

# New OSHA/ANSI Safety Sign Systems FOR TODAY'S WORKPLACES



## A CLARION IMPLEMENTATION GUIDE

# Introduction

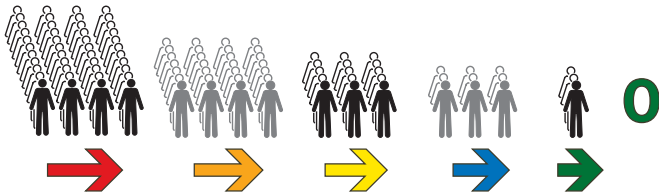
## The Role of Safety Signs

Environmental, health and safety professionals know that it's critical to effectively communicate safety. Safety signs, labels, tags and markings play a key role in achieving this objective; they are the visual tools you use to:

- Remind people of potential hazards and how to avoid them
- Point people to the location of emergency equipment
- Direct people's path to safety in an emergency situation
- Reinforce safety training programs
- Inform people of security and limited access policies

Your safety sign system is a direct reflection of your company's safety culture. Taken together, your sign system visually demonstrates your care and concern for the health and safety of your employees, guests, visitors, subcontractors and temporary workers.

## The Goal: Zero Fatalities, Zero Injuries



## The Purpose of This Guide

In the fall of 2013, the Occupational Safety and Health Administration (OSHA) endorsed the latest best practices related to safety sign and tag technology by incorporating the 2011 ANSI Z535 safety sign and tag standards into its regulations. This guide will:

- Provide a clear understanding of the OSHA change and what it means to you and your organization
- Define the key steps to implement a new, OSHA/ANSI best practice safety sign system to better reduce risk and protect people from harm

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# The New OSHA/ANSI Sign Explained

The new OSHA/ANSI sign and tag formats use nationally and internationally standardized elements to better convey safety messages in today's workplace.

## The New Components:

### Safety Alert Symbol

Indicates a potential personal injury hazard exists. It is only used on DANGER, WARNING and CAUTION signs, labels and tags.

### Signal Words for Hazard Alerting Safety Messages

**DANGER** indicates a hazardous situation which, if not avoided, will result in serious injury or death. Its use should be limited to the most extreme situations.

**WARNING** indicates a hazardous situation which, if not avoided, could result in serious injury or death.

**CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

### Signal Words for Non-Hazard Alerting Safety Messages

**NOTICE** indicates information considered important but not directly hazard-related (e.g. security, hygiene, equipment or property damage).

### Signal Words for Instructional Safety Messages

**SAFETY INSTRUCTIONS** is the signal word used to provide explanatory information like procedures and instructions. More definitive words can be used in this signal word panel (e.g. SAFE BOILER SHUTDOWN PROCEDURE, LOCKOUT PROCEDURE).

### Symbols

Graphical symbols are used to bridge language barriers and draw attention to the safety message. Specific shape, color and design principles are used to meet global compliance objectives.

### Text Messages

Carefully crafted text is used to convey the safety message to the intended audience in a clear, concise manner.



# Why Use the New OSHA-Approved Formats?

## REASON 1: TO BETTER PROTECT PEOPLE FROM HARM

The first reason to adopt the new OSHA/ANSI sign system is that it **more effectively communicates safety** by:

- Using globally communicative symbols to overcome language barriers, drawing attention to the sign, making it stand out from all of the other posted signage people see on a daily basis
- Containing more substantive content that explains hazards and how to avoid them

By visually reinforcing safety training and better communicating safety to guests, subcontractors and temporary workers, the OSHA/ANSI signs are aimed at helping **achieve fewer workplace accidents and injuries.**

The new OSHA/ANSI signs and tags reflect the high value OSHA is placing on global sign standardization initiatives like GHS for hazardous chemical labeling. The new ANSI safety sign technology does the same thing GHS does, which, in OSHA's words, is to give people more than just the right to know about a hazard; they fulfill the right people have to understand a hazard and how to properly avoid it.



**OSHA's new 2013 sign regulations are here** — and they're ready for immediate implementation. Learn about how Clarion's safety signs, tags and markings help companies protect people and better meet today's ever-increasing regulatory and liability climate.

Visit  
[clarionsafety.com/NewOSHA](http://clarionsafety.com/NewOSHA)

# Why Use the New OSHA-Approved Formats?

## REASON 2: TO BETTER PROTECT YOUR COMPANY FROM LITIGATION

The second reason to adopt the OSHA/ANSI formats is that they represent the “state-of-the-art” for visual safety communication technology. Properly using them will provide your company with **a better defense in court** should an accident occur and a lawsuit arise. Unlike the older sign and tag formats, the new formats are based on design principles derived from:

- U.S. case law concerning the legal criteria for the content of “adequate warnings”
- Human factors research on what makes a safety sign effective and what information needs to be conveyed to better motivate people to obey safety messages
- Current standards-based risk assessment methods that use carefully defined, severity-ranked, color-coded signal words on safety signs and tags

For the time being, OSHA is allowing continued use of the older, out-of-date formats. But organizations need to understand this: legal theories attached to premises liability are creating the “duty to warn” in public areas and workplaces, especially when subcontractors, temporary workers, and guests are increasingly found in today’s more diverse work environments. If an accident occurs and a non-employed person is injured, the risk of litigation is high. The new OSHA/ANSI safety sign systems will help your organization to meet this new standard of care to provide “adequate warnings.”<sup>1</sup>



### On The Next Pages...

There are five distinct categories of safety signs. The following pages describe each type of sign and how they have evolved over time.

<sup>1</sup> According to insurance industry research, “inadequate warnings” and “failure to warn” are two of the most common allegations found in liability lawsuits filed in U.S. courts.

# The Evolution of Sign Technology

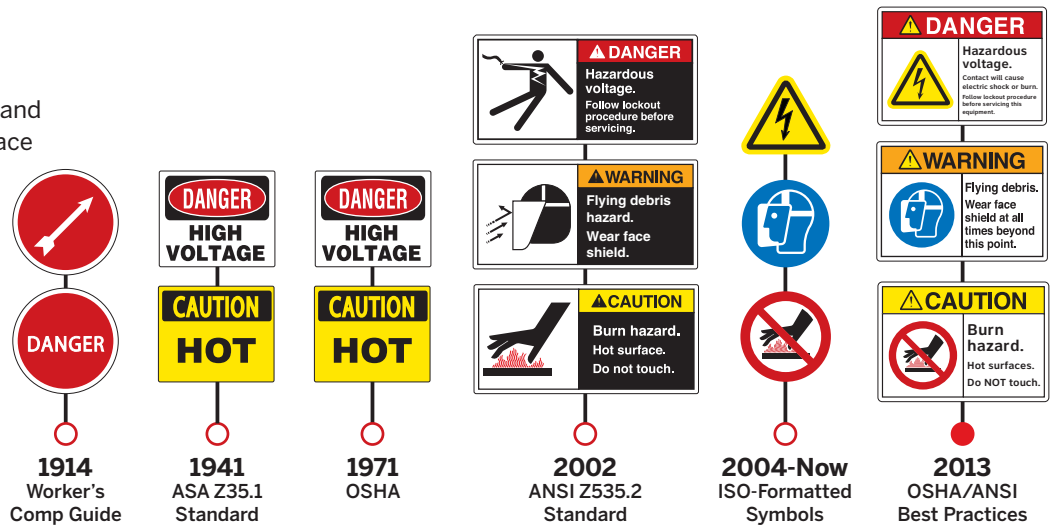
## HAZARD ALERTING SIGNS & TAGS

### Purpose

Hazard alerting signs are used to provide awareness of potential personal injury hazards. Today's signs embody the latest human factors research, proper risk level signal words and U.S. court-driven principles that define the content of a proper warning.

### Timeline

In the beginning, in 1914, "DANGER" and arrow signs were used in the workplace to point to hazards. In 1941, the first U.S. safety sign standard replaced this with DANGER and CAUTION signs that contained a short text message to identify the hazard. In 2002, the ANSI standards added the option to include symbols and content on the consequence of interaction with the hazard and how to avoid the hazard. In 2013, OSHA integrated the ANSI standards into its regulations.

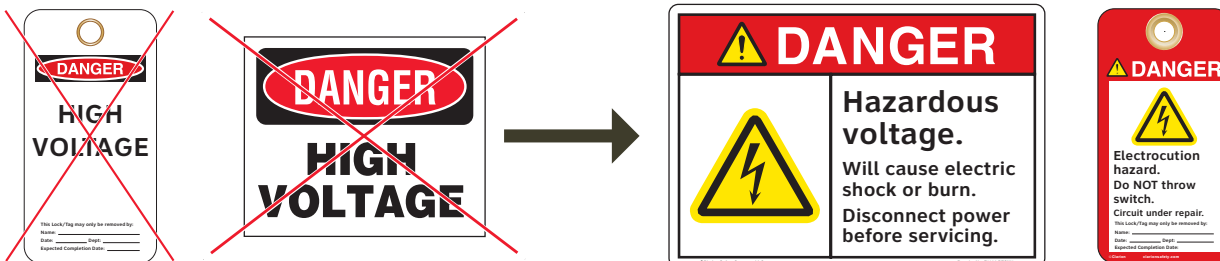


#### OLD OSHA Signs & Tags

- Lack substantive information
- Do not contain symbols
- Use 1941-era formats
- Often use signal words inappropriate to the level of risk

#### NEW 2013 OSHA/ANSI Signs & Tags

- Contain more information, helping people to make better, safer decisions
- Contain graphical symbols to communicate across language barriers
- Use the new, colorful ANSI formats to attract attention
- Use proper risk level signal words



# The Evolution of Sign Technology

## SECURITY & GENERAL POLICY SAFETY SIGNS

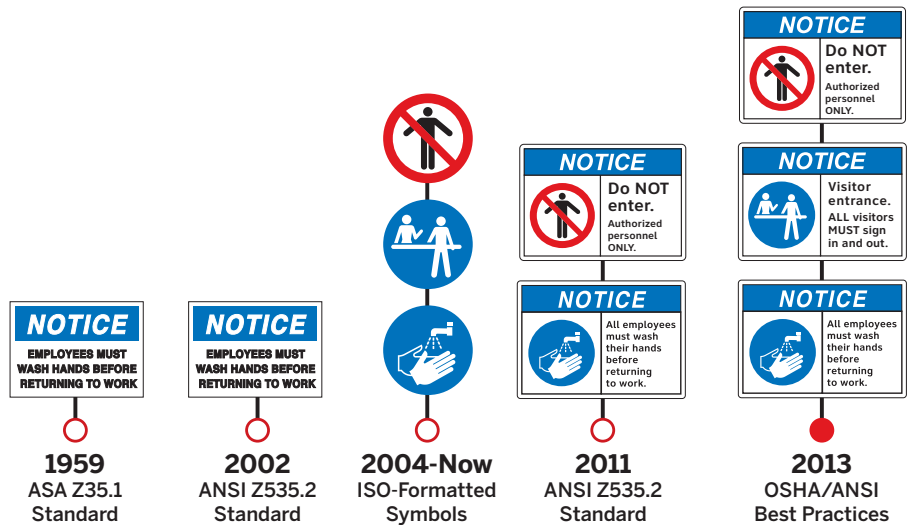


### Purpose

Security signs define access rules to certain areas of a property or facility. General policy safety signs inform and remind people of a company's expectations for safe behavior. Many security and company policy notices go unnoticed because they're text-based and fail to stand out. New, best practice signs use eye-catching graphical symbols that are noticed and understood at a glance.

### Timeline

In 1959, blue header NOTICE signs first appeared as the type of sign used to convey "informational" messages. In 2011, the ANSI Z535.2 standard clarified that NOTICE signs are used to indicate non-personal injury-related messages and for security signs. The addition of ISO-formatted symbols now represents the state-of-the-art for this type of sign. In 2013, OSHA integrated the ANSI standards into its regulations.



### A Closer Comparison

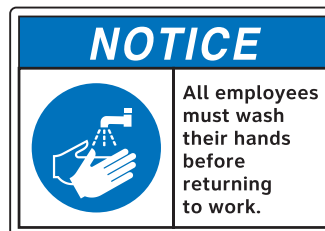
#### OLD NOTICE Signs

- Do not contain symbols
- Use 1959-era formats



#### NEW 2013 OSHA/ANSI NOTICE Signs

- Establish a standard format for security messages to bring heightened awareness to these important signs
- Contain graphical symbols to communicate across language barriers



# The Evolution of Sign Technology

## SAFETY INSTRUCTION & EQUIPMENT LOCATION SIGNS

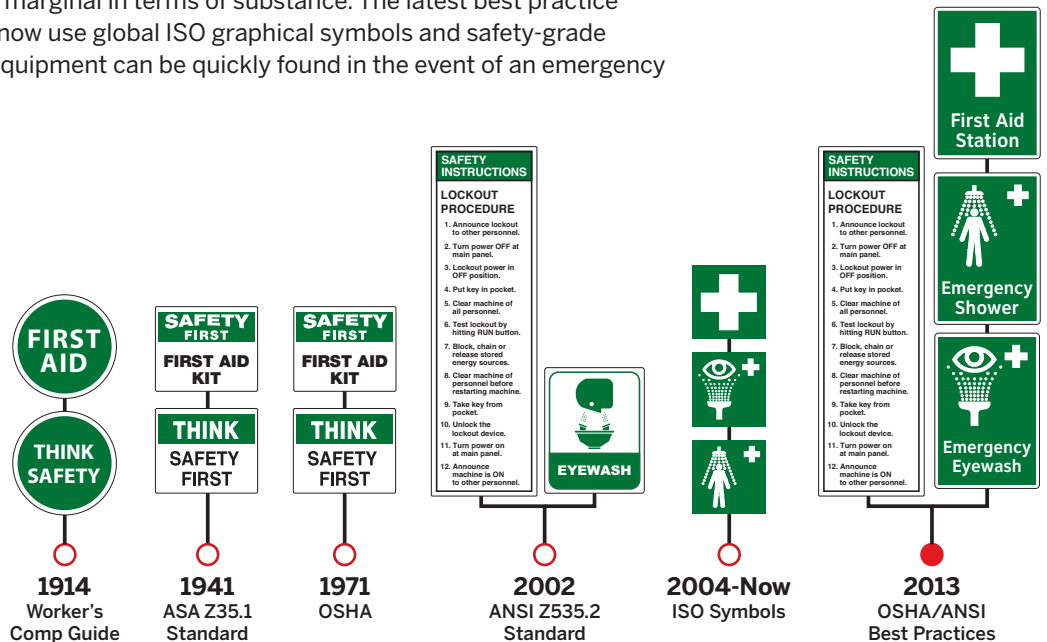


### Purpose

Safety instruction signs define specific rules or procedures to follow to avoid causing a hazardous situation. Old signage containing overly simplified messages, like “Think - Safety First,” are now considered marginal in terms of substance. The latest best practice safety equipment location signs now use global ISO graphical symbols and safety-grade photoluminescent materials so equipment can be quickly found in the event of an emergency and/or power-out conditions.

### Timeline

In 1914, green, circular SAFETY signs “indicated the nature of the safety in as brief a form as possible.” In 1941, these signs began using two panels. In 2002, the ANSI standards recognized the need to communicate more detailed information using SAFETY INSTRUCTION signs. In 2004, ISO began standardizing safety equipment symbols. ISO symbols are integrated into today’s best practice safety equipment location signs.



### A Closer Comparison

#### OLD OSHA Signs

- Do not contain symbols
- Use 1941-era formats
- Instructional messages are overly simplistic

#### NEW 2013 OSHA/ANSI Signs

- Contain graphical symbols to communicate across language barriers
- Use the new, colorful ANSI formats to attract attention
- Contain more information, helping people to make better, safer decisions



**SAFETY INSTRUCTIONS**

**LOCKOUT PROCEDURE**

1. Announce lockout to other personnel.
2. Turn power OFF at main panel.
3. Lockout power in OFF position.
4. Put key in pocket.
5. Clear machine of all personnel.
6. Test lockout by hitting RUN button.
7. Block, chain or release stored energy sources.
8. Clear machine of personnel before restarting machine.
9. Take key from pocket.
10. Unlock the lockout device.
11. Turn power on at main panel.
12. Announce machine is ON to other personnel.

# The Evolution of Sign Technology

## FIRE EQUIPMENT LOCATION SIGNS

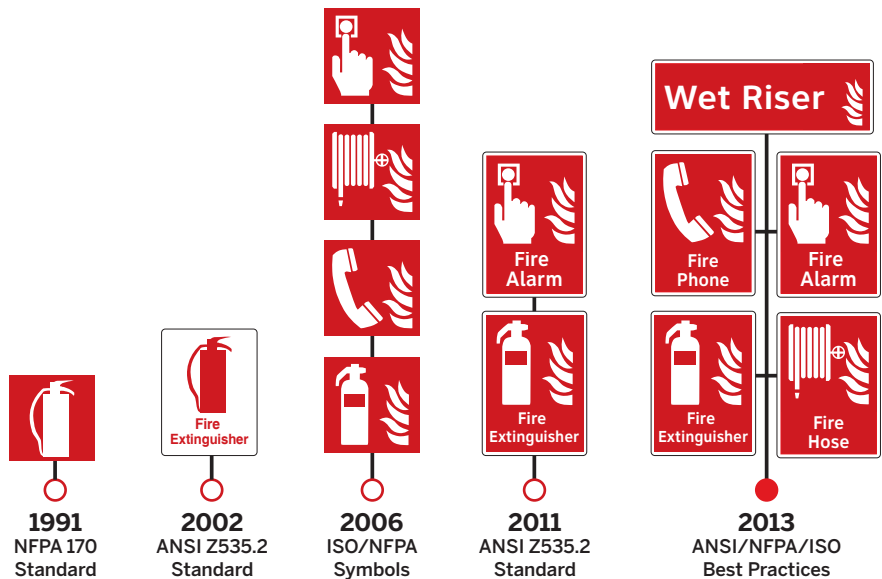
### Purpose

Fire safety signs inform employees and fire intervention forces about fire lanes and the location of fire fighting equipment, emergency phones, risers, valve shutoffs, and disconnects. In contrast to older signage, latest best practice signs use global NFPA/ISO graphical symbols and safety grade photoluminescent materials so fire safety information can be more effectively communicated during times of crisis.



### Timeline

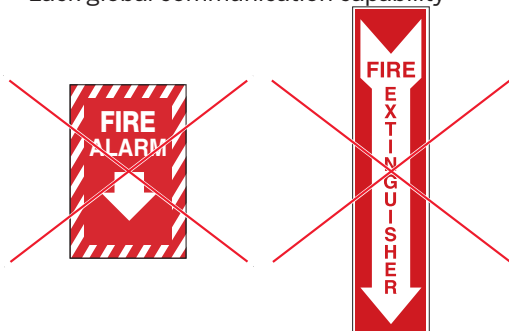
The field of symbol-based fire safety signs in the U.S. began with the 1991 publication of NFPA 170. This standard defined a set of fire safety symbols to be used on signs to locate fire equipment and exit routes. In a move towards international harmonization, in 2006 NFPA replaced many of NFPA 170's symbols with the ISO symbols for the same meanings. In 2011, the ANSI Z535.2 safety sign standard referenced the ISO/NFPA symbols and provided ISO-harmonized formats for their incorporation into signs. Today's best practice signs use this new approach to globally communicate this critical information.



### A Closer Comparison

#### OLD NFPA Signs

- Are text-based and do not contain symbols
- Use non-standard formats
- Lack global communication capability



#### NEW 2013 NFPA/ISO Signs

- Contain graphical symbols to communicate across language barriers
- Use the new colorful NFPA/ISO formats to attract attention
- Use the universal ISO flame graphic element and red background color to achieve global fire safety sign understanding



# The Evolution of Sign Technology

## EGRESS PATHMARKING SIGNS

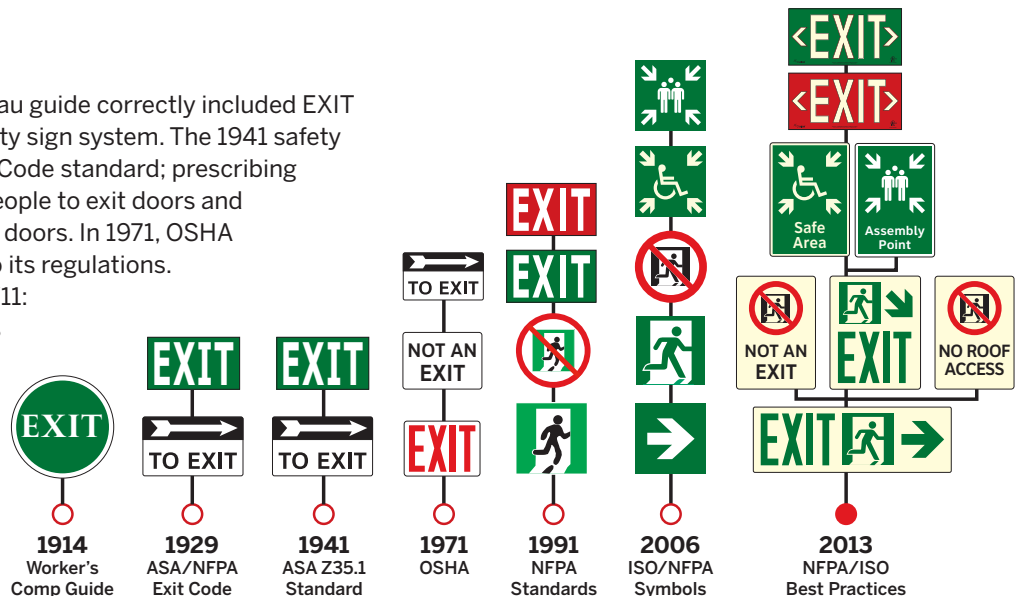


### Purpose

Egress pathmarking signs guide people in buildings to safety and assist rescue intervention forces to locate handicapped people in emergency situations. Many of the new best practice safety signs are made with high-tech photoluminescent materials that can glow brightly in the dark for long periods of time. Low-located components perform their life-saving function in smoke conditions.

### Timeline

In 1914, the Worker's Compensation Bureau guide correctly included EXIT signs as a necessary part of a facility safety sign system. The 1941 safety sign standard copied the 1929 NFPA Exit Code standard; prescribing signs with "directional" arrows to point people to exit doors and rectangular green EXIT signs posted over doors. In 1971, OSHA included EXIT and "Not an Exit" signs into its regulations. Two new technologies converged after 9/11: safety-grade photoluminescent materials and human factors research on how people behave in crisis. Both were used to further develop egress pathmarking systems. Photoluminescent markings and symbol-based low-located exit signs were added to NFPA and ISO standards between 2006 and 2013.



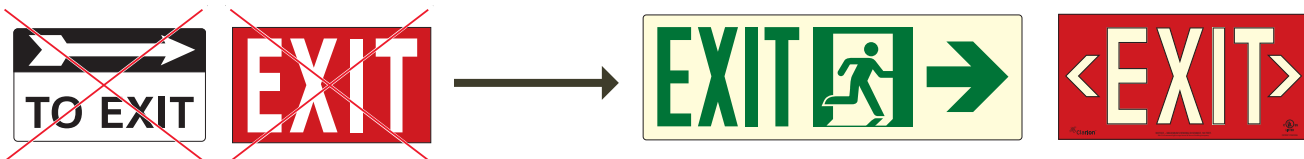
### A Closer Comparison

#### OLD OSHA Signs

- Do not contain symbols
- Use 1941-era formats
- Do not take advantage of fail-safe photoluminescent materials

#### NEW 2013 NFPA Signs

- Low-located directional signs contain graphical symbols and arrows to communicate route direction across language barriers
- Combine U.S. and international formatting for global compliance
- High-located signs use traditional EXIT format to locate doors
- Both high and low-located signs use photoluminescent materials to provide directional information in power-out and smoke conditions



# Building Your New Sign System

## Step 1: Assess What You Have

Walk through your facility, both inside and outside, and note the location and purpose of all existing safety signs, labels, tags and markings. This exercise will be useful in planning your new sign system. Such a survey often reveals the following:

- **Sign clutter.** This is the situation where multiple safety signs have been posted in one location. A review of their content tells you that some are no longer needed and others could be combined. Your new sign system will solve this problem by eliminating unnecessary signs and combining messages where appropriate.
- **Missing/damaged signs.** You may see that some of your safety signs are missing or damaged. Note your needed durability requirements for each area of your facility.
- **Missing equipment.** You may note that for some of your safety signs, the actual equipment they were pointing to is missing. This will be a good time to either replace the equipment or remove the sign.
- **Taped up messages.** Often safety messages are temporarily printed on paper and taped to walls and doors with the intention of posting a real sign in the future. Your new sign system will give you the opportunity to update these messages, combine them onto one sign when appropriate, and eliminate the haphazard look and lack of permanence of posting paper notices of important safety information.
- **Out-of-date signs.** Now that you are aware of the new OSHA/ANSI signage, you will notice that the majority of your existing safety signs, labels and tags fail to use the latest formats, colors, content, and symbols. Your new system of signage will solve these issues by bringing every sign component up-to-date with current standards.
- **New needs.** With an awareness of the communication possibilities of the new signs, you will see how your company's safety and security policies can be effectively visually reinforced with properly designed, OSHA/ANSI graphic-based safety signs, labels and tags.



# Building Your New Sign System

## Step 2: How To Select the Right Signs

Now it's time to build your new sign system. The text and illustrations in this step show you the basic OSHA/ANSI categories of signs, and how the new OSHA/ANSI signs replace old signs to create a system of best practice visual safety communication.

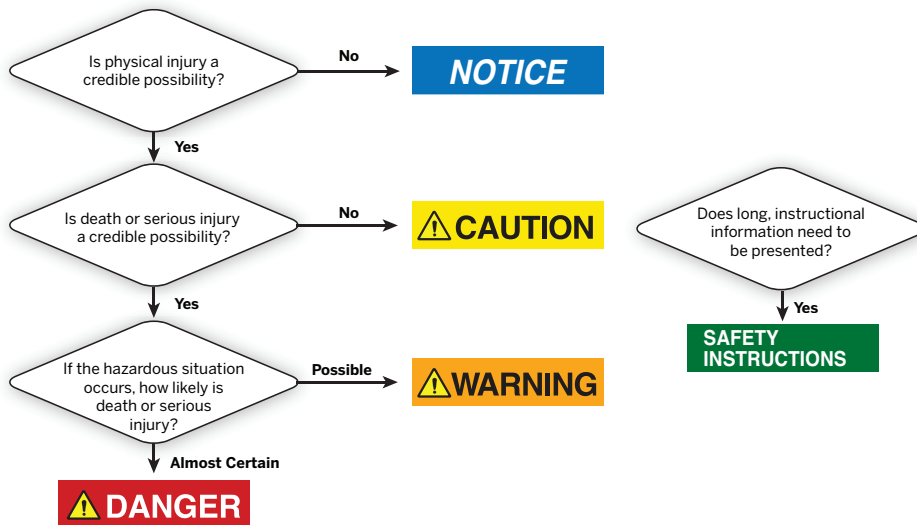
### Hazard Alerting Sign Selection

When people think of safety signs, they usually think of hazard alerting signs. This is the category of signs that alert people to hazards that could cause personal injury or death. The new OSHA/ANSI signs use a color-coded signal word panel with the safety alert symbol and the signal word DANGER, WARNING or CAUTION to indicate the hazard's risk severity level.

When specifying hazard alerting signs, choose the signal word that best fits the injury/probability decision matrix illustrated below. **IMPORTANT:** From a best practices perspective, your new OSHA/ANSI hazard alerting signs should use one or more symbols and a text message to communicate:

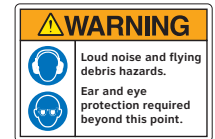
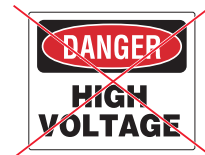
- The nature of the hazard
- The consequence of interaction with the hazard, and
- How to avoid the hazard

### Choosing the Right OSHA/ANSI Signal Word to Match Risk Level



Old

New



# Building Your New Sign System

## Step 2: (Cont.)

### Security and Company Policy Safety Sign Selection

Security and general policy safety signs use the signal word NOTICE on a blue background. This gives them a readily distinguishable uniform format so they can be easily found among the other signs posted in and around your facility. The sign's symbol and text combine to inform people of your safety and security policies.

**Old**



**New**



### Fire Equipment and Safety Equipment Sign Selection

Best practices dictate that these signs use internationally standardized color-coded ISO/NFPA graphical symbols to indicate the location of this important equipment. Use of these symbols will allow people from all over the world to understand their meaning. Panoramic, flag and flat-style formats should be considered to determine optimum visibility from various viewing positions. Photoluminescent sign materials should be considered to enable equipment to be found in power-out emergency conditions.



### Egress Pathmarking Signs and Markings Selection

These photoluminescent directional exit signs use the internationally standardized color-coded ISO/NFPA graphical symbols to indicate the direction of travel to final exit doors and assembly points. The delineation of these paths with photoluminescent demarcation lines and stair/handrail markings provides a fail-safe means to direct your people to safety in crisis situations.



# Building Your New Sign System

## Step 3: Choose the Right Location, Size and Style

The following viewer-driven criteria is critical to your new sign system's ability to improve safety and reduce risk. While installation situations vary, general guidelines you can apply include:

### Sign Location and Size

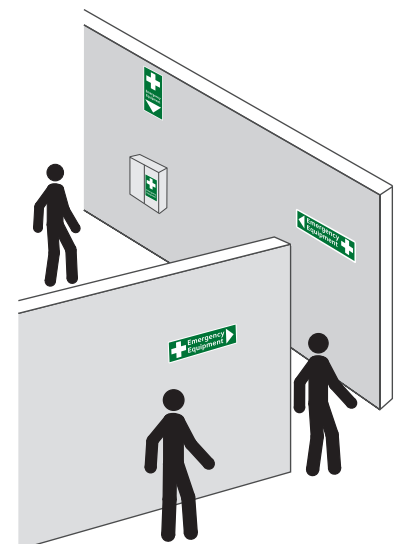
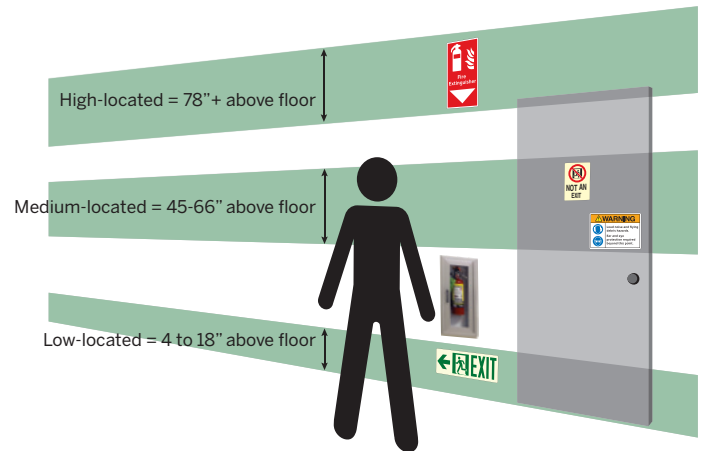
- Place signs where the viewer will see them
- Place signs in locations that give people enough time to avoid the hazard
- Place signs where they will not be obstructed from view
- Choose signs that can be read from your maximum intended viewing distance

### Mounting Heights

- For high-located placement (e.g. fire and safety equipment location signs, high-located EXIT signs), place the sign at least 78" above floor height
- For medium-located placement, typically, place the sign's center 45" to 66" above floor height
- For low-located placement (e.g. egress pathmarking signs), the top of the sign should be placed no more than 18" above floor height so the sign can be seen in smoke conditions

### Sign Styles

- Flat, flag and panoramic signs: Use flat signs when the anticipated viewing angle is straight on or less than 60° from center; use panoramic or flag-mounted styles to allow the sign to be seen from an angle
- Directional signs: Directional versions of signs – those with a chevron included – can be used to help locate objects (such as fire and safety equipment) not immediately in view from a person's position
- Other considerations: Choosing the right sign size and style should also factor in the anticipated viewing angle and lighting conditions



# Building Your New Sign System

## Step 4: Choose the Right Materials

It's important to choose the right materials because a degraded or partially detached safety sign compromises the legibility and understanding of its message. If your safety signs end up exhibiting the traits shown in the pictures to the right, they'll unnecessarily be putting your company at risk of both people getting hurt and possible litigation for "failure to warn" or "inadequate warnings."

Sign and label materials must be matched to your facility's environmental conditions, the intended location of signs, and planned installation methods. The following are some of the critical factors to consider when selecting materials for your new OSHA/ANSI sign system:

- Indoor vs. outdoor conditions
- Fade resistance
- Temperature variations
- Temperature extremes
- Lighting conditions
- Emergency lighting conditions (and the possible need for reflective or photoluminescent materials for particular safety signs and markings so they can be seen in power-out conditions)
- Graffiti-resistant characteristics (typically for signs exposed to the public)
- Adhesives that bond to your intended mounting surfaces
- Contamination issues
- Washdown conditions
- Maintenance and cleaning procedures

Your safety sign system is only as good as the materials that go into its manufacture. The importance of selecting the right materials and a sign supplier with proven credentials cannot be overstated.



## References

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## Clarion Expertise LEADS OSHA REGULATION UPDATE

Clarion's CEO, Geoffrey Peckham, has more than two decades of experience in actively advancing safety communications. He has led and continues to lead both the U.S. and international efforts to harmonize standards in the area of safety signs, labels and markings; this includes contributing to the leadership and direction of ANSI, ISO, OSHA and NFPA safety codes. Peckham serves as chair of the ANSI Z535 Committee for Safety Signs and Colors and chair of the U.S. TAG to ISO/TC 145 – Graphical Symbols. He has also been selected as a member of the U.S. TAG to ISO/PC 283, an ISO committee writing a new Occupational Health and Safety Management Systems standard that will, when finished, define global best practices for workplace safety.

Over the last four years, Peckham spearheaded the effort to update OSHA standards to align them with the latest advances in safety sign technology. Together with NEMA, he lobbied OSHA to recognize the new ANSI Z535 standards and reference them in federal regulations. The OSHA safety sign standards update took place in the fall of 2013, providing workplace safety professionals the ability to use the ANSI Z535 standards to better protect people from harm.



## About Clarion Safety Systems

Clarion Safety Systems, LLC, is the leading designer and manufacturer of visual safety solutions, helping customers in more than 180 industries to make their products and premises safer. Clarion offers a full range of standard and custom products including:

- State-of-the-art OSHA/ANSI workplace safety signs, labels, tags and markings
- OSHA/ANSI 2013 compliant machinery safety labels
- Pipe and valve identification markings
- Lockout/tagout products
- Safety-grade photoluminescent egress pathmarkings
- NFPA 704/GHS compliant hazardous chemical signage
- Design and consulting services

Founded in 1990, the company plays a leading role in the development and writing of international and national standards for safety signs, labels, tags and markings.

Clarion is headquartered at:

190 Old Milford Road in Milford, PA, 18337, and online at [www.clarionsafety.com](http://www.clarionsafety.com)

### Clarion:

**20+** years of experience

**10,000+** clients worldwide

**180+** industries

**50,000,000+** safety signs & labels produced

**0** allegations for "inadequate warnings" or "failure to warn"

# OSHA's New 2013 Sign Regulations Are Here

AND READY FOR IMMEDIATE IMPLEMENTATION



OSHA YESTERDAY



OSHA TODAY

## Think your safety signs are adequate and effective? *Think again.*

With OSHA's September 2013 update to incorporate the new ANSI Z535-style signage into the nation's safety standards, it's time to update your signs and tags. Why? Because the new signs better communicate safety in today's diverse and complex workplaces. Continuing to use the old designs can mean the difference between a productive employee or a gravely injured one...a thriving business or a company mired in litigation.

**Clarion's safety signs, tags and markings help companies protect people and better meet today's ever-increasing regulatory and liability climate.**

**For more information, visit: [clarionsafety.com/NewOSHA](http://clarionsafety.com/NewOSHA)**

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Reducing Risk, Protecting People