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NSAI Standards

Standard Recommendation
S.R. CEN/TS 1992-4-2:2009

Design of fastenings for use in concrete - Part 4-2: Headed Fasteners

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S.R. CEN/TS 1992-4-2:2009

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W **NSAI.ie**

Sales:
T +353 1 857 6730
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W standards.ie

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TECHNICAL SPECIFICATION

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

CEN/TS 1992-4-2

May 2009

ICS 21.060.10; 91.080.40

English Version

Design of fastenings for use in concrete - Part 4-2: Headed Fasteners

Conception-calcul des éléments de fixation pour béton - Partie 4-2 : Eléments de fixation à tête

Bemessung von Befestigungen in Beton - Teil 4-2: Kopfbolzen

This Technical Specification (CEN/TS) was approved by CEN on 20 October 2008 for provisional application.

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CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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Foreword

This Technical Specification (CEN/TS 1992-4-2:2009) has been prepared by Technical Committee CEN/TC 250 “Structural Eurocodes”, the secretariat of which is held by BSI.

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

The Technical Specification CEN/TS 1992-4–2 — Headed fasteners, describes the principles and requirements for safety, serviceability and durability of headed fasteners for use in concrete. It is based on the limit state concept used in conjunction with a partial factor method.

This Technical Specification does not provide information about the use of National Determined Parameters (NDP).

CEN/TS 1992-4 'Design of fastenings for use in concrete' is subdivided into the following parts:

— *Part 1: General*

— *Part 2: Headed fasteners*

— *Part 3: Anchor channels*

— *Part 4: Post-installed fasteners — Mechanical systems*

— *Part 5: Post-installed fasteners — Chemical systems*

Relation to Part 1 of this Technical Specification TS

The principles and requirements of Part 2 of this CEN/TS are additional to those in Part 1, all the clauses and subclauses of which also apply to Part 2 unless varied in this Part. Additional information is presented under the relevant clauses/subclauses of Part 1 of the CEN/TS. The numbers for the clauses/sub-clauses of Part 2 continue from the number of the last relevant clauses/sub-clauses of Part 1.

The above principles also apply to Figures and Tables in Part 2.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: 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 the United Kingdom.

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1 Scope

1.1 General

1.1.6 This document relies on characteristic resistances and distances which are stated in a European Technical Specification. In minimum the following characteristics should be given in a European Technical Specification as base for the design methods of this CEN/TS:

— $N_{Rk,p}$, $N_{Rk,s}$, $V_{Rk,s}$

— $M^0_{Rk,s}$

— $c_{cr,N}$, $s_{cr,N}$

— $c_{cr,sp}$, $s_{cr,sp}$

— c_{min}, s_{min}, h_{min}

— limitations on concrete strength classes of base material

— k_{cr}, k_{ucr}, k_2, k_4, k_6, k_7

— d_h, d_{nom}, h_{ef}, l_f

— γ_{Mi} partial factors for material see also CEN/TS 1992-4-1:2009, clause 4.

2 Normative references

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.

NOTE The following references to Eurocodes are references to European Standards and European Prestandards. These are the only European documents available at the time of publication of this TS. National documents take precedence until Eurocodes are published as European Standards.

EN 1992-1-1, *Eurocode 2: Design of concrete structures — Part 1-1: General rules and rules for buildings*

CEN/TS 1992-4-1:2009, *Design of fastenings for use in concrete — Part 4-1: General*

EN 10080, *Steel for the reinforcement of concrete — Weldable reinforcing steel — General*

EN ISO 13918, *Welding — Studs and ceramic ferrules for arc stud welding (ISO 13918:2008)*

3 Definitions and symbols

Definitions and symbols are given in CEN/TS 1992-4-1.

4 Basis of design

4.5.4 Design of welding should be in accordance with EN 1993-1.

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