

SALIENT POINTS AS LAID OUT IN THE EUROPEAN STANDARD (EN15154-1&2:2006)

Scope

Plumbed-in Emergency Safety Showers for laboratories (not industrial or other such areas) and plumbed-in Eyewash units.

General:

(Points covering both the Emergency Shower and the Eyewash)

- Velocity of water shall be low enough to be non injurious to the user.
- Installed in close range of persons working in a potentially hazardous area.
- To deliver flushing fluid in sufficient volume to wash away contaminants and extinguish flames or sooth the effects of heat.
- Flow for 15 minutes.
- Use potable water or water of similar quality complying with European or National standards.
- Materials used shall not affect the water quality or contaminate the water supply.
- Shower and Eyewash nozzles/heads shall only be adjustable (direction of spray or water distribution) and removable using a tool.
- Valve should be operated by a single operation by turning or moving valve activator to maximum of 90° or maximum of 200mm stroke. The maximum force for operation shall be 100N or maximum torque of 7Nm and shall be fully open within one second. For automatic operation valve shall be fully open within one second and shall be fail safe to open position if operated electrically.
- Valve shall not close automatically once it has been opened.
- The direction of operating the valve actuator shall be clearly visible and unmistakable.
- Valve actuator shall be large enough to be easily located and operated by the user when wearing gloves (EN420).
- Water temperature (covered in Annex A) tepid 15°C – 37°C. Water temperature should be conducive to the irrigation period.
- Water pressure to be the flow pressure as specified by the manufacturer and measured where the unit is connected to the water supply and when the water is flowing.

Shower:

- Height of nozzle 2200mm +/- 100 mm.
- Diameter of spray pattern 400mm at 700mm below the shower head (1500mm +/- 100mm above surface on which user stands).
- 50% +/- 10% of volume of water should be within this diameter and shall not deviate more than 30% in the compartments within this circle (see Fig.1 in Standard).
- At this measuring level the area reached by a minimum of 95% of the water should not exceed a circle of 800mm diameter.
- A hand-held shower on a flexible hose can be incorporated.
- Emergency shower head with a flow rate of 60 litres/minute is suitable unless other local or national regulations apply.
- Free space between centre line of shower head and nearest obstruction (wall, vertical supply tube or similar) shall be a circle with a minimum radius of 400mm. Only the valve control element, eyewash and hand-held shower can project into this space by a maximum of 200mm. No other parts may project into this space.
- Shower head shall be self-draining between the valve and the outlet.
- Valve actuator shall be between floor level and 1750mm above that level.

Eyewash:

- Nozzles to be 1000mm +/- 200mm above the floor and 150mm from the nearest wall or obstruction.
- Jet shall spray at a height between 100mm and 300mm measured from nozzle centre (before tipping or collapsing).
- Nozzles shall be protected from airborne contaminants.
- Removal shall not require a separate motion when operating unit.
- Plumbed-in eyewash units shall be designed to deliver a constant minimum flow rate of 6 litres/minute at a flow pressure to be specified by the manufacturer, measured where unit is connected to the water system.
- Designed to provide enough room to allow both eyelids to be held open.
- To avoid water-borne contaminants, the water supply pipe can be fitted with a fine mesh filter (Annex A I Standard).

Manufacturer's Information:

- Manufacturer shall supply information on installation, operation and maintenance as well as method and frequency of routine testing.

Marking:

- Equipment shall be clearly and permanently marked showing requirements for minimum and maximum flow pressure and maximum static pressure. Marking shall be performed by the manufacturer and shall show name of manufacturer and model/article number.
- A safety sign to ISO 3864.1 shall be displayed near the unit and shall be supplied with it.