



On Your Mark is a monthly column written by Geoffrey Peckham, the CEO of Clarion Safety Systems. Geoffrey is chair of both the ANSI Z535 Committee for Safety Signs and Colors and the U.S. Technical Advisory Group to ISO Technical Committee 145 – Graphical Symbols, and member of the U.S. Technical Advisory Group to ISO Project Committee 283 – Occupational Health and Safety Management Systems. Over the past two decades, he has played a pivotal role in the harmonization of U.S. and international standards dealing with safety signs, colors, formats and symbols. This article is courtesy of Clarion Safety Systems © 2014. All rights reserved.

as seen in 

Your Guide to Effective Product Safety Labels

BY GEOFFREY PECKHAM

Of all the responsibilities product engineers are tasked with, safety labeling cannot be overlooked. Why? Because the bottom line is: if safety matters, your labels matter. This month, we'll explore the key elements to consider in creating the most effective labels possible.

It's a new year – a time for new beginnings, fresh starts, and getting refocused. It's a fitting opportunity to revisit the fundamentals in visual safety communication that can help to create safer products and workplaces. A critical part of the overall safety of your products and equipment is their safety labels. In this article, we'll outline the best practices in developing effective labels that can help to prevent injuries and save lives.

THE GOAL OF YOUR LABELS

Let's first review the goal of today's product safety labels. There are three essential purposes that an effective safety label should meet, and that product safety engineers *must* understand: 1) to communicate hazards to protect those who interact with your product during its anticipated lifecycle (delivery, installation, use, service, decommissioning, and disposal) 2) to enable companies to comply with their

intended markets' codes and regulations (ie., CE marking, UL-compliance, and WEEE/RoHS) and 3) to provide a legal defense in the event of an accident. Here, it's important to note that "inadequate warnings" and "failure to warn" are two of the most common allegations found in liability lawsuits in the U.S. today.

DEFINING TYPES OF LABELS TO MEET YOUR GOALS

Now that we've revisited the vital function your safety labels must perform, let's look at the types of product safety labels that can help to achieve these goals. There are three main¹ kinds of product safety labels.

1. A secondary type of label identifies function and control. Refer to *In Compliance Magazine's* January 2012 *On Your Mark* column regarding "The Grounding Symbols" for more information on this topic.

So, where does the engineer start in designing an effective label?

There are several main building block elements that should be considered.

Hazard alerting labels communicate potential personal injury hazards and how to avoid them. This kind of label includes the signal word “DANGER,” “WARNING” or “CAUTION” to indicate the proper risk severity level.

Safety instruction labels communicate explanatory information like safety procedures (such as lockout/tagout instructions).

Notice labels communicate information considered important but not directly hazard-related (such as maintenance information).

DESIGNING AN EFFECTIVE LABEL

So, where does the engineer start in designing an effective label? There are several main building block elements that should be considered.

- **Know the type of content to go on the label.** The ANSI Z535.4 standard makes it very clear what content should be conveyed on a label.² (See Figure 1 for an example of an ANSI-formatted product safety label.)
- **Know your intended audience.** The intended audience and intended market must be taken into account. This includes factors like: is the product shipped to a foreign country; what is the education level of your anticipated product users

2. Compliance with the ANSI Z535.4 product safety label standard is voluntary. However, over the past 20 years of U.S. case law, state and federal courts have repeatedly used the ANSI standards as the benchmark to judge adequacy of warnings.

and how much training will be given; and is there a product safety manual available for communicating more detailed safety information? The product risk assessment process is a critical element here. When it's not practical to design out or guard against a particular hazard, a best practice label can be designed to communicate the risk.

- **Use the latest standards and best practices in considering the elements of your label.** This includes:
 - **Colors** – using uniform color standards developed by ANSI and ISO will help to speed visual recognition of your safety markings.
 - **Formats/text/content** – clear and concise messaging, as well as visual consistency, enables your product safety labels to be more easily seen and understood.
 - **Symbols** – symbols communicate efficiently and across language

barriers. To be effective, they should come from the most up-to-date standards or be drawn using standards-based illustration techniques.

- **Materials** – a label's performance is only as good as the materials that go into its manufacture. It's important to have an understanding of environmental and surface conditions, as well as the latest high-quality material options available, to achieve your durability objectives.
- **Location** – the final critical factor to the design of an effective safety label is its placement. Consideration must be given to its anticipated viewing distance, legibility, and whether placing the label in multiple locations is necessary for both visibility and repetition of messaging purposes to ensure compliance.



Figure 1: Example of an ANSI 2011 Z535.4 electrical hazard product safety label. (Design ©2014 Clarion Safety Systems. All rights reserved.)

Designing effective safety labels can be a complex task. (See Figure 2 for a snapshot of the many elements that make up labels.) It's also one that is never completely finished; you must periodically reevaluate your labels in light of changes to the standards, new symbols that have become codified, and the latest available product safety and accident information related to your product and its industry. The three future articles in this year's *On Your Mark* column series will explore in more detail the latest best practices regarding several of the key topics mentioned above: symbols, content, and risk severity levels. These three components are the core elements that must be thoughtfully considered to be able to achieve the goal: effective hazard communication that helps prevent accidents and saves lives from tragedy. [IN](#)

For more information on effective safety labels – including symbols, formatting, and the importance of using the best practice standards – watch a short, educational video produced by Clarion Safety Systems.



Figure 2: A compilation of all the different elements (from signal words to text messages to symbols) that must be considered, and brought together cohesively, when designing effective product safety labels.