



NSAI
Standards

Irish Standard
I.S. EN 1993-1-7:2007

Eurocode 3 - Design of steel structures - Part 1-7: Plated structures subject to out of plane loading

I.S. EN 1993-1-7:2007

Incorporating amendments/corrigenda issued since publication:

EN 1993-1-7:2007/AC:2009

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EUROPEAN STANDARD

EN 1993-1-7:2007/AC

NORME EUROPÉENNE

April 2009

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ICS 91.010.30; 91.080.10

English version
Version Française
Deutsche Fassung

Eurocode 3 - Design of steel structures - Part 1-7: Plated structures subject
to out of plane loading

Eurocode 3 - Calcul des structures en acier
- Partie 1-7 : Structures en plaques
chargées hors de leur plan

Eurocode 3 - Bemessung und Konstruktion
von Stahlbauten - Teil 1-7: Plattenförmige
Bauteile mit Querbelastung

This corrigendum becomes effective on 15 April 2009 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 15 avril 2009 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 15. April 2009 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.



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

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I.S. EN 1993-1-7:2007/AC:2009
EN 1993-1-7:2007/AC:2009 (E)

1) Modification to 5.2.3.3

Paragraph "(5)", Equation "(5.4)", replace " $e_0 = \frac{(1 - \rho \bar{\lambda}_p^2)(1 - \rho)}{\rho \zeta}$ " with
" $e_0 = \frac{(1 - \rho \bar{\lambda}_p)(1 - \rho)}{\rho \zeta}$ ".

National Foreword

This Irish Standard is the official English language version of EN 1993-1-7:2007, prepared by Technical Committee CEN TC 250 "Structural Eurocodes". This document supersedes ENV 1993-1-7:1999.

This standard forms part of a package of 58 Eurocodes, which covers the basis of structural design, actions (loadings), the main structural materials, geotechnical design and design provisions for earthquakes. The European Commission document – Guidance Paper L – Application and Use of Eurocodes provides guidance on the elaboration, implementation and use of Eurocodes.

Where a normative part of this EN allows for a choice to be made at the national level the range, possible choices are given in the normative text, and a Note will qualify it as a Nationally Determined Parameter (NDP).

To enable EN 1993-1-7 to be used in Ireland the Nationally Determined Parameters will be published in a National Annex after public consultation has taken place.

Until the National Annex is available, publication of this European Standard is solely for education/training purposes and this standard should not be used in project design until the relevant National Annex is available.

Note: For use of this European Standard after publication of the Irish National Annex

I.S. EN 1993-1-7:2007 may now be used in Ireland. The Nationally Determined Parameters, which have been prepared by the NSAI National Eurocode Advisory Committee, are included as an informative annex to the standard.

The National Annex to I.S. EN 1993-1-7:2007 is also available as a separate publication as recommended in Guidance Paper L.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document
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EUROPEAN STANDARD

EN 1993-1-7

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2007

ICS 91.010.30; 91.080.10

Supersedes ENV 1993-1-7:1999

English Version

Eurocode 3 - Design of steel structures - Part 1-7: Plated structures subject to out of plane loading

Eurocode 3 - Calcul des structures en acier - Partie 1-7:
Résistance et stabilité des structures en plaques planes
chargées hors de leur plan

Eurocode 3 - Bemessung und Konstruktion von
Stahlbauten - Teil 1-7: Plattenförmige Bauteile mit
Querbelastrung

This European Standard was approved by CEN on 12 June 2006.

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 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 Management Centre has the same status as the official versions.

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



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

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Foreword

Foreword

This European Standard EN 1993-1-7, Eurocode 3: Design of steel structures: Part 1-7 Plated structures subject to out of plane loading, has been prepared by Technical Committee CEN/TC250 « Structural Eurocodes », the Secretariat of which is held by BSI. CEN/TC250 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 October 2007, and conflicting National Standards shall be withdrawn at latest by March 2010.

This Eurocode supersedes ENV 1993-1-7.

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

National annex for EN 1993-1-7

This standard gives alternative procedures, values and recommendations with notes indicating where national choices may have to be made. The National Standard implementing EN 1993-1-7 should have a National Annex containing all Nationally Determined Parameters to be used for the design of steel structures to be constructed in the relevant country.

National choice is allowed in EN 1993-1-7 through:

- 6.3.2(4)

EN 1993-1-7: 2007 (E)

1 General

1.1 Scope

(1)P EN 1993-1-7 provides basic design rules for the structural design of unstiffened and stiffened plates which form part of plated structures such as silos, tanks or containers, that are loaded by out of plane actions. It is intended to be used in conjunction with EN 1993-1-1 and the relevant application standards.

(2) This document defines the design values of the resistances: the partial factor for resistances may be taken from National Annexes of the relevant application standards. Recommended values are given in the relevant application standards.

(3) This Standard is concerned with the requirements for design against the ultimate limit state of:

- plastic collapse;
- cyclic plasticity;
- buckling;
- fatigue.

(4) Overall equilibrium of the structure (sliding, uplifting, overturning) is not included in this Standard, but is treated in EN 1993-1-1. Special considerations for specific applications may be found in the relevant applications parts of EN 1993.

(5) The rules in this Standard refer to plate segments in plated structures which may be stiffened or unstiffened. These plate segments may be individual plates or parts of a plated structure. They are loaded by out of plane actions.

(6) For the verification of unstiffened and stiffened plated structures loaded only by in-plane effects see EN 1993-1-5. In EN 1993-1-7 rules for the interaction between the effects of inplane and out of plane loading are given.

(7) For the design rules for cold formed members and sheeting see EN 1993-1-3.

(8) The temperature range within which the rules of this Standard are allowed to be applied are defined in the relevant application parts of EN 1993.

(9) The rules in this Standard refer to structures constructed in compliance with the execution specification of EN 1090-2.

(10) Wind loading and bulk solids flow should be treated as quasi-static actions. For fatigue, the dynamic effects must be taken into account according to EN 1993-1-9. The stress resultants arising from the dynamic behaviour are treated in this part as quasi-static.

1.2 Normative references

(1) This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1993	Eurocode 3: Design of steel structures:
	Part 1.1: General rules and rules for buildings
	Part 1.3: Cold-formed members and sheeting
	Part 1.4: Stainless steels
	Part 1.5: Plated structural elements

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