

# Teknisk rapport

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### **Samlade specifikationer för undvikande av skador på grund av Alkalisilikareaktivitet (AKR) i betong**

### **Framework for a specification on the avoidance of a damaging Alkali-Silica Reaction (ASR) in concrete**

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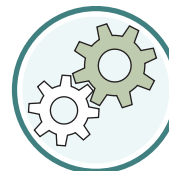
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TECHNICAL REPORT  
RAPPORT TECHNIQUE  
TECHNISCHER BERICHT

**CEN/TR 16349**

April 2012

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ICS 91.100.30

English Version

## Framework for a specification on the avoidance of a damaging Alkali-Silica Reaction (ASR) in concrete

Cadre d'une spécification destinée à prévenir les  
dégradations causées au béton par l'alcali-réaction

Anwendung von Qualitätsregelkarten bei der Herstellung  
von Beton

This Technical Report was approved by CEN on 14 February 2012. It has been drawn up by the Technical Committee CEN/TC 104.

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## Foreword

This document (CEN/TR 16349:2012) has been prepared by Technical Committee CEN/TC 104 “Concrete and related products”, the secretariat of which is held by DIN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This Technical Report is partly based on the recommendation of RILEM TC ACS (Part 1 of AAR-7) [6].

## Introduction

This Technical Report has been prepared by the Joint Working Group (JWG) on Alkali-Silica Reaction (ASR) that was set up by the chairmen of CEN/TC 51, CEN/TC 104 and CEN/TC 154 and composed of representatives from CEN/TC 51, CEN/TC 104, CEN/TC 154 and RILEM TC ACS.

The following is a list of the members of the JWG on ASR:

Name	Represents
Michel Delort	CEN/TC 51
Christer Ljungkrantz	CEN/TC 51
Tom Harrison	CEN/TC 104
Christoph Müller	CEN/TC 104
Philip Nixon (until 2009)	CEN/TC 154
Robert Gossling (from 2010)	CEN/TC 154
Jean-Marc Vanbelle	CEN/TC 154
Terje F. Ronning	RILEM
Ingmar Borchers (VDZ)	Guest

In CEN member countries, ASR has been recognised as a problem in concrete structures since the 1970s. Consequently, a number of countries have established provisions to avoid a damaging ASR. These provisions are currently set out in national guidance documents and specifications.

Provisions vary in the different CEN member countries and depend on local experiences; some member countries have not yet found the need to set up specifications.

The JWG was established to review the situation and to see whether it is possible to go further in providing pragmatic and unified economic European specifications for the avoidance of a damaging ASR in concrete.

The JWG concluded that, unless there is any sound scientific explanation of a damaging ASR which can be used uniformly all over Europe, it is premature to have harmonised classes for alkali-reactivity of aggregates and provisions for avoiding a damaging ASR on a European level. Additionally, safety margins are determined at national level and are related to the reliability at which a damaging ASR will not occur. Nevertheless, a framework for the specification of the avoidance of a damaging ASR in concrete can be given.