

# Driver safety at customer sites: bulk delivery 5th edition

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## 1. SCOPE

Deliveries of cement to customer sites occur on a frequent basis. In some instances customers may receive numerous loads on any given day. Following a series of customer site incidents and near misses, MPA Cement has updated the standard risk assessment used by its members on Customer Sites to ensure that major hazards faced by the driver are being correctly addressed.

This document concentrates on a relatively narrow set of health and safety criteria specific to bulk cement delivery that should be considered as part of a customer's overall risk assessment. Compliance with any guidance set out in this document does not absolve the user from his legal duties under the Health and Safety at Work etc Act 1974 to form his own site specific assessment of his workplaces and operations and to provide accordingly for such matters.



*An over-pressurisation incident led to the 'launching' of this filter housing from the top of a silo. If this had landed on anyone, they would have been killed.*

## 2. HEALTH AND SAFETY TARGETS

MPA Cement member companies have agreed the following challenging health and safety targets.

1. An overarching expectation of Zero Harm
2. Interim 5-year Targets (based on 2009 calendar year) of;
  - A 50% reduction in the Lost Time Injury Frequency Rate for Direct Employees by 2014.
  - A 50% reduction in Lost Time Injury numbers for Contractors by 2014.

In order to meet these targets it is essential to reduce the number of incidents suffered by drivers on customer sites.

Following a review of the hazards and accidents associated with the delivery of bulk and bagged products, MPA Cement Member

Companies have identified a number of important safety issues which they believe it is reasonably practicable for all customers to control.

Therefore a standard risk assessment is being introduced to rate how effectively these issues are being addressed by individual customer sites.

- A green rating indicates that the issues have been satisfactorily controlled.
- An amber rating indicates the need to address an issue within an agreed timescale and to implement interim measures in order for deliveries to be made safely.
- A red rating indicates an issue has been identified which renders the site unsafe for delivery. This information will be used to agree an improvement plan where necessary.

## 3. PROCEDURE

Approaches adopted by MPA Cement Member Companies will vary. Generally, however the risk assessment will be carried out by their risk assessor before deliveries are made to new customers.

Any issues raised by the questionnaire will then be subject to further discussion between the cement company and the customer when specific hazards are identified.

You are also strongly advised to:

1. **Review the items listed in the assessor questionnaire:** and to correct any deficiencies before the Cement Company assessor arrives. Your attention is drawn to issues particular to your site that have a high potential of a red safety rating or where previous failures have occurred.
2. **Review the MPA Guidance to Prevent Over-Pressurisation of Storage Silos:** and ensure that:
  - A correctly sized pressure relief valve and filter are fitted.

- Regular maintenance is carried out on the silo and fittings.
- High level alarms are tested regularly – preferably from ground level.
- All inlet ports are locked when not in use.
- Operating procedures are followed and drivers receive instruction.

Be aware that a badly maintained silo is a potential bomb.

- Filters MUST be in good condition and properly secured.
- Reliable high level alarms can save lives and expensive damage.
- Dust emissions from the silo require urgent attention.
- Automatic shut off valves offer additional protection.

# 1 General site safety

- 1.1 Has information been provided on the best route to the site that includes any restrictions, for example, on height, weight or parking? GREEN AMBER RED
- 1.2 Is the site entry safe for vehicular access and egress? GREEN AMBER RED

*Issue: Risk of trip/slip/falls where tanker driver stands or walks during delivery. This is the most common cause of injury to drivers on customer sites.*

- 1.3 Is the ground even and firm? GREEN AMBER RED
- 1.4 Is the ground properly drained, i.e. minimal standing water? GREEN AMBER RED
- 1.5 Is the ground free from slip and trip hazards? GREEN AMBER RED

*Issue: To ensure the driver receives adequate information.*

*Amber sites in sections 1.3, 1.4 and 1.5 must be improved to an agreed short term timescale*

- 1.6 On first arrival does the customer provide a site induction and task specific instructions (for example the connection procedure, including the procedures to follow if the operation of filters and alarms are not fully automatic, what to do if an alarm sounds or emissions of dust occur, who to contact in an emergency etc). GREEN AMBER RED
- 1.7 Does the customer provide information on how much space is available in the silo and are any changes to the silo dynamics (e.g. blowing pressures) notified in advance to the cement company so that the driver comes prepared. GREEN AMBER RED

*Issue: Vehicles/machinery and equipment. Being struck by a site vehicle is the third most common cause of fatal injury at work in the UK.*

- 1.8 Has the customer defined a safe pedestrian access route for our driver to collect keys and deliver paperwork? GREEN AMBER RED
- 1.9 Is our driver's pedestrian-area around their tanker safely segregated from site vehicles such as forklift trucks? (unless the pedestrian area is protected by a permanent physical barrier, there should be a minimum two metre wide exclusion zone around the tanker). GREEN AMBER RED

- 1.10 Does the customer establish an exclusion zone around the cement tanker while it is pressurised within which no operations may take place that could cause damage to the pressure vessel (such as the use of cranes)? GREEN AMBER RED

*Issue: Risk of explosion due to rupture of pressurised tank. A pressurised tanker can release 1600 tonnes of force instantaneously if ruptured.*

- 1.11 If the cement tanker has to make a reversing manoeuvre, is an agreed safe system in place that excludes pedestrians from the area behind the tanker? GREEN AMBER RED

- 1.12 Is the lighting sufficient for our driver to see where he is going and what he is doing? GREEN AMBER RED
- 1.13 Is there secure fencing around pits or tanks into which our driver could fall? GREEN AMBER RED
- 1.14 Is our driver safe from falling objects from overhead hazards (e.g. conveyor belt systems)? GREEN AMBER RED

*Issue: Prevention of falls from height.*

- 1.15 If access to the top of tankers is required, is a guard railed fall prevention facility or similar provided? GREEN AMBER RED

# 2 Customer's silo

*Issue: Risk of manual handling injuries when laying additional hoses. Difficulties of protecting lengths of hose from damage. Difficulties of excluding other workers from the danger zone around a length of pressurised hose.*

- 2.1 Can the silo inlet connection be reached by one length of hose from the tanker (one hose length = green, two hose length = amber, three hose lengths = red)? GREEN AMBER RED
- 2.2 Is the silo inlet connection between two and a half feet (0.8m) and four feet (1.2m) above ground level and is the inlet pipe angled at 35 to 45 degrees to the vertical? GREEN AMBER RED

*Issue: Risk of pipe failure.*

- 2.3 Is all pipework between the end of the silo inlet connection and the silo firmly secured, for instance by mounting brackets? GREEN AMBER RED
- 2.4 Is all pipework between the end of the silo inlet connection and the silo made of steel (or suitable equivalent) and does it appear in reasonable condition? GREEN AMBER RED
- 2.5 Is the coupling (and anti-whip device, where fitted) of an appropriate type and in good condition?(because of the risks of leaks and hoses detaching, couplings must be of a proprietary type and not home made) GREEN AMBER RED

*Amber sites in sections 2.3 and 2.4 must be improved to an agreed short term timescale*

*Issue: Risk of over-pressurisation or overfilling.*

- 2.6 Is the silo inlet connection clearly identified by a sign/s showing silo number, product identification and discharge procedures? GREEN AMBER RED
- 2.7 Is the silo inlet connection "capped" and "locked", when not in use? GREEN AMBER RED
- 2.8 Is the high level detection system linked to an audible and visual warning, for each silo which can be seen and heard by the tanker driver whilst standing at their controls during delivery? GREEN AMBER RED

*Amber Option: For blowing blind when radio link has been set up between tanker and silo.*

