

**SS EN 1992-2:2012(2020)**  
**EN 1992-2:2005, IDT**  
(ICS 93.040; 91.010.30; 91.080.40)

**SINGAPORE STANDARD**

# **Eurocode 2 : Design of concrete structures**

**– Part 2 : Concrete bridges – Design and detailing rules**

The national standard is the identical implementation of EN 1992-2:2005 and is adopted with permission of CEN, Rue de la Science 23 B - 1040 Brussels

Confirmed 2020

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*CPG Consultants Pte Ltd*  
*Fong Consult Pte Ltd*  
*Land Transport Authority*  
*National University of Singapore*  
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*YWL Engineering Pte Ltd*

## National Foreword

This Singapore Standard was prepared by the Technical Committee on Building Structure and Sub-structure under the direction of the Building and Construction Standards Committee.

This SS EN is the identical implementation of EN 1992-2 : 2005 'Eurocode 2 : Design of concrete structures – Part 2 : Concrete bridges – Design and detailing rules' (incorporating the CEN Corrigendum EN 1992-2:2005/AC:2008, denoted by AC > < AC) and is adopted with permission of CEN, Avenue Marnix 17, 1000 Brussels.

Attention is drawn to the following:

- The comma has been used throughout as a decimal marker whereas in Singapore Standards, it is a practice to use a full point on the baseline as the decimal marker.
- The Singapore Standards which implement international or European publications referred to in this document may be found in the SS Electronic Catalogue at: <http://www.singaporestandardseshop.sg>

The EN gives values with notes indicating where national choices may be made. Where a normative part of the EN allows for national choice to be made, the range and possible choice will be given in the normative text, and a note will qualify it as a Nationally Determined Parameter (NDP). NDPs can be a specific value for a factor, a specific level or class, a particular method or a particular application rule if several are proposed in the EN.

The requirements of this SS EN 1992-2 : 2012 are to be read in conjunction with the Singapore National Annex (NA) to SS EN 1992-2 : 2012 which contains information on the Singapore Nationally Determined Parameters and is published separately.

National choice is allowed in EN 1992-2 through the following clauses:

- |                 |                 |                |                 |
|-----------------|-----------------|----------------|-----------------|
| – 3.1.2 (102)P  | – 5.3.2.2 (104) | – 6.8.1 (102)  | – 9.1 (103)     |
| – 3.1.6 (101)P  | – 5.5 (104)     | – 6.8.7 (101)  | – 9.2.2 (101)   |
| – 3.1.6 (102)P  | – 5.7 (105)     | – 7.2 (102)    | – 9.5.3 (101)   |
| – 3.2.4 (101)P  | – 6.1 (109)     | – 7.3.1 (105)  | – 9.7 (102)     |
| – 4.2 (105)     | – 6.1 (110)     | – 7.3.3 (101)  | – 9.8.1 (103)   |
| – 4.2 (106)     | – 6.2.2 (101)   | – 7.3.4 (101)  | – 11.9 (101)    |
| – 4.4.1.2 (109) | – 6.2.3 (103)   | – 8.9.1 (101)  | – 113.2 (102)   |
| – 5.1.3 (101)P  | – 6.2.3 (107)   | – 8.10.4 (105) | – 113.3.2 (103) |
| – 5.2 (105)     | – 6.2.3 (109)   | – 8.10.4 (107) |                 |

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3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

EUROPEAN STANDARD

**EN 1992-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2005

ICS 93.040; 91.010.30; 91.080.40

Supersedes ENV 1992-2:1996  
Incorporating corrigendum July 2008

English Version

## Eurocode 2 - Design of concrete structures - Concrete bridges - Design and detailing rules

Eurocode 2 - Calcul des structures en béton - Partie 2:  
Ponts en béton - Calcul et dispositions constructives

Eurocode 2 - Planung von Stahlbeton- und  
Spannbetontragwerken - Teil 2: Betonbrücken - Planungs-  
und Ausführungsregeln

This European Standard was approved by CEN on 25 April 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

**EN 1992-2:2005 (E)**

NOTE This contents list includes sections, clauses and annexes that have been introduced or modified in EN 1992-2.

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## Foreword

This European Standard (EN 1992-2:2005) has been prepared by Technical Committee CEN/TC 250 "Structural Eurocodes", the secretariat of which is held by BSI. CEN/TC 250 is responsible for all Structural Eurocodes.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2006, and conflicting national standards shall be withdrawn at the latest by March 2010.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

This Eurocode supersedes ENV 1992-2.

## Background to the Eurocode programme

See EN 1992-1-1.

## Status and field of application of Eurocodes

See EN 1992-1-1.

## National Standards implementing Eurocodes

See EN 1992-1-1.

## Links between Eurocodes and harmonised technical specifications (ENs and ETAs) for products

See EN 1992-1-1.

## Additional information specific to EN 1992-2 and link to EN 1992-1-1

EN 1992-2 describes the principles and requirements for safety, serviceability and durability of concrete structures, together with specific provisions for bridges. It is based on the limit state concept used in conjunction with a partial factor method.

- EN 1992-2 gives Principles and Application Rules for the design of bridges in addition to those stated in EN 1992-1-1. All relevant clauses of EN 1992-1-1 are applicable to the design of bridges unless specifically deleted or varied by EN 1992-2. It has been appropriate to introduce in EN 1992-2 some material, in the form of new clauses or amplifications of clauses in EN 1992-1-1, which is not bridge specific and which strictly belongs to EN 1992-1-1. These new clauses and amplifications are deemed valid interpretations of EN 1992-1-1 and designs complying with the requirements of EN 1992-2 are deemed to comply with the Principles of EN 1992-1-1.

**EN 1992-2:2005 (E)**

- clauses in EN 1992-2 that modify those in EN 1992-1-1 are numbered by adding ‘100’ to the corresponding clause number in EN 1992-1-1.
- when additional clauses or sub-clauses are introduced in EN 1992-2, these are numbered by adding ‘101’ to the last relevant clause or sub-clause in EN 1992-1-1.

For the design of new structures, EN 1992-2 is intended to be used, for direct application, together with other parts of EN 1992, Eurocodes EN 1990, 1991, 1997 and 1998.

EN 1992-2 also serves as a reference document for other CEN/TCs concerning structural matters.

EN 1992-2 is intended for use by:

- committees drafting other standards for structural design and related product, testing and execution standards;
- clients (e.g. for the formulation of their specific requirements on reliability levels and durability);
- designers and constructors;
- relevant authorities.

Numerical values for partial factors and other reliability parameters are recommended as basic values that provide an acceptable level of reliability. They have been selected assuming that an appropriate level of workmanship and of quality management applies. When EN 1992-2 is used as a base document by other CEN/TCs the same values need to be taken.

**National Annex for EN 1992-2**

This standard gives values with notes indicating where national choices may have to be made. Therefore the National Standard implementing EN 1992-2 should have a National Annex containing all Nationally Determined Parameters to be used for the design of bridges to be constructed in the relevant country.

National choice is allowed in EN 1992-2 through the following clauses:

3.1.2 (102)P	5.3.2.2 (104)	6.8.1 (102)	9.1 (103)
3.1.6 (101)P	5.5 (104)	6.8.7 (101)	9.2.2 (101)
3.1.6 (102)P	5.7 (105)	7.2 (102)	9.5.3 (101)
3.2.4 (101)P	6.1 (109)	7.3.1 (105)	9.7 (102)
4.2 (105)	6.1 (110)	7.3.3 (101)	9.8.1 (103)
4.2 (106)	6.2.2 (101)	7.3.4 (101)	11.9 (101)
4.4.1.2 (109)	6.2.3 (103)	8.9.1 (101)	113.2 (102)
5.1.3 (101)P	6.2.3 (107)	8.10.4 (105)	113.3.2 (103)
5.2 (105)	6.2.3 (109)	8.10.4 (107)	

Where references to National Authorities is made in this standard, the term should be defined in a Country's National Annex.

## SECTION 1 General

The following clauses of EN 1992-1-1 apply.

1.1.1 (1)P	1.1.2 (3)P	1.2.2	1.5.2.1
1.1.1 (2)P	1.1.2 (4)P	1.3 (1)P	1.5.2.2
1.1.1 (3)P	1.2 (1)P	1.4 (1)P	1.5.2.3
1.1.1 (4)P	1.2.1	1.5.1 (1)P	1.5.2.4

### 1.1 Scope

#### 1.1.2 Scope of Part 2 of Eurocode 2

(101)P Part 2 of Eurocode 2 gives a basis for the design of bridges and parts of bridges in plain, reinforced and prestressed concrete made with normal and light weight aggregates.

(102)P The following subjects are dealt with in Part 2.

- Section 1: General
- Section 2: Basis of design
- Section 3: Materials
- Section 4: Durability and cover to reinforcement
- Section 5: Structural analysis
- Section 6: Ultimate limit states
- Section 7: Serviceability limit states
- Section 8: Detailing of reinforcement and prestressing tendons — General
- Section 9: Detailing of members and particular rules
- Section 10: Additional rules for precast concrete elements and structures
- Section 11: Lightweight aggregate concrete structures
- Section 12: Plain and lightly reinforced concrete structures
- Section 113: Design for the execution stages