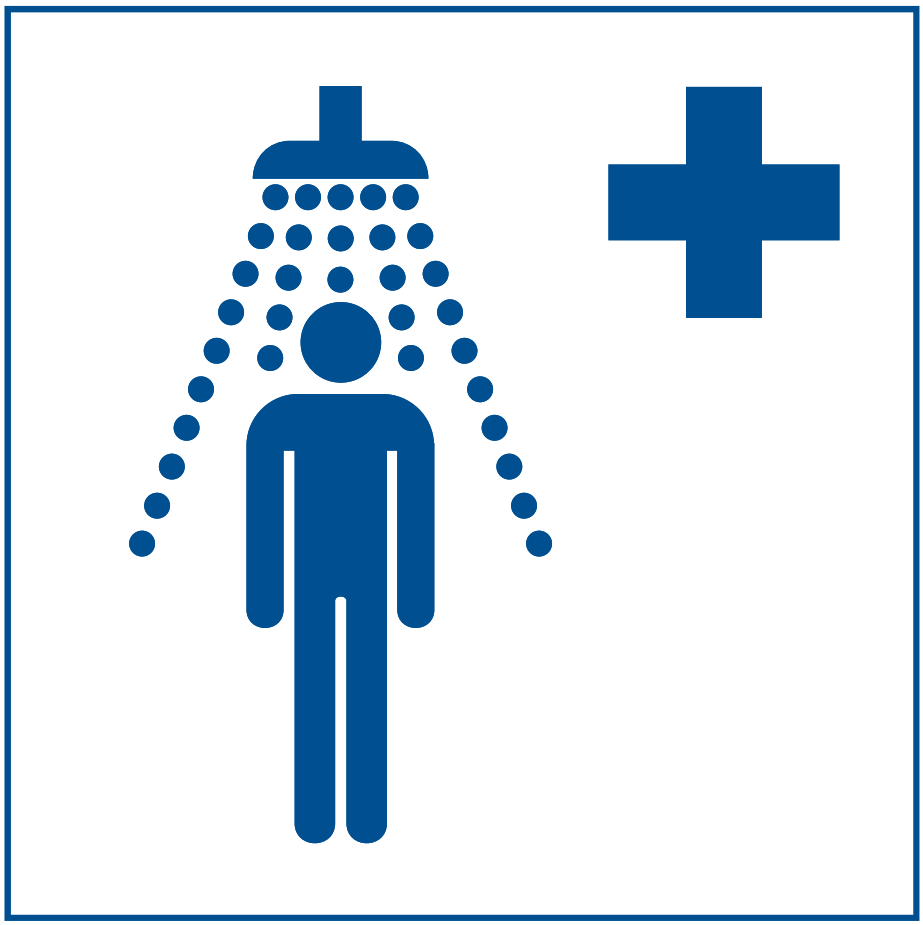
eurobitume

Guidance on Emergency Safety Showers

2nd edition



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Boulevard du Souverain 165
B - 1160 Brussels, Belgium
www.eurobitume.eu

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Scope

This guidance provides uniform minimum considerations for the design, performance, installation, use and maintenance of emergency safety shower equipment at facilities where bitumen products are handled in bulk and at elevated temperatures. It is not an exhaustive list of considerations and, as such, anyone considering installing emergency safety shower equipment should consult with a competent engineer or safety professional.

This guidance establishes minimum requirements for both plumbed-in (mains-fed) and non plumbed-in (self-contained) emergency safety shower equipment, for the emergency treatment of the eyes or body of a person who has been exposed to hot bitumen.

The emergency safety shower is not suitable for primary protection against splashing hot bitumen. Workers must wear, as a minimum, the personal protective equipment stipulated in the Eurobitume Personal Protective Equipment (PPE) guidance.

Terminology

Emergency safety shower equipment: emergency safety showers and eye wash stations

Eye wash station/unit: unit for washing off chemicals or substances that might have splashed into an individual's eyes before further medical attention can be sought

Mains-fed: water is drawn from the mains water line into the emergency safety shower equipment (also called plumbed-in)

Self-contained: non plumbed-in emergency safety shower equipment using water reservoirs of limited capacity, which can be removed for easy filling

1 Introduction

Health and Safety laws impose duties on all relevant stakeholders and on all involved parties to provide safe systems of work.

This guide to emergency safety showers is intended to help all parties comply with their responsibilities during the delivery of bitumen products and does not alter the legal responsibility of either party. A specific hazard and risk assessment must be completed by the responsible party before any operation, new installation and reviewed if any modification is undertaken.

Eurobitume members strongly recommend no activities involving the handling of hot bitumen, e.g. loading, discharge, sampling, in laboratories, should take place unless operable emergency safety shower equipment is available.

Note that the provision of alternative measures such as hosepipes, buckets, extinguishers, portable showers (if not meeting the requirements on emergency safety showers) etc. is not acceptable.

2 Design considerations

2.1 Emergency safety showers should be equipped with eye wash units. In any case, a measure to provide immediate treatment for eyes in case of burns or bitumen splashes should be available.

2.2 It is crucial that emergency safety showers and eye wash units remain operational at all times, regardless of weather conditions, and are readily available for immediate use.

2.3 Emergency safety showers and eye wash units must comply with applicable local specifications and the outcomes of individual hazard and risk assessments.

2.4 Measures to prevent bacterial contamination and airborne issues, such as legionella, need to be in place to comply with local control and testing legislation.

2.5 The operation of emergency safety showers should be simple, such as using footplates, push-bars, pull-handles, or similarly uncomplicated mechanisms.

2.6 The area within the emergency safety shower should be spacious enough to allow free movement and enable the injured person to direct the water flow to the affected area.

2.7 An alarm should be installed to alert site staff when the emergency safety shower is in use.

2.8 If shut-off valves are installed in the water supply line, measures should be taken to prevent unauthorised shut-off, such as using locked valves or removed valve wheels.

2.9 The emergency safety shower should be capable of delivering a sustained volume of clean water for cooling for a minimum period of 20 minutes.

2.10 The flow rate and spray pattern must be adequate to thoroughly drench the whole body to remove heat induced from the bitumen. Approximately 80 l/min flow rate is recommended where local regulations do not address a specific flow rate.

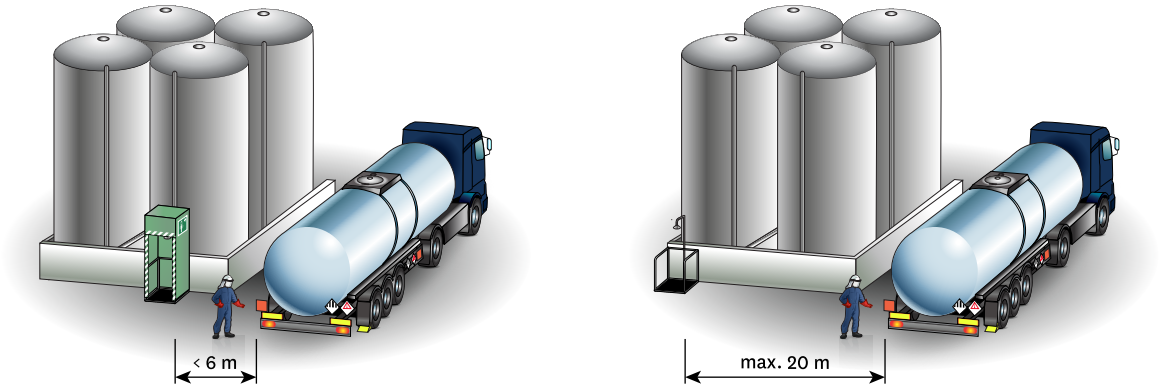
2.11 To prevent hypothermia, the delivered water should be cool (tepid) but not cold.

2.12 If an eye wash unit is installed, the flow rate should be sufficient to thoroughly wash the eye without causing pressure damage. Where local regulations do not address a specific flow rate, reference is EN 15154-2.

3 Shower position and signage

3.1 The emergency safety shower equipment must be positioned close to the area of highest risk of bitumen exposure. When bitumen is being loaded or delivered, the shower should be located within 6 - 20 meters of the source of bitumen (e.g. loading or discharge point) and should be easily accessible without any obstructions.

3.2 To ensure the safety shower is protected from potential bitumen spray, it is best to place it at least 6 meters from the source of bitumen. If this is not feasible, the shower must be shielded.



3.3 The number of emergency safety shower equipment should be decided based on the above recommendations.

3.4 It is important that emergency safety shower location(s) is clearly designated and that the signage is well lit to ensure visibility in case of an emergency.

3.5 When conducting the hazard and risk assessment, it is important to take into account any other potential hazards along the route to the emergency safety shower area, such as traffic and other activities.

3.6 Access to and exit from the shower area must be clear of obstructions, e.g. steps.

3.7 The route leading to, and the shower itself must be well lit.

4 Training of personnel

4.1 The use of emergency safety showers should be incorporated into the facility's emergency response plan.

4.2 All personnel who may be exposed to hot bitumen should be trained on the location and use of emergency safety showers and eye wash units, if applicable.

4.3 All drivers should receive instructions on the location and use of emergency safety showers and eye wash units as part of their on-site induction.

5 Shower maintenance and checks (including eye wash stations)

5.1 The manufacturer shall provide instructions for the operation, inspection, and maintenance of emergency safety showers.

5.2 Maintenance of emergency safety showers in accordance with the manufacturer's recommendation should be part of a planned maintenance program.

5.3 Emergency safety showers should be operated at least once a week to ensure the shower is supplied with water and that the plumbing is free of sediment build up.

5.4 For non plumbed-in (self-contained) emergency safety showers, water containers should be visually checked monthly to ensure that sufficient water is available. Water should be replaced or refilled as needed in accordance with local codes.

5.5 All, but especially non plumbed-in (self-contained) emergency safety showers, water should be analysed periodically for legionella bacteria.

5.6 Tablets or other means of water purification should be used to keep the water clean and avoid potential health risks to the injured.

External references

Suitable guidance can be found in:

EN 15154: Emergency safety showers (Parts 1 – 6).

Applicable National Health & Safety legislation and guidances may need to be considered, such as from INRS, BG RCI and others.

Eurobitume reference documents

Eurobitume Bitumen Burns Card

Eurobitume Guidance on Personal Protective Equipment (PPE)

Eurobitume Safe Handling of Bitumen Card