

Safety Alert

Car struck by falling concrete

13 April 2023

Background Information

A small section of concrete from a motorway overbridge became loose and fell striking a car.

Nobody was injured, but the vehicle was damaged, and the motorway closed to traffic until the bridge had been inspected and deemed safe.

A subsequent investigation confirmed that the detached concrete was part of a historic repair to the lower edge of the in-situ concrete fascia, to the side of the bridge deck.

The bridge was built in 1980, and a repair carried out in this area in 2009.

The most recent Inspection in 2022, did not identify any defects at the location, and photographs from around that time appear to show no obvious cause for concern with no signs of debonding, delamination or cracking.

Initial indications suggest the repair was not adequately bonded around the existing reinforcement.

Our requirements for this type of concrete repair are currently provided in [CS 462](#) and [Series 5700](#) of the Specification for Highway Works.

CS 462 requires structural repairs to be secured in place by encompassing reinforcement, and by adhesion of the repair material to a roughened substrate.

If this is impractical, small diameter dowels may be bonded into the existing concrete, subject to agreement with the Technical Approval Authority.

Non-structural repairs, which are those secured in place only by adhesion to the substrate, are not permitted above highways or other areas used by the public or workforce.



Lessons Learnt

- Inspectors should check for delaminated areas of concrete during Principal Inspections by hammer-tapping, and any loose concrete shall be removed.
- Any loose concrete identified during General Inspections that poses a risk to the public should be removed as soon as reasonably practicable, with measures taken to mitigate the risk in the interim if appropriate.
- Designers should consider whether concrete repairs to non-structural elements above live traffic are necessary.
- Structural repairs must be secured in place mechanically by encompassing the reinforcement, and by adhesion of the repair material onto a roughened substrate.
- Where repairs are considered impractical the Technical Approval Authority should be consulted.

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