ICS: 91.010.30 ; 91.080.40 ; 93.040

Geregistreerde Belgische norm

NBN EN 1992-2

2e uitg., december 2005

Normklasse: B 15

Eurocode 2: Ontwerp en berekening van betonconstructies - Deel 2: Bruggen - Regels voor ontwerp en berekening en voor detaillering (+ AC:2008)

Eurocode 2 - Calcul des structures en béton - Partie 2: Ponts en béton - Calcul et dispositions constructives (+ AC:2008)

Eurocode 2 - Design of concrete structures - Concrete bridges - Design and detailing rules (+ AC:2008)

Toelating tot publicatie: 30 november 2005

Vervangt NBN ENV 1992-2 (2001).

Deze Europese norm EN 1992-2:2005 heeft de status van een Belgische norm.

Deze Europese norm bestaat in drie officiële versies (Duits, Engels, Frans).

Deze Europese norm is door het BIN verspreid binnen de door de CEN opgelegde termijnen.
Deze norm mag in België slechts samen met haar Nationale Bijlage (ANB) worden toegepast. Deze laatste legt hoofdzakelijk de waarden van de parameters vast die op nationaal vlak te bepalen zijn.

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norme belge enregistrée

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Indice de classement: B 15

Eurocode 2 - Calcul des structures en béton - Partie 2: Ponts en béton - Calcul et dispositions constructives (+ AC:2008)

Eurocode 2: Ontwerp en berekening van betonconstructies - Deel 2: Bruggen - Regels voor ontwerp en berekening en voor detaillering (+ AC:2008)

Eurocode 2 - Design of concrete structures - Concrete bridges - Design and detailing rules (+ AC:2008)

Autorisation de publication: 30 novembre 2005

Remplace NBN ENV 1992-2 (2001).

La présente norme européenne EN 1992-2:2005 a le statut d'une norme belge.

La présente norme européenne existe en trois versions officielles (allemand, anglais, français).

Cette norme européenne est diffusée par l'IBN dans les délais imposés par le CEN.
Cette norme ne peut être utilisée en Belgique qu'en combinaison avec son Annexe Nationale (ANB) qui fixe principalement la valeur des paramètres à déterminer au niveau national.

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NATIONAAL VOORWOORD
van NBN EN 1992-2:2005

1. De norm NBN EN 1992-2:2005 « Eurocode 2 – Ontwerp en berekening van betonconstructies – Deel 2 : Bruggen - Regels voor ontwerp en berekening en voor detaillering» omvat de nationale bijlage NBN EN 1992-2 ANB:2014 met een normatief karakter in België. Hij vervangt vanaf de datum van de publicatie in het Belgisch Staatsblad van de bekrachtiging van de norm NBN EN 1992-2 ANB:2014, de volgende norm:

- NBN ENV 1992-2:2001 « Eurocode 2 : Berekening van betonconstructies – Deel 2 : Bruggen »

Het corrigendum EN 1992-2:2005/AC:2008 (E), zoals door CEN gepubliceerd, is na deze norm toegevoegd.

Avant-propos national à la NBN EN 1992-2:2005

1. La norme NBN EN 1992-2:2005 « Eurocode 2 - Calcul des structures en béton - Partie 2: Ponts en béton - Calcul et dispositions constructives » comprend l'annexe nationale NBN EN 1992-2 ANB:2014 qui a un caractère normatif en Belgique. Elle remplace à partir de la date de publication de l'homologation de la norme au Moniteur Belge la norme suivante :

- NBN ENV 1992-2:2001 « Eurocode 2 : Calcul des structures en béton - Partie 2: Ponts en béton »

Le corrigendum NBN EN 1992-2:2005/AC:2008 (E), tel que publié par le CEN, est joint à cette norme.

2. La version de langue française de l'EN 1992-2 a été rédigée en France par l'AFNOR. En conséquence, on y rencontre certaines expressions d'usage moins courant en Belgique.

Une liste de termes équivalents est donnée ci-après :

Termes de l'EN 1992-2	Termes équivalents en Belgique
Client	le maître de l'ouvrage assisté de ses bureaux d'architectes, d'ingénierie et de consultance
Poteau	Colonne

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1992-2

October 2005

ICS 93.040; 91.010.30; 91.080.40

Supersedes ENV 1992-2:1996

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.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

Ref. No. 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.

— 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

1.106 Symbols

For the purpose of this standard, the following symbols apply.

NOTE The notation used is based on ISO 3898:1987. Symbols with unique meanings have been used as far as possible. However, in some instances a symbol may have more than one meaning depending on the context.

Latin upper case letters

A	Accidental action
A	Cross sectional area
A_c	Cross sectional area of concrete
A_{ct}	Area of concrete in tensile zone
A_p	Area of a prestressing tendon or tendons
A_s	Cross sectional area of reinforcement
$A_{s,min}$	minimum cross sectional area of reinforcement