

ISO 7010 SYMBOLS

By Erin Earley

Understanding Graphical Symbol Standardization – and the Latest ISO 7010 Revision

International standards are important to product manufacturers for several reasons; they help with safety, compliance with varying regional regulations, and the ability to export across borders. That’s why the International Organization for Standardization (ISO) is funded by industry to create voluntary consensus standards that enable “best practices” to be established. ISO 7010 is one such example – a technical standard for graphical symbols on products and in the workplace. Let’s take a look at these symbols, what they mean for your product’s safety, and the latest updates that were recently released.

ISO 7010 AND ITS IMPORTANCE FOR PRODUCT SAFETY

ISO Technical Committee 145 (ISO/TC 145) is the international committee in charge of standardizing symbols. There are three subcommittees within ISO/TC 145 that work to standardize symbols related to communicating safety, public information, and the function/control of equipment. These symbols are then circulated through one of three ISO symbol collection documents. The breakdown of subcommittees and ISO standards is:

- Subcommittee 1 creates standards for public information symbols. The ISO collection document for these symbols is ISO 7001. It includes ‘you-are-here’ style maps, location signs and symbol design guidelines.
- **Subcommittee 2 creates standards for safety symbols. The ISO collection document for these symbols is ISO 7010. It includes symbols for product safety labels, as well as those related to exit pathmarkings, water safety signs and escape plan signs.**
- Subcommittee 3 creates standards for graphical symbols for use on equipment. The ISO collection document for these symbols is ISO 7000. These symbols are used as indicators for functions and controls on equipment.

According to the first line of the introduction of the ISO 7010 standard, “There is a need to standardize a

system of giving safety information that relies as little as possible on the use of words to achieve understanding.”

The standard goes on to explain that it’s intended to be used by all technical committees within ISO charged with developing specific symbols for their industry, to ensure that there is only one symbol for each meaning. The reason? Lack of standardization, and use of multiple meanings, may lead to confusion – as well as accidents.

USING ISO 7010 SYMBOLS

ISO safety symbols come in three categories that effect product safety labeling, each with their own specific design criteria (which follow the principles prescribed in ISO 3864-1):

- **Mandatory action:** A blue circle/white graphical symbol indicates a mandatory action to take to avoid the hazard
- **Prohibition:** A red circle-with-slash/black graphical symbol indicates a prohibited action to avoid the hazard
- **Warning:** A yellow warning triangle/black graphical symbol indicates what the hazard is

See the examples in Figure 1.

Mandatory action	Prohibition	Warning
		
M001 General mandatory action	P001 General prohibition	W001 General warning

Figure 1: Examples from ISO 7010 showing the three types of symbols used in product safety labels, along with the reference number and referent or safety meaning.

According to ISO formatting standards, symbols from the 7010 library can be used as a safety label by itself or in combination with text. In the U.S., we commonly use these symbols in the symbol panel of an ANSI Z535-style label with the signal word DANGER, WARNING, or CAUTION, although symbol-only formats are gaining in popularity.

“We often field questions from equipment manufacturers about how to use ISO 7010 symbols in their on-product warnings,” says Angela Lambert, Director of Standards Compliance at Clarion Safety Systems. Lambert is also a delegate representative to ANSI for ISO/TC 145 Subcommittee 2, Working Group 1. “Where can they find standardized symbols? What do they do if there’s not an ISO 7010 symbol available?”

Per Lambert, the answers lie in ISO 7010. “The standard itself is an excellent resource for accessing the library of standardized symbols – and for understanding their specific meanings and design criteria. ISO also maintains an ‘Online Browsing Platform,’ a publicly available digital database of symbols. In cases where there’s not an ISO 7010 symbol available, to promote recognition and comprehension, it’s important to select one based on the principles of the standard.”

THE SYMBOL UPDATE PROCESS AND THE LATEST ISO 7010 REVISIONS

During ISO subcommittee meetings, symbols are regularly reviewed and updated based on safety best practices and case law, as ISO 7010 needs to approve any symbols that lower level standards are using. Once the symbol is approved, it becomes part of an amendment to ISO 7010.

As an example, one of the most noteworthy updates for electrical equipment manufacturers in recent years was the standardization of a symbol for arc flash. The new arc flash symbol, which was released in 2017 through an amendment to ISO 7010, communicates more effectively by having a specific, distinct symbol for arc flash hazards. Previously, more general symbols for electricity had to

be used, such as the lightning bolt symbol meaning “To warn of electricity.” See Figure 2.

The standard is also periodically revised as a whole, taking place most recently in August 2019. ISO 7010:2019 now includes the incorporation of all recent amendments as well as the addition of new symbols, with many related to emergencies, emergency planning, and water safety.

Stay tuned for more discussions to come on specific symbols and the symbol standardization process. 



Figure 2: The ISO 7010 symbol to warn of arc flash

Erin Earley, head of communications at Clarion Safety Systems, shares her company’s passion for safer products and workplaces. She’s written extensively about best practices for product safety labels and facility safety signs. Clarion is a member of the ANSI Z535 Committee for Safety Signs and Colors, the U.S. TAG to ISO/TC 145, and the U.S. TAG to ISO 45001. Erin can be reached at earley@clarionsafety.com.