

SAFETY MEMO

March 1st, 2021 – Emergency shower and eyewash station (1 of 2)



Did you know?

Introduction

Emergency showers and eyewash stations are widely used in all types of industries. In an incident that results in skin or eye exposure to a chemical, the first 10 to 15 seconds of exposure are decisive as to the severity of the injuries. Immediately flushing skin and eyes with large amounts of water reduces the intensity of tissue burns, skin grafts and eye damage.

Equipment Selection

There are several variations of emergency shower, eyewash stations and eye/face wash stations on the market. Some showers are integrated to include both an emergency shower and eyewash station as shown in Figure 1. In some cases, the water for an emergency shower is supplied by the building water network or the eyewash station is installed in an existing sink. There are also emergency stations without an external water supply and portable eyewash bottles.

The selection of equipment depends on the chemical involved and its use on the site. Safety Data Sheets (SDSs) must be consulted, and a job task risk analysis developed in order to select the right equipment.

Location of the emergency shower and eyewash station is also important. Legislation for each jurisdiction will list occupational health and safety standards for location of equipment. In general, emergency showers should be located as close as possible to high-risk areas.

The ANSI-Z358.1 standard indicates access in less than 10 seconds or approximately 16 meters (55 feet). The irrigation time for the body wash or eye wash should be a minimum of 15 minutes and may extend up to 60 minutes depending on the chemical contaminant. For this reason, it is recommended to use an eyewash with a water supply. Eyewash without water supply hookup should be used as a portable means while trying to reach showers/eyewash with water supply hookup.

It is important to review the requirements of the local authority having jurisdiction for any legislated requirements for emergency showers or eyewash stations.

Temperature and Flow

ANSI recommends a water supply temperature between 20 ° C and 30 ° C; 28 ° C being considered the optimum temperature. Every second counts during an emergency, therefore the ideal water temperature must be reached very quickly. The flow rate varies depending on the type of equipment.

In addition, safety equipment must be clearly identified, and training must be given for proper use.



Figure 1: Examples of emergency showers and eyewash stations

Design and Installation Issues

In practice, there are many emergency shower and eyewash station installations that are either obsolete or do not meet the basic design criteria. The most frequent problems encountered are:

- Lack of system maintenance.
- The water temperature is inadequate or require too much time to be reached.
- Too high or too low flow rate, particularly in simultaneous use.
- An inappropriate flow rate (frequently encountered for eyewash stations).

The selection and installation of emergency showers and eye/face wash stations require proper equipment selection, placement and maintenance in accordance with local legislated requirements to properly protect the health of workers during an emergency.

