt.)
System Safety Society	Robert Cunitz, Ph.D.
3M Company	Robert C. Vanstrum
Underwriters Laboratories Inc.	John Drengenberg
U.S. Coast Guard	Marc B. Mandler, Ph.D.
	Miles Millbach (Alt.)
United Technologies	Steven A. Green
W. H. Brady Co.	Thomas J. Fellmer
	Julie A. Handel (Alt.)

At the time of approval, the Z535.5 Subcommittee had the following members:

Gary M. Bell Chair	J.E. Carr
	Richard M. Jacobs
	William P. Whitney
	Russell E. Marhefka
	Albert O. Hughes
	J. Travis Brooks
	William N. Hale, Jr.
	Belinda L. Collins
	Audrey Best
	John Drengenberg

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

The Z535.5 Draft Development and Revision Task Group, which was responsible for the development of this standard, had the following members:

P. Bruce Adams
Gary M. Bell
Audrey Best
J. Travis Brooks
Belinda L. Collins
Albert O. Hughes
William P. Whitney

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

NEMA Z535.5 91 ■ 6470247 0500649 2 ■

American National Standard

for Accident Prevention Tags (for Temporary Hazards)

1 Introduction

An accident prevention tag (safety tag, tag) is a means of alerting persons to temporary hazards often associated with installation, maintenance, repair, or other transient conditions. This standard provides guidance for the design and use of accident prevention tags. It employs the graphic principles set forth in ANSI Z535.2-1991, Environmental and Facility Safety Signs, and ANSI Z535.4-1991, Product Safety Signs and Labels.

2 Scope and purpose

2.1 Scope

An accident prevention tag shall be used to identify a temporary hazard. It shall be used only until such time as the identified hazard is eliminated or the hazardous operation is completed. For example: a "Defective Equipment-Do Not Use" tag should be placed on a damaged ladder until the ladder can be properly discarded from the work area; a "High Voltage" tag should be used to identify electrical hazards exposed only during an equipment troubleshooting procedure. A tag shall not be used in place of a permanent sign or label intended for hazards in normal use, operation, or maintenance. If a permanent sign or label is presented in a tag configuration, it shall comply with the provisions of ANSI Z535.4-1991.

2.2 Purpose

The purpose of this standard is to define the requirements for the design and use of accident prevention tags. No other type of tag is addressed by this standard.

2.2.1 There are a number of existing American National Standards which are recognized for particular industries or specific use. Compliance with these standards may be considered for such particular industries or uses. It is not the intent of this ANSI Z535.5-1991 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.

3 Definitions

3.1 accident: An occurrence that produces unintended injury, death or property damage.

3.2 accident prevention tag (safety tag, tag): A device usually made of card stock, paper, paperboard, plastic, or other material on which letters, markings, symbols, or combinations thereof, appear for the purpose of alerting persons to the presence of a temporary hazard or hazardous condition created by situations such as shipment, setup, service, or repair. The tag is removed when the hazard or hazardous condition no longer exists.

3.3 message panel: That area of the accident prevention tag, other than the signal word panel, that indicates in written text, symbolic form, or both, the specific hazardous condition or the instruction to be communicated.

3.4 permanent safety sign or label: Information affixed to a product to warn against exposure to hazards inherent in the normal use of or associated with the product, or which might be created during reasonably anticipated product use. The sign or label is permanently attached to the product so that it cannot be easily removed.

3.5 requisite terms:

3.5.1 may: This word is understood to be permissible.

3.5.2 shall: This word is understood to be mandatory.

3.5.3 should: This word is understood to be advisory.

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

3.6 signal word: The word that designates a degree or level of hazard seriousness. The signal words for accident prevention tags are DANGER, WARNING, and CAUTION.

3.7 signal word panel: The area or surround shape which contains the signal word.

3.8 symbol: A graphic representation intended to convey a message without the use of words. It may represent a hazard, a hazardous situation, a precaution to avoid a hazard, a result of not avoiding a hazard, or any combination of these messages. As used in this standard, the word "symbol" covers a class of graphic art (e.g., pictorial, pictograph, glyph).

4 Accident prevention tag classifications

4.1 DANGER Tags

DANGER tags indicate 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.

4.2 WARNING Tags

WARNING tags indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.

4.3 CAUTION Tags

CAUTION tags indicate a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. They may also be used to alert against unsafe practices.

Note: DANGER and WARNING tags should not be considered for property damage accidents unless personal injury risk appropriate to these levels is also involved. CAUTION is permitted for property-damage-only accidents.

5 General tag criteria

5.1 Signal word and message panels

5.1.1 Signal word panel

All accident prevention tags shall contain a signal word which designates a degree or level of hazard seriousness. The signal word shall be either DANGER, WARNING or CAUTION. The signal word panel shall be located near the top of the tag.

NOTE: The words BIOLOGICAL HAZARD or BIOHAZARD, or the biological hazard symbol shall not be used in lieu of a signal word. The words BIOLOGICAL HAZARD or BIOHAZARD, or the biological hazard symbol may be used in the message panel.

5.1.2 Message panel

All accident prevention tags shall contain a message panel which indicates the specific hazardous condition or the instruction to be communicated or both. The message may be presented in either written text, symbolic form, or both. The message should be concise and readily understood.

5.1.3 A single tag shall address one topic only. The signal word panel should be reproduced on both sides of the tag. Either the message panel, or general support information, may be printed on the back of the tag. Examples of general support information are: "Do not remove - see reverse" or "Contact supervisor before removing."

5.2 Signal word panel design

5.2.1 DANGER, WARNING, CAUTION tags

For visual consistency, accident prevention tags should use the same signal word panel design as used for permanent safety signs or labels located in the same general vicinity. Either the graphic system given in ANSI Z535.2-1991, or ANSI Z535.4-1991, as illustrated in Figures 1 and 2, shall be used.

5.3 Tag colors

Tag colors shall conform to the pertinent provisions of ANSI Z535.1-1991, Safety Color Code, as follows.

5.3.1 Signal word panel

5.3.1.1 Danger

The word DANGER shall be in "Safety White" letters. For tags designed in conformance with ANSI Z535.2-1991, a "Safety Red" oval background with a "Safety White" border on a "Safety Black" rectangular field shall be used (see Figure 1). For tags designed in conformance with ANSI Z535.4-1991, a "Safety Red" rectangular background with a "Safety Black" border shall be used (see Figure 2).

5.3.1.2 Warning

The word WARNING shall be in "Safety Black" letters. For tags designed in conformance with

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale



Figure 1 Tags with signal word panel designs from ANSI Z535.2-1991



Figure 2 Tags with signal word panel designs from ANSI Z535.4-1991

ANSI Z535.2-1991, a "Safety Orange" truncated diamond on a "Safety Black" rectangular background shall be used (see Figure 1). For tags designed in conformance with ANSI Z535.4-1991, a "Safety Orange" rectangular background with a "Safety Black" border shall be used (see Figure 2).

5.3.1.3 Caution

For tags designed in conformance with ANSI Z535.2-1991, the word CAUTION shall be in "Safety Yellow" letters within a "Safety Black" rectangular background (see Figure 1). For tags designed in conformance with ANSI Z535.4-1991, the word CAUTION shall be in "Safety Black" letters on a "Safety Yellow" rectangular background with a "Safety Black" border (see Figure 2).

5.3.1.4 Safety alert symbol

This symbol is required for tags designed in conformance with ANSI Z535.4-1991. The solid triangle portion shall be the same color as the signal word lettering, and the exclamation mark portion shall be the same color as the signal word panel background.

5.3.2 Message panel

The message panel shall be "Safety White" for high contrast and for good legibility of information. Let-

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

tering, or symbols, or both should be "Safety Black." Other high contrast color pairs may be used for symbolic and pictorial representations.

5.4 Accident prevention tag location and attachment methods

5.4.1 Tag location

Tags shall be affixed as close as safely possible to their respective hazards and be readily visible to the intended user. Where other tags are used in addition to an accident prevention tag, they should not detract from the impact or visibility of the signal word and major message of the accident prevention tag.

5.4.2 Attachment methods

Tags shall be affixed by a positive means such as string, wire, adhesive or other connecting means that reduce the likelihood of loss or unintentional removal.

5.5 Letter style, viewing distance, tag size and shape

5.5.1 Letter style

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

5.5.1.2 Message panel lettering shall be in sans serif letters. Letters may be in upper case only, or in combinations of upper case and lower case letters as deemed appropriate.

5.5.1.3 Examples of acceptable sans serif type faces are: Universe 65 Medium, Folio Medium, News Gothic Bold, Helvetica Bold, or equivalent.

5.5.1.4 Handwritten tags should be legibly printed.

5.5.2 Viewing distance

The tag signal word shall be legible under normal viewing conditions at a distance of 5 feet (1.52m) or such greater distance as warranted by the hazard. Minimum signal word letter height should be 3/8 inch (.95 cm).

5.5.3 Tag size and shape

The tag shall have a rectangular shape and shall be no smaller than 3 in. x 5 in. (7.7 cm x 13.8 cm). The top corners near the attachment point may be chamfered as shown in Figures 1 and 2.

5.6 Symbols

5.6.1 Recognition

Symbolic configurations may be used in place of, or to supplement, worded messages on a tag. Their use should provide the viewer with an immediate opportunity to recognize an existing hazard. The design and application of symbols shall conform to ANSI Z535.3-1991, Criteria for Safety Symbols.

5.6.2 New symbols

If a new symbol is needed, it should be developed following the criteria provided in ANSI Z535.3-1991, Criteria for Safety Symbols.

5.7 Life expectancy

The tag shall be capable of withstanding the environment to which it is exposed for the maximum period of time that the temporary hazard is expected to exist.

5.8 Authorization

The tag should include a provision for identifying and contacting the person authorizing or applying the tag.

6 Employee training and understandability

6.1 Employee training

Employees shall be informed as to the meaning of the various tags throughout the workplace and what special precautions are necessary.

7 References

This standard is intended to be used in conjunction with the following American National Standards:

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

2. American National Standards Institute (ANSI). Environmental and *Facility Safety Signs,* ANSI Z535.2-1991.

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

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

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

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale