

SINGAPORE STANDARD

# **SS 289 : Part 2 : 2000**

(ICS 91.100.30)

SPECIFICATION FOR

## **Concrete**

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***Part 2 : Method for specifying concrete mixes***

Published by

**SPRING Singapore**

**2 Bukit Merah Central**

**Singapore 159835**

**SPRING Singapore Website: [www.spring.gov.sg](http://www.spring.gov.sg)**

**Standards Website: [www.standards.org.sg](http://www.standards.org.sg)**



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### *Part 2 : Method for specifying concrete mixes*

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ISBN 9971-67-796-2

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## **Foreword**

This Singapore Standard was prepared by the Technical Committee on Concrete and Cement under the direction of the Building Materials Product Standards Committee.

This part, which is a new revision of SS 289 : 1986, together with three other parts, forms a comprehensive standard for the specification of concrete to which codes of practice and contractual documents can refer.

It takes account of the recent consensus reached by experts on provisions to resist damaging ASR in the UK. These recommendations are published in the BRE Digest 330 : 1999.

As this standard involves selection by the specifier from a number of options and, in certain instances, agreement on requirements between the purchaser and producer, any requirement for conformity to SS 289 or any claim of compliance with it has to be qualified by reference to the selection and to any such agreements.

This standard covers the methods for specifying and producing concrete as a construction material up to the point of delivery into the construction. The standard is in four parts:

Part 1: Guide to specifying concrete

Part 2: Methods for specifying concrete mixes

Part 3: Specification for procedures to be used in producing and transporting concrete

Part 4: Specification for the procedures to be used in sampling, testing and assessing compliance of concrete

Part 1 provides guidance to the specifier and purchaser of concrete on the selection of requirements for materials and concrete mixes. Part 2 provides a choice of methods by which the purchaser can convey the selected requirements to the producer. Part 3 specifies for the producer the procedures to be used in producing and transporting the concrete. Part 4 specifies the procedures to be used by the purchaser in sampling, testing and assessing concrete for conformity.

This standard provides methods for specifying concrete mixed on site or in a precast concrete factory and for the purchase and supply of ready-mixed concrete. It takes account of the distinct and different responsibilities of the purchaser and the producer. There are a number of instances in which the purchaser has to select from the various options given in this standard in order to specify the concrete required. The purchaser is responsible for passing on to the producer the requirements of the specifying body, e.g. the engineer's or architect's specification, together with any additional requirements. Throughout this standard the terms 'specify' and 'specification' are used in relations to both sets of requirements. There may be occasions where it is advantageous for economic or technical reasons to propose changes to the specification. In such cases the producer and purchaser should agree the proposed amendments for approval and sanction by the specifying body.

Precautions need to be taken when working with cement and wet concrete and attention is drawn to these in SS 289 : Part 3 and Part 4.

This standard covers concrete produced by normal methods, but it does not apply to precast concrete products where other specifications contain the specification of the concrete. Many of the requirements of the standard, e.g. the use of materials and the control of production, apply equally to precast concrete and to in situ concrete. However, some of its requirements concerning the responsibilities of the purchaser and producer may not apply in the case of precast concrete.

It is necessary for the purchaser to take into account the requirements of specialized codes of practice and any influences of the construction process. Provisions are made in this standard for the inclusion of any special requirements.

This Singapore Standard is based on British Standard No. BS 5328 : Part 2 : 1997 and was implemented with the permission of the British Standards Institution.

**NOTE**

1. *Singapore Standards are subject to periodic review to keep abreast of technological changes and new technical developments. The revisions of Singapore Standards are announced through the issue of either amendment slips or revised editions.*
2. *Compliance with a Singapore Standard does not exempt users from legal obligations.*

## **Specification for concrete – Part 2 : Methods for specifying concrete mixes**

### **Section One - General**

#### **1.0 Introduction**

This part of SS 289 gives the methods to be used by the purchaser for specifying concrete. The standards is in three sections:

Section 1	General
Section 2	Designed mixes
Section 3	Prescribed mixes

The methods, involving the use of the relevant information from SS 289 : Part 1, enable the purchaser to specify clearly to the producer the requisite properties of the concrete.

Annex A contains forms which may be used to specify either designed or prescribed mixes. The use of these forms should ensure that the purchaser specifies all necessary requirements and that the producer is in possession of all the relevant technical data.

Methods of assessing conformity to specifications for concrete mixes drawn up in accordance with this part of SS 289 are given in SS 289 : Part 4.

Purchasers ordering in accordance with this standard are advised to specify quality assurance requirements for materials or for concrete in their purchasing contracts to assure themselves that products specified in accordance with SS 289 consistently achieve the required level of quality. Purchasers of ready-mixed concrete are advised to specify certification meeting the requirements of the Singapore Accreditation Council for Certification Bodies. They are similarly advised to specify that, where they are available, constituent materials should be obtained from the suppliers operating quality systems in accordance with relevant SS ISO 9000 series of standards.

#### **1.1 Scope**

This part of SS 289 gives methods for specifying concrete. It does not apply when the concrete is specified as being in accordance with another Singapore Standard.

#### **1.2 References**

##### **1.2.1 Normative references**

This part of SS 289 incorporates, by dated or undated references, provisions from other publications. These normative references are made at the appropriate places in the text and the cited publications are listed at the end of the standard. For dated references, only the edition cited applies; any subsequent amendments to or revisions of the cited publication apply to this part of SS 289 only when incorporated in the reference by amendment or revision. For undated references, the latest edition of the cited publication applies together with any amendments.