



On Your Mark is a monthly column written by Geoffrey Peckham, President of Clarion Safety Systems and chair of both the ANSI Z535 Committee and the U.S. Technical Advisory Group to ISO Technical Committee 145- Graphical Symbols. 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.

## ISO 7010 Symbols

BY GEOFFREY PECKHAM

Since 1996 I've chaired the American National Standards Institute's U.S. Technical Advisory Group (TAG) to ISO/TC 145. This is the international committee in charge of standardizing symbols for use in communicating safety, public information, and the function/control of equipment.

These symbols are then promulgated through one of three ISO symbol collection documents:

- ISO 7000 – Graphical symbols for use on equipment (Note: the parallel standard for electrical equipment is IEC 60417)
- ISO 7001 – Public information symbols
- ISO 7010 – Safety signs

The focus of this regular column will be symbols standardized in ISO 7010 since these icons are critical to communicating safety on products and in the workplace.

ISO 7010 is an important standard because graphical symbols are the future when it comes to communicating safety information. Not only do symbols have the ability to communicate across language barriers, but they add an attention-getting element that helps safety signs and labels to be noticed. And, as human factor experts advocate, safety

signs must be NOTICED to be effective. Symbols evoke that first engagement step between the sign and the viewer.

All symbols are abstract in that they stand for some particular meaning. Some symbols are designed with representational elements that are easy to understand. Others need to be “learned” to be immediately understood. But through training and repeated exposure even the most abstract symbols can successfully communicate their message to the viewer.

The electrical hazard lightning bolt is one of the most commonly used safety symbols internationally. As with all “warning signs”, this symbol is standardized in ISO 7010 inside a black-banded yellow triangle. Its intended message is “Warning; electricity” and it is used to warn people about the risk of coming into contact with electricity (e.g. electric shock, electrocution hazard, hazardous voltage).

Notice in Figure 1 that the symbol's arrow has a clearly defined zigzag shape. There is a reason that ISO 7010 uses this specific double-angled arrow: it comes directly out of IEC 60417 where its form was standardized decades ago to mean “dangerous voltage”.

According to ISO formatting standards, this symbol (ISO W012) can be used as a safety sign by itself or in combination with text. In the U.S. we most often use this symbol on the symbol panel of an ANSI Z535-style sign (Figure 2) with



Figure 1: IEC 60417 symbol no. 5036 (right), ISO 7010 symbol no. W012 (left)

the signal word DANGER, WARNING or CAUTION (a signal word sign format that is also included in several ISO product safety labeling standards). ANSI-style signs often include additional information and symbols to communicate appropriate avoidance procedures such as disconnect power, lockout power, only to be serviced by authorized personnel, and the like.

If international compliance is important for your product, this ISO 7010 symbol should be used on all of your products' electrical hazard safety signs and labels.

For more information about safety signs and symbols, visit [www.clarionsafety.com](http://www.clarionsafety.com). 



Figure 2: A typical ANSI Z535-formatted safety sign using the ISO electrical hazard symbol.