



**TRANSPORT SCOTLAND (Agency of the Scottish Executive)  
TRUNK ROAD NETWORK MANAGEMENT (Bridges)  
TS INTERIM AMENDMENT No 30 – The Use of Foamed Concrete**

**SUMMARY**

This Interim Amendment provides guidance on the use of foamed concrete containing Incinerator Bottom Ash (IBA).

## 1. INTRODUCTION

The Health and Safety Executive (HSE) has identified several incidents involving foamed concrete, including a serious accident on 21st August 2009 at a sewage pumping station being decommissioned, when contractors were injured as a result of a gas explosion. In this incident, a dry well had been filled with a large volume of foamed concrete over the previous three days and a spark from an angle grinder being used to cut handrails is believed to have ignited an explosive gas mix that had accumulated.

## 2. IDENTIFIED ISSUES

The foamed concrete mixture contained Incinerator Bottom Ash (IBA) which may in certain circumstances produce hydrogen gas. Aluminium metal particles present in the IBA react with the water and cement to generate hydrogen, the volume of hydrogen produced being proportional to the quantity of aluminium metal being present in the IBA. HSE investigations are on-going. Foamed concrete is sometimes used on Transport Scotland's contracts as trench reinstatement and for filling voids such as redundant structures and for other road construction applications.

## 3. ACTION

As a precaution, the use of foamed concrete containing IBA must not be used on any Transport Scotland's contracts from the date of this document until the HSE investigations are complete.

The use of foamed concrete without IBA is not affected.

## 4. IMPLEMENTATION

This TS IA should be disseminated across all of the TS Supply Chain. It should be used with immediate effect on all TS schemes and contracts.

## 5. WITHDRAWAL CONDITIONS

Once the HSE investigations are complete, the prohibition on the use of foamed concrete containing IBA will be reviewed.

## 6. FURTHER INFORMATION

If you have any queries about individual schemes, please contact the relevant Transport Scotland Unit Bridge Manager.