



**BSI Standards Publication**

## **Eurocode 6 — Design of masonry structures**

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Part 1-2: Structural fire design

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## National foreword

This British Standard is the UK implementation of EN 1996-1-2:2024. It supersedes BS EN 1996-1-2:2005, which will be withdrawn on 30 March 2028.

The UK participation in its preparation was entrusted to Technical Committee B/525/6, Use of masonry.

A list of organizations represented on this committee can be obtained on request to its committee manager.

National choice is allowed in this standard where explicitly stated within notes. The National Annex to this standard contains the national choices to be used for buildings and civil engineering works constructed in the UK.

The first generation of EN Eurocodes was published between 2002 and 2007, with conflicting British Standards withdrawn in 2010. This document forms part of the second generation of EN Eurocodes.

The second generation of EN Eurocodes is expected to be published between 2023 and 2026. These documents are being published as soon as they are available. This is being done to enable users to prepare for the transition from the first generation to second generation of EN Eurocodes.

UK adoptions of the first generation of EN Eurocodes will be withdrawn by BSI on 30 March 2028. Until that date, the first generation documents should be considered as the applicable standards for buildings and civil engineering works constructed in the UK unless otherwise specified by the relevant authority or in the specification for a particular project.

This standard is intended to be used with its National Annex and other referenced documents, including other second generation Eurocodes, as an interdependent suite of documents.

While the use of provisions in this standard in conjunction with first generation Eurocodes is not precluded, it should be undertaken with care and should only be done when users are satisfied that it will not result in a lower level of reliability than the minimum level set in the first generation Eurocodes and associated UK National Annexes.

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English Version

## Eurocode 6 - Design of masonry structures - Part 1-2: Structural fire design

Eurocode 6 - Calcul des ouvrages en maçonnerie -  
Partie 1-2 : Calcul du comportement au feu

Eurocode 6 - Bemessung und Konstruktion von  
Mauerwerksbauten -Teil 1-2: Tragwerksbemessung  
für den Brandfall

This European Standard was approved by CEN on 7 July 2024.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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



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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (EN 1996-1-2:2024) 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 and has been assigned responsibility for structural and geotechnical design matters by CEN.

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 September 2027, and conflicting national standards shall be withdrawn at the latest by March 2028.

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

This document supersedes EN 1996-1-2:2005+AC:2010.

The first generation of EN Eurocodes was published between 2002 and 2007. This document forms part of the second generation of the Eurocodes, which have been prepared under a Mandate M/515 given to CEN by the European Commission and the European Free Trade Association.

The Eurocodes have been drafted to be used in conjunction with relevant execution, material, product and test standards, and to identify requirements for execution, materials, products and testing that are relied upon by the Eurocodes.

The main changes compared to the previous edition are listed below:

- reduced factor  $\eta_{fi}$  for buildings with timber floors;
- deletion of old Annex A containing guidance on selection of fire resistance periods;
- update of old Annex B (as new Annex A) tabulated data, taking into account recent test evidence;
- new Annex B with information on input parameters for calculation methods, replacing old Annexes C and D;
- the structure and the table of contents was harmonized with the fire parts of the other material related Eurocodes.

The Eurocodes recognize the responsibility of each Member State and have safeguarded their right to determine values related to regulatory safety matters at national level through the use of National Annexes.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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

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## **0 Introduction**

### **0.1 Introduction to the Eurocodes**

The Structural Eurocodes comprise the following standards generally consisting of a number of parts:

- EN 1990 Eurocode — Basis of structural and geotechnical 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
- New parts are under development, e.g. Eurocode for design of structural glass.

The Eurocodes are intended for use by designers, clients, manufacturers, constructors, relevant authorities (in exercising their duties in accordance with national or international regulations), educators, software developers, and committees drafting standards for related product, testing and execution standards.

**NOTE** Some aspects of design are most appropriately specified by relevant authorities or, where not specified, can be agreed on a project-specific basis between relevant parties such as designers and clients. The Eurocodes identify such aspects making explicit reference to relevant authorities and relevant parties.

### **0.2 Introduction to EN 1996 (all parts)**

EN 1996 (all parts) applies to the design of building and civil engineering works, or parts thereof, in unreinforced, reinforced, prestressed and confined masonry.

EN 1996 (all parts) deals only with the requirements for resistance, serviceability, and durability of structures. Other requirements, for example, concerning thermal or sound insulation, are not considered.

EN 1996 (all parts) does not cover the special requirements of seismic design. Provisions related to such requirements are given in EN 1998, which complements, and is consistent with EN 1996.

EN 1996 (all parts) does not cover numerical values of the actions on building and civil engineering works to be taken into account in the design. They are provided in EN 1991.

### **0.3 Introduction to EN 1996-1-2**

This document, together with EN 1991-1-2, supplements EN 1996-1-1 so that the design of masonry structures complies with fire requirements.

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#### **0.4 Verbal forms used in the Eurocodes**

The verb “shall” expresses a requirement strictly to be followed and from which no deviation is permitted in order to comply with the Eurocodes.

The verb “should” expresses a highly recommended choice or course of action. Subject to national regulation and/or any relevant contractual provisions, alternative approaches could be used/adopted where technically justified.

The verb “may” expresses a course of action permissible within the limits of the Eurocodes.

The verb “can” expresses possibility and capability; it is used for statements of fact and clarification of concepts.

#### **0.5 National annex for EN 1996-1-2**

National choice is allowed in this standard where explicitly stated within notes. National choice includes the selection of values for Nationally Determined Parameters (NDPs).

The national standard implementing EN 1996-1-2 can have a National annex containing all national choices to be used for the design of buildings and civil engineering works to be constructed in the relevant country.

When no national choice is given, the default choice given in this standard is to be used.

When no national choice is made and no default is given in this standard, the choice can be specified by a relevant authority or, where not specified, agreed for a specific project by appropriate parties.

National choice is allowed in EN 1996-1-2 through notes to the following clauses:

4.5(1)	A.4(1)	A.5(1)	A.6(1)
A.7(1)	A.8(1)		

National choice is allowed in EN 1996-1-2 on the application of the following informative annexes:

Annex B	Annex C
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The National annex can contain, directly or by reference, non-contradictory complementary information for ease of implementation, provided it does not alter any provisions of the Eurocodes.

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## 1 Scope

### 1.1 Scope of EN 1996-1-2

(1) This document gives rules for the design of masonry structures for the accidental design situation of fire exposure. This document only identifies differences from, or supplements to, normal temperature design.

(2) This document applies to structures, or parts of structures, which are within the scope of EN 1996-1-1 or EN 1996-3 and are designed accordingly.

(3) This document gives rules for the design of structures for specified requirements in respect of the functions given in (5) and the levels of performance.

(4) This document does not cover masonry built with natural stone units according to EN 771-6.

(5) This document deals with:

- non-loadbearing internal walls;
- non-loadbearing external walls;
- loadbearing internal walls with separating or non-separating functions;
- loadbearing external walls with separating or non-separating functions.

### 1.2 Assumptions

(1) The assumptions of EN 1990 and EN 1996-1-1 apply to this document.

(2) This document is intended to be used together with EN 1990, EN 1991-1-2, EN 1996-1-1, EN 1996-2 and EN 1996-3.

(3) In addition to the general assumptions of EN 1990 and EN 1996-1-1, the following assumptions apply:

- the choice of the relevant design fire scenario is made by appropriately qualified and experienced personnel, or is given by the relevant national regulation;
- any fire protection measure taken into account in the design will be adequately maintained.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE See the Bibliography for a list of other documents cited that are not normative references, including those referenced as recommendations (i.e. in 'should' clauses), permissions ('may' clauses), possibilities ('can' clauses), and in notes.

EN 1363-2, *Fire resistance tests — Part 2: Alternative and additional procedures*

EN 1364-1, *Fire resistance tests for non-loadbearing elements — Part 1: Walls*

EN 1366-4, *Fire resistance tests for service installations — Part 4: Linear joint seals*

EN 1990:2023, *Eurocode — Basis of structural and geotechnical design*

EN 1991-1-2:2024, *Eurocode 1 — Actions on structures — Part 1-2: Actions on structures exposed to fire*