

This is a preview of "ISO 22965-2:2007". [Click here to purchase the full version from the ANSI store.](#)

First edition  
2007-04-01

---

---

## Concrete —

Part 2:

### **Specification of constituent materials, production of concrete and compliance of concrete**

*Béton —*

*Partie 2: Spécification des matériaux constitutants, de la production du  
béton et de la conformité du béton*



Reference number  
ISO 22965-2:2007(E)

© ISO 2007

This is a preview of "ISO 22965-2:2007". [Click here to purchase the full version from the ANSI store.](#)

**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2007

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

This is a preview of "ISO 22965-2:2007". Click here to purchase the full version from the ANSI store.

## Contents

Page

Foreword.....	iv
Introduction .....	v
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions.....	2
4 Symbols and abbreviated terms .....	3
5 Requirements for constituent materials.....	4
5.1 General.....	4
5.2 Cements .....	4
5.3 Additions .....	4
5.4 Aggregates .....	5
5.5 Mixing water .....	5
5.6 Admixtures .....	6
6 Requirements for concrete .....	6
6.1 Requirements for composition of concrete .....	6
6.2 Requirements for fresh concrete .....	7
6.3 Requirements for hardened concrete.....	8
7 Production control of concrete .....	11
7.1 General.....	11
7.2 Production-control systems .....	11
7.3 Testing .....	13
8 Delivery of fresh concrete.....	13
8.1 Delivery ticket for ready-mixed concrete .....	13
8.2 Delivery information for site-mixed concrete .....	14
8.3 Transport of concrete.....	14
9 Compliance control and compliance criteria.....	15
9.1 General.....	15
9.2 Sampling and testing plan .....	15
9.3 Compliance of an individual batch or load .....	16
9.4 Compliance over an assessment period.....	16
10 Evaluation of compliance .....	17
10.1 General.....	17
10.2 Assessment, surveillance and certification of production control .....	17
Annex A (informative) Guidance on a “benchmark” production-control system.....	18
Annex B (informative) Concrete families .....	28
Annex C (normative) Provisions for assessment, surveillance and certification of production control.....	29
Annex D (informative) Additional provisions for high-strength concrete .....	32
Annex E (normative) Compliance criteria for an individual batch for consistence and properties other than consistence.....	34
Annex F (informative) Guidance for the use of the <i>k</i> -value concept.....	37
Annex G (informative) Guidance on the national annex .....	39
Bibliography .....	41

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 22965-2 was prepared by Technical Committee ISO/TC 71, *Concrete, reinforced concrete and pre-stressed concrete*, Subcommittee SC 3, *Concrete production and execution of concrete structures*.

ISO 22965 consists of the following parts, under the general title *Concrete*:

- *Part 1: Methods of specifying and guidance for the specifier*
- *Part 2: Specification of constituent materials, production of concrete and compliance of concrete*

This is a preview of "ISO 22965-2:2007". [Click here to purchase the full version from the ANSI store.](#)

## Introduction

This International Standard is intended for nations that have no national concrete standard and it sets out a framework of principles for nations revising their national standards. To be operable, this International Standard needs a national annex or a reference to the national complementary provisions. This International Standard can also be applied on specific projects where a project specification supplements the standards in lieu of a national annex applicable at the place of use.

This International Standard is applied under various climatic and geographical conditions, various levels of protection and under different established regional traditions and experience. Consequently, this International Standard includes classes for concrete with different properties to cover the most frequent and normal situations. For certain uses of concrete, additional or deviating rules can be necessary. The national provisions, preferably given in a national annex to this International Standard, or the project specification can specify any additional or deviating requirements.

During the development of this International Standard, consideration was given to detailing a performance-related approach to the specification of durability. It was concluded that such an approach is not yet sufficiently developed to be detailed in an International Standard. ISO/TC 71/SC 3 recognizes that some ISO member bodies have developed local tests and criteria for performance-based specifications. This International Standard does not exclude the continuation and development of such practices valid in the place of use of the concrete as an alternative to the prescriptive approach. It is necessary that these requirements be specified in the national annex or national complementary provisions. The Model Code for Service Limit Design (MC-SLD), which was published by *fib* in 2006, is a promising basis for implementation as future International Standards from ISO/TC 71; see ISO 22965-1:2007, Annex B.

This International Standard incorporates rules for the use of constituent materials that are covered by International Standards. For materials for which International Standards have not yet been published, the standards cited in the national annex (often the regional or national standards) apply; see 5.1. In particular, documents in current use for by-products of industrial processes, recycled materials, etc. are based on local experience. Until international specifications for these materials are available, this International Standard does not provide rules for their use, but instead refers to the national annex.

This International Standard defines the two parties involved in the ordering and the supply of concrete, which are hereinafter referred to as specifier and supplier. In practice, there can be several parties specifying requirements at various stages of the design and construction process, e.g. the client, the designer, the quantity surveyor, the constructor and the concreting subcontractor. Each is expected to pass the specified requirements, together with any additional requirements, to the next party in the chain until they reach the supplier. In the terms of this International Standard, this final compilation of requirements is known as the "concrete specification". In some cases, the specifier and the supplier is the same party (e.g. a constructor doing design, production and execution). In the case of ready-mixed concrete, the purchaser is the specifier.

This part of ISO 22965 also gives rules for the exchange of information between the parties. Contractual matters are not addressed.

This International Standard is intended for use with ISO 22965-1 and with the future ISO 22966, currently under development, which will give the requirements associated with the level of quality specified and the methods to be employed for the execution of concrete structures.