

Nederlandse norm

NEN-EN 1996-1-1

(en)

Eurocode 6 - Ontwerp en berekening van constructies van metselwerk - Deel 1-1: Algemene regels voor constructies van gewapend en ongewapend metselwerk

Eurocode 6 - Design of masonry structures - Part 1-1: General rules for reinforced and unreinforced masonry structures

Zal vervangen NVN-ENV 1996-1-1:1995;
NAD-NVN-ENV 1996-1-1:2001;
NVN-ENV 1996-1-3:1998

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januari 2006

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- EN 1996-1-1:2005, IDT

VOORBEELD
Preview

Normcommissie 351 001 "Technische Grondslagen voor Bouwconstructies"

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Nederlands voorwoord

Waarschuwing

De publicatie van deze norm is een **tussenfase** in de uniformering van de technische grondslagen voor berekening van bouwconstructies in Europa.

Na publicatie van deze norm wordt gewerkt aan een vertaling in het Nederlands en aan het opstellen van de nationale bijlage. In deze nationale bijlage worden de nationaal vast te stellen parameterwaarden gegeven, waarmee per land het vereiste veiligheidsniveau wordt bereikt. In Nederland wordt gestreefd naar eenzelfde niveau van betrouwbaarheid als bij toepassing van 5.3 van NEN 6700. Na publicatie van de nationale bijlage en de normtekst in het Nederlands zal naar verwachting een 'coëxistentieperiode' van 2 tot 3 jaar ingaan, waarin deze norm naast NEN 6790 voor toepassing beschikbaar is. Uiteindelijk zal deze norm NEN 6790 geheel vervangen, nl. bij intrekking van NEN 6790. De datum van intrekking van NEN 6790 is vooralsnog gesteld op 2010-03-31.

Pas nadat de nationale bijlage is gepubliceerd en de normtekst in het Nederlands is verschenen, kan vanuit wettelijke regelingen (Bouwbesluit 2003 en Arbeidsomstandighedenbesluit) van deze norm in principe gebruik worden gemaakt. Men kan met de voorliggende uitgave dus nog **niet** aantonen dat is voldaan aan de minimumeisen van constructieve veiligheid van deze wettelijke regelingen.

Deze norm kan wel worden gebruikt voor het 'wennen' aan de methode, voor het ontwikkelen van software en voor het voorbereiden van cursussen over de Eurocodes.

Dutch foreword

Notice

The publication of this standard is an intermediate phase in the harmonisation of technical principles for design of building structures in Europe.

After publication of this standard work will start on the translation into Dutch and on the formulation of the National Annex. In this National Annex the values of the Nationally Determined Parameters will be given, by which the required level of safety for each member country is attained. In the Netherlands the same level of safety as attained by application of 5.3 of NEN 6700 is strived for. After publication of the National Annex and the standard in Dutch the start of a period of co-existence of 2 to 3 years is anticipated, where this standard will be available for application as an alternative to NEN 6790. Eventually this standard will replace NEN 6790 completely, i.e. at the withdrawal of NEN 6790. The date of withdrawal of NEN 6790 for the moment is set on 2010-03-31.

Only after the National Annex has been published and the standard has been translated into Dutch, legislation (Building Decree 2003 and Decree on Working conditions) may, in principle, refer to this standard for application (in the framework of Dutch law). With the present publication compliance with the minimum requirements on structural safety in these National regulations cannot be demonstrated yet.

This standard can however be applied for "getting accustomed" to the methods, for developing of software and for preparing courses on Eurocodes.

Voor de in deze norm vermelde normatieve verwijzingen bestaan in Nederland de volgende equivalenten:

<u>vermelde norm</u>	<u>Nederlandse norm</u>	<u>titel</u>
EN 206-1	NEN-EN 206-1	Beton - Deel 1: Specificatie, eigenschappen, vervaardiging en conformiteit (en,nl)
EN 771-1	NEN-EN 771-1	Specificaties voor metselstenen - Deel 1: Baksteen (en)
EN 771-2	NEN-EN 771-2	Specificaties voor metselstenen - Deel 2: Kalkzandsteen (en)
EN 771-3	NEN-EN 771-3	Specificaties voor metselstenen - Deel 3: Bouwblokken en -stenen van grind- en lichtbeton (en)
EN 771-4	NEN-EN 771-4	Specificaties voor metselstenen - Deel 4: Cellenbeton (en)
EN 771-5	NEN-EN 771-5	Specificaties voor metselstenen - Deel 5: Geprefabriceerde bouwblokken en -stenen van speciaal beton (en)
EN 771-6	NEN-EN 771-6	Specificatie voor metselstenen - Deel 6: Natuursteen (en)
EN 772-1	NEN-EN 772-1	Beproevingmethoden voor metselstenen - Deel 1: Bepaling van de druksterkte (en)
EN 845-1	NEN-EN 845-1	Specificaties voor nevenproducten voor steenconstructies - Deel 1: Spouwankers, muurankers, raveel-/gordingschoenen en ondersteuningsproducten (en)
EN 845-2	NEN-EN 845-2	Specificaties voor nevenproducten voor steenconstructies - Deel 2: Lateien (en)
EN 845-3	NEN-EN 845-3	Specificaties voor nevenproducten voor steenconstructies - Deel 3: Lintvoegwapening van staal (en)
EN 846-2	NEN-EN 846-2	Beproevingmethoden voor nevenproducten voor steenconstructies - Deel 2: Bepaling van de hechtsterkte van geprefabriceerde lintvoegwapening in mortelvoegen (en)
EN 998-1	NEN-EN 998-1	Specificaties voor mortels voor metselwerk - Deel 1: Stukadoormortel voor binnen- en buitentoepassingen (en)
EN 998-2	NEN-EN 998-2	Specificaties voor mortels voor metselwerk - Deel 2: Metselmortel (en)
EN 1015-11	NEN-EN 1015-11	Beproevingmethoden voor mortel voor metselwerk - Deel 11: Bepaling van de buigtrek- en druksterkte van verharde mortel (en)
EN 1052-1	NEN-EN 1052-1	Beproevingmethoden voor metselwerk - Deel 1: Bepaling van de druksterkte (en,nl)
EN 1052-2	NEN-EN 1052-2	Beproevingmethoden voor metselwerk - Deel 2: Bepaling van de buigtreksterkte (en)
EN 1052-3	NEN-EN 1052-3	Beproevingmethoden voor metselwerk - Deel 3: Bepaling van de initiële schuifsterkte (en)
EN 1052-4	NEN-EN 1052-4	Beproevingmethoden voor metselwerk - Deel 4: Bepaling van de schuifsterkte ter plaatse van een dampdichte laag (en)
EN 1052-5	NEN-EN 1052-5	Beproevingmethoden voor metselwerk - Deel 5: Bepaling van de hechtsterkte met de hefboomproef (en)
EN 1990	NEN-EN 1990	Eurocode - Grondslag van het constructief ontwerp (en)
EN 1991	-	-
EN 1992	-	-
EN 1993	-	-
EN 1994	-	-
EN 1995	-	-

EN 1996-2	NEN-EN 1996-2	Eurocode 6 - Ontwerp en berekening van constructies van metselwerk - Deel 2: Ontwerp, materiaalkeuze en uitvoering van constructies van metselwerk (en)
EN 1997	-	-
EN 1999	-	-
EN 10080	NEN-EN 10080	Staal voor het wapenen van beton - Lasbaar betonstaal - Algemeen (en)
prEN 10138:2000	-	-
EN ISO 1461	NEN-EN-ISO 1461	Door thermisch verzinken aangebrachte deklagen op ijzeren en stalen voorwerpen - Specificaties en beproevingen (en,nl)

Voorbeeld
Preview

Voorbeeld
Preview

English Version

Eurocode 6 - Design of masonry structures - Part 1-1: General rules for reinforced and unreinforced masonry structures

Eurocode 6 - Calcul des ouvrages en maçonnerie - Partie 1-1: Règles communes pour ouvrages en maçonnerie armée et non armée

Eurocode 6 - Bemessung und Konstruktion von Mauerwerksbauten - Teil 1-1: Allgemeine Regeln für bewehrtes und unbewehrtes Mauerwerk

This European Standard was approved by CEN on 23 June 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.

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Copyright
Preview

Foreword

This document EN 1996-1-1 has been prepared by Technical Committee CEN/TC 250 "Structural Eurocodes", the secretariat of which is held by BSI.

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 May 2006, and conflicting national standards shall be withdrawn at the latest by March 2010.

CEN/TC 250 is responsible for all Structural Eurocodes.

This document supersedes ENV 1996-1-1:1995 and ENV 1996-1-3:1998.

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.

Background to the Eurocode programme

In 1975, the Commission of the European Community decided on an action programme in the field of construction, based on Article 95 of the Treaty. The objective of the programme was the elimination of technical obstacles to trade and the harmonisation of technical specifications.

Within this action programme, the Commission took the initiative to establish a set of harmonised technical rules for the design of construction works which, in a first stage, would serve as an alternative to the national rules in force in the Member States and, ultimately, would replace them.

For fifteen years, the Commission, with the help of a Steering Committee with Representatives of Member States, conducted the development of the Eurocodes programme, which led to the first generation of European codes in the 1980's.

In 1989, the Commission and the Member States of the EU and EFTA decided, on the basis of an agreement¹⁾ between the Commission and CEN, to transfer the preparation and the publication of the Eurocodes to the CEN through a series of Mandates, in order to provide them with a future status of European Standard (EN). This links de facto the Eurocodes with the provisions of all the Council's Directives and/or Commission's Decisions dealing with European standards (e.g. the Council Directive 89/106/EEC on construction products - CPD - and Council Directives 93/37/EEC, 92/50/EEC and 89/440/EEC on public works and services and equivalent EFTA Directives initiated in pursuit of setting up the internal market).

1) Agreement between the Commission of the European Communities and the European Committee for Standardisation (CEN) concerning the work on EUROCODES for the design of building and civil engineering works (BC/CEN/03/89).

EN 1996-1-1:2005 (E)

The Structural Eurocode programme comprises the following standards generally consisting of a number of Parts:

EN 1990, *Eurocode: Basis of structural design.*

EN 1991, *Eurocode 1: Actions on structures.*

EN 1992, *Eurocode 2: Design of concrete structures.*

EN 1993, *Eurocode 3: Design of steel structures.*

EN 1994, *Eurocode 4: Design of composite steel and concrete structures.*

EN 1995, *Eurocode 5: Design of timber structures.*

EN 1996, *Eurocode 6: Design of masonry structures.*

EN 1997, *Eurocode 7: Geotechnical design.*

EN 1998, *Eurocode 8: Design of structures for earthquake resistance.*

EN 1999, *Eurocode 9: Design of aluminium structures.*

Eurocode standards recognise the responsibility of regulatory authorities in each Member State and have safeguarded their right to determine values related to regulatory safety matters at national level where these continue to vary from State to State.

Status and field of application of Eurocodes

The Member States of the EU and EFTA recognise that Eurocodes serve as reference documents for the following purposes:

- as a means to prove compliance of building and civil engineering works with the essential requirements of Council Directive 89/106/EEC, particularly Essential Requirement N°1 — Mechanical resistance and stability — and Essential Requirement N°2 — Safety in case of fire;
- as a basis for specifying contracts for construction works and related engineering services;
- as a framework for drawing up harmonised technical specifications for construction products (ENs and ETAs).

The Eurocodes, as far as they concern the construction works themselves, have a direct relationship with the Interpretative Documents²⁾ referred to in Article 12 of the CPD, although they are of a different nature from harmonised product standards³⁾. Therefore, technical aspects arising from the

2) According to Article 3.3 of the CPD, the essential requirements (ERs) shall be given concrete form in interpretative documents for the creation of the necessary links between the essential requirements and the mandates for harmonised ENs and ETAGs/ETAs.

3) According to Article 12 of the CPD the interpretative documents shall :

- a) give concrete form to the essential requirements by harmonising the terminology and the technical bases and indicating classes or levels for each requirement where necessary ;
- b) indicate methods of correlating these classes or levels of requirement with the technical specifications, e. g. methods of calculation

Eurocodes work need to be adequately considered by CEN Technical Committees and/or EOTA Working Groups working on product standards with a view to achieving full compatibility of these technical specifications with the Eurocodes.

The Eurocode standards provide common structural design rules for everyday use for the design of whole structures and component products of both a traditional and an innovative nature. Unusual forms of construction or design conditions are not specifically covered and additional expert consideration will be required by the designer in such cases.

National Standards implementing Eurocodes

The National Standards implementing Eurocodes will comprise the full text of the Eurocode (including any annexes), as published by CEN, which may be preceded by a National title page and National foreword, and may be followed by a National Annex (informative).

The National Annex may only contain information on those parameters which are left open in the Eurocode for national choice, known as Nationally Determined Parameters, to be used for the design of buildings and civil engineering works to be constructed in the country concerned, i. e.:

- values and/or classes where alternatives are given in the Eurocode,
- values to be used where a symbol only is given in the Eurocode,
- country specific data (geographical, climatic etc), e.g. snow map,
- the procedure to be used where alternative procedures are given in the Eurocode

and it may also contain:

- decisions on the application of informative annexes,
- references to non-contradictory complementary information to assist the user to apply the Eurocode.

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

There is a need for consistency between the harmonised technical specifications for construction products and the technical rules for works⁴⁾. Furthermore, all the information accompanying the CE Marking of the construction products, which refer to Eurocodes, shall clearly mention which Nationally Determined Parameters have been taken into account.

This European Standard is Part of EN 1996 which comprises the following Parts:

and of proof, technical rules for project design, etc. ;

c) serve as a reference for the establishment of harmonised standards and guidelines for European technical approvals. The Eurocodes, *de facto*, play a similar role in the field of the ER 1 and a part of ER 2.

4) see Article 3.3 and Article 12 of the CPD, as well as clauses 4.2, 4.3.1, 4.3.2 and 5.2 of ID 1.

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