

## Alkali silica reaction (ASR)

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### Introduction

Expansion and cracking occurred in the past (mainly during the period 1975-1990) in a number of buildings and structures due to a reaction between certain types of aggregate and alkalis in the concrete pore fluid. This Alkali Silica Reaction (ASR) can often continue for more than five years before damage becomes apparent. This form of concrete deterioration received widespread press coverage, often being dubbed 'concrete cancer'. Reassurance is needed that recently constructed buildings will not suffer from ASR in the future.

### Is ASR still a problem today?

Extensive research (much of it involving the BCA) has been undertaken since 1975 on the causes and prevention of ASR. As a result of this research guidance on the selection of aggregates and limitation of the total amount of alkali in concrete to prevent ASR is included in BS 8500, the British Standard for 'Concrete — Complementary British Standard to BS EN 206-1'. Compliance with this guidance means that no new cases of ASR have been reported since 1990.

### Where can I find out more?

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See, also, Building Research Establishment Digest 330 (2004), *Alkali -silica Reaction in Concrete. Parts 1-4.*

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