On-Product Warnings

When someone is injured by a consumer product, one aspect that is often considered is the quality and appropriateness of the on-product warnings. Many consumer products contain hazards which cannot e designed out of the product and cannot be fully guarded against without impacting the functionality of the product. In these instances, the manufacturer typically has a duty to the user to provide notice of the hazard (open and obvious hazards, such as the sharp blade of a kitchen knife, typically do not require specific warnings). The manufacturer's warning notice can be relayed to the user through many different types of media such as the User/Assembly/Installation Manual, educational/safety videos, hang-tags, package inserts, and on-product warnings. In many instances, warnings for a specific hazard can and should be provided in multiple media types.

The different media each have their own advantages and disadvantages. For instance, written instructions area able to convey a great deal of information relatively inexpensively and are often retained by the owner. It is not uncommon to find literally pages of warnings for some products, but unfortunately these warnings are often overlooked and unread, and many times never consulted after the product's first use. Video media can relay detailed graphical information and may be more engaging, especially to younger generations who prefer to videos to written instructions. Meanwhile, hang-tags and other warnings placed in the product packaging are reliably seen and read, but only by the person opening the package and typically only at that time. They are not retained or reviewed at a future date. The drawbacks of these other forms of communication provide additional importance to on-product warnings. On-product warnings generally consist of a warning that is intended to remain attached to the product and to be legible throughout the life of the product. Importantly, these warnings are visible any time the user is in proximity to the hazard. They provide the required safety information when and where it is needed.

Unfortunately, on-product warnings are not a perfect panacea to avoid all injuries. Most often, product designers cannot (and should not) create on-product warnings for every possible hazard for several reasons. For example, the available space for warnings may be limited by the surface area of the product (e.g. long, thin objects are not conducive to many warnings), aesthetics, surface conditions (e.g. rough, hot, or hidden surfaces), and other factors. The designer must also be cognizant of 'warning fatigue' – placing so many warnings that a user fails to read or heed any of them. For these reasons, the product designers must make decisions regarding how many warnings and for what hazards will be included on the product. And then, the location, content, formatting, and mechanism must also be determined. Invariably, when an injury occurs, these decisions get scrutinized, the results of which can greatly influence the outcome of any litigation that has ensued.

Oftentimes, the choice of which on-product warnings to include is based on the designer's common sense (i.e. a lawnmower's blades are not open and obvious but are a significant hazard) or the choices are reactionary to prior known injuries/lawsuits. Designers will also often look to competitor's products to copy what they have warned against. All of these methods are valid and demonstrate that the designer was making an effort to include the appropriate warnings, especially if the thought process was documented (which is rarely the case). But what if a key hazard was missed? The manufacturer could then face liability issues for not including a particular warning which ultimately led to an injury. And not surprisingly, anyone who happens to be injured by a consumer product might justifiably consider the

hazard that led to their injury as one that should have been included in an on-product warning. So, what methods should designers use to evaluate which warnings should be placed on the product?

A formal documented hazard analysis is perhaps the most thorough and appropriate method. The product designer should analyzer all conceivable hazards created by the product and then rank them according to the likelihood of occurrence and the severity of a potential injury (numerous specific methodologies exist, which will not be covered in this article). Based on the hazard analysis, the most critical hazards can be identified and then evaluated against the product design to determine which ones are included on-product. If this process is followed (and documented), the most pertinent warngins will be displayed on the product. And critically with respect to litigation, justification for the selection of on-product warnings will be well established and defensible. On the other hand, if this process was not completed by the product designers, it remains an excellent tool for use by the forensic engineer to do a post-accident evaluation. Consider a plaintiff's position, is it more effective to simply state that an on-product warning should have existed because an injury occurred due to that hazard, or that an on-product warning should have existing because the hazard was ranked higher than other hazards that were warned against? And, of course, an opposite position may benefit the defense if the subject hazard turns out to be lowly ranked because the likelihood of injury is extremely low or unlikely to cause serious injury. Regardless of the outcome, the risk-based hazard assessment analysis is a valuable tool for a forensic engineer when evaluating on-product warnings.

The decision to include a warning is only the first step in the process. The warning itself must convey the required information in a clear and concise fashion to be useful to the consumer. Voluntary standards, most notably ANSI Z535 and ISO 7010 provide excellent guidance on the content and formatting of warnings and should be used whenever practical as best practice. When discussed in the context of litigation, the content of the warning is often evaluated against these voluntary standards, with deficiencies cited as a contributing factor to the injury.

There are, however, many excellent warnings that cannot follow these standards and yet provide effective on-product warnings. Take for example modern crossbow sights. Many now include a warning to remind the user to keep their hand and/or fingers out of the path of the string (see figure). It is impossible in this limited space to provide all of the elements of a warning that meets ANSI Z535, but the warning is clearly relayed at the moment immediately before a trigger pull when it is most needed. When evaluating the quality of a warning, what is important is to evaluate if the product designers provided the most important information in the clearest and most easily understood manner. Evaluating to any specific voluntary standard is often a good start, but it should not be the only consideration for a forensic engineer.

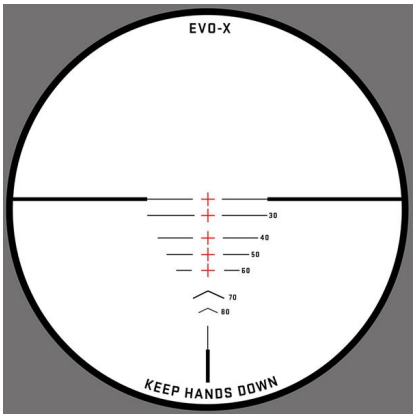

Figure 1: Tenpoint Marksman Reticle

If you are investigating a case which involves on-product warnings and are interested in engaging an expert witness to support your case, please contact us at Aither Forensic Engineering.

Aither Forensic Engineering
PO Box 158
Gambrills, MD 21054

(443) 302-9994
jkiddy@aitherforensics.com
www.aitherforensics.com