Keeping concrete affordable - Build 169(2018)

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Abbreviation
Keeping concrete affordable
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Information provider
BRANZ Limited
Information type
BUILD article
Format
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Description

As suitable sand for concrete becomes harder to find, a research programme to review the alkali limits in concrete may also lead to better tests for industry.

Aggregate in concrete is not chemically inert. It reacts to provide better bonding between the cement matrix and aggregate, which enhances the strength and stiffness of concrete.

However, some reactions between cement and certain reactive aggregates can cause expansion and cracking of concrete structures, which can compromise the engineering properties of concrete and lead to a loss of strength and stiffness. These reactions between alkalis, mainly from the cement, and aggregate are generally referred to as alkali-silica reactions (ASR).

Scope

This article includes:

- Guidance on risk and reactivity limits
- Pressure from shortages led to request to increase concrete alkali limit
- Currently testing concrete's limits
- Some initial findings

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