



Emergency Eyewash Stations: Best Practices for Meeting ANSI Compliance Tips for Developing a Solid Eyewash Safety Plan Post-Installation

When it comes to emergency eyewash stations, installation is only the first step in meeting compliance standards. Employers who have installed eyewash stations have taken a responsible first step, however those efforts are wasted if the eyewash stations do not meet the rest of the standard. Is the unit free from obstructions that prohibit its usage? Is it regularly maintained to the standard? Is it located the proper distance from the hazard? Without a solid plan in place to monitor and maintain emergency eyewash stations to current standards, companies can find themselves out of compliance. This exposes employers to fines and employees to potentially hazardous risk of serious eye injury.

According to a 2005 report from the Occupational Safety and Health Administration (OSHA), 784 citations were issued to companies that did not have eyewash stations in near proximity to employees. Another 1,124 citations were issued to companies that did not provide employees with hazard information and training. Total penalties for those two types of violations reached nearly \$800,000. It is important for companies to realize that staying compliant is an ongoing process that does not stop after the installation process.

Selection, Installation and Beyond

The first step toward meeting ANSI compliance is the installation of an approved emergency eyewash station capable of delivering flushing solution for the required 15 minutes. There are two main types of eyewash stations available: plumbed and portable. Plumbed eyewash systems are permanently connected to a source of tap water. Their greatest attribute is the ability to deliver plentiful amounts of flushing fluid. Because these stations must be connected to fixed plumbing, they are often a first choice for initial building construction.

Portable eyewash stations contain their own water — either by using tap water with a water preservative or using pre-filled water cartridges. This allows portable units to easily be added to existing buildings since no plumbing or drain lines are required. For this reason, and for the ease of moving the station within the facility as work centers move, portable stations are often the choice for post construction installation.

Once an eyewash station is selected, the focus must next be on proper installation. ANSI Z358.1-2004 outlines the criteria for proper installation of plumbed and self-contained emergency eyewash stations. The ANSI standard states that it is the installer's responsibility to ensure that eyewash stations are placed in accessible locations that require no more than 10 seconds to reach from the hazard. This means that eyewash units must be placed on the same level as the hazard with a path of travel free of obstructions such as pallets, ladders, boxes, etc. that could inhibit the use of the equipment within the required 10 second limit. For a strong acid or caustic, the eyewash station should be immediately adjacent to the hazard.

For plumbed installation, a plumbing contractor or other professional should be consulted to ensure that the unit is properly affixed to the plumbing and preferably

connected to the facility's drain system. While some plumbed stations are set to drain onto the floor, this should be avoided since some runoff can be considered a chemical spill and all runoff is a slip and fall hazard. Furthermore, since the ANSI standard requires a tepid water flush (temperatures in excess of 38°C or 100°F have proven to be harmful to the eyes and can enhance chemical interaction with the eyes and skin) a water heating or cooling unit may be required if the tap water in the facility ever falls outside of those temperature limits.

For a portable eyewash station, the unit is usually mounted to a wall near the hazard. If wall space is inconvenient, most portable eyewash manufacturers offer either carts or stands, allowing the unit to be positioned close to the hazard and easily moved if the hazard moves. The tepid water requirement also applies to portable units but since the water in portable units adjusts to ambient room temperature, the water will attain standard as long as the facility temperature is within standard. Be sure to follow the manufacturer's instructions for installation and temperature since this varies from manufacturer to manufacturer.

Best Practices for ANSI Compliance: A Look at One Leading Organization

Organizations may find themselves in a situation of simply not knowing what to do once their emergency eyewash unit(s) has been installed. A strong understanding of the standards and requirements coupled with a strong foundation for training and education to all employees in the work environment is an essential ingredient. It is important to determine if internal staff or outside consultants will be required to guide the development of a solid plan surrounding installation, education, training and maintenance of the units.

The Boeing Company, the world's leading aerospace company and the largest manufacturer of commercial jetliners and military aircraft combined, began its compliance initiative by selecting a sealed-cartridge portable unit as its emergency eyewash station of choice. Though the up-front cost was higher, the company realized that the cost of ownership over two years would be substantially lower because the units do not require frequent maintenance typical of other options. With the sealed-fluid style unit, Boeing has taken strong steps to simplify its efforts to remain compliant.

Having eyewash stations installed and properly maintained is the basis for a compliant eyewash program. The standard also requires that employees be fully trained in the use of stations. Boeing uses internal staff to develop the content of its training program and hires outside consultants to train company supervisors. Those supervisors are charged with training their direct reports. Using a blend of on-the-job training, computer-based learning and classroom instruction, Boeing is training more effectively, and its employees are retaining the information better than before. The company keeps a close eye on who completes the training and when those employees should be given review sessions.

Once all of the employees are trained, Boeing selects someone to champion the program — someone who puts safety first, understands the impacts of non-compliance and can be counted on to keep employees safe. At Boeing, this person is called a safety monitor and is charged with helping to maintain a safe work environment for her/his colleagues. This structure is successful because the safety monitors are not simply appointed from the outside to police work areas, but are coworkers of the employees in

the area they oversee resulting in a higher commitment level and passion for helping to keep their colleagues safe.

Boeing's safety monitors oversee preventive maintenance. They are responsible for a monthly check list to inspect portable units for fluid levels or to check solution expiry dates. In addition, they are looking for items that might be obstructing the eyewash stations. In the case of plumbed eyewash stations, the safety monitor is checking the flow rate of the water and whether the water is contaminated with sludge or rust. Part of the ANSI protocol requires checking plumbed stations weekly, and a surprising number of companies either are not aware of this or simply do not adhere to that simple requirement.

At Boeing there are three groups helping the company stay compliant. Maintenance employees conduct post-activation maintenance; safety monitors are responsible for preventive inspection; and Boeing's union safety committee tours all of the company's plants over a one-year span serving as an extra check to ensure that safety checks are getting done.

Boeing has built a safety program that works for its needs, with the critical thread of multiple layers of checks and balances. Like Boeing, organizations must familiarize themselves with the ANSI standards, inform and train employees and try different methods for creating a workforce that takes responsibility for safety and makes it a top priority.

With specific tactics and strategies in place, employees who understand the dangers of their job and know what to do should an emergency occur, companies can achieve compliance and most importantly, keep their employees safe. Whether building a safety program for a leading global manufacturer or for a hospital laboratory, ANSI compliance is becoming a more manageable process. By drawing on the experiences of other companies and taking advantage of the various types of eyewash stations available today, companies can meet legal requirements and create a customized program that becomes more of an opportunity for increased safety and efficiency rather than a cumbersome legal obligation to fulfill.

As with any safety program, the step to an effective eyewash compliance program requires careful planning:

- Selecting the proper equipment
- Installing and maintaining that equipment in the proper manner
- Training workers in the proper use of equipment

Boeing is a great example of how large multi-facility companies can tailor a world class compliance program to fit their needs. For smaller companies, the choices and rules can seem confusing. But help is as close as the telephone. Most distributors and many manufacturers are happy to help set up an eyewash compliance program. Some manufacturers, like Fend-all, even offer free plant compliance surveys to assess risks and help develop compliance strategies.