SLOVENSKI STANDARD
SIST EN ISO 3766:2004

01-februar-2004

Nadomeģ a:
SIST EN ISO 3766:2002

Gradbeniške risbe – Poenostavljeno prikazovanje armature (ISO 3766:2003)

Construction drawings - Simplified representation of concrete reinforcement (ISO 3766:2003)

Zeichnungen für das Bauwesen - Vereinfachte Darstellung von Bewehrungen (ISO 3766:2003)

Dessins de construction - Représentation simplifiée des armatures de béton (ISO 3766:2003)

Ta slovenski standard je istoveten z: **EN ISO 3766:2003**

ICS:

01.100.30	Gradbeni naļ rti	Construction drawings

SIST EN ISO 3766:2004 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

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English version

Construction drawings - Simplified representation of concrete reinforcement (ISO 3766:2003)

Dessins de construction - Représentation simplifiée des armatures de béton (ISO 3766:2003)

Zeichnungen für das Bauwesen - Vereinfachte Darstellung von Bewehrungen (ISO 3766:2003)

This European Standard was approved by CEN on 3 November 2003.

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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 Management Centre has the same status as the official versions.

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

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

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Foreword

This document (EN ISO 3766:2003) has been prepared by Technical Committee ISO/TC 10 "Technical drawings, product definition and related documentation" in collaboration with CMC.

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of an identical text or by endorsement, at the latest by June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

This document supersedes EN ISO 3766:1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 3766:2003 has been approved by CEN as EN ISO 3766:2003 without any modifications.

INTERNATIONAL STANDARD

ISO 3766

Third edition
2003-12-15

Construction drawings — Simplified representation of concrete reinforcement

Dessins de construction — Représentation simplifiée des armatures de béton

Reference number
ISO 3766:2003(E)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 3766 was prepared by Technical Committee ISO/TC 10, *Technical product documentation*, Subcommittee SC 8, *Construction documentation*.

This third edition cancels and replaces the second edition (ISO 3766:1995) and ISO 4066:1994, which have been technically revised.

Construction drawings — Simplified representation of concrete reinforcement

1 Scope

This International Standard specifies the simplified representation and the characterization of reinforcement in reinforced and in prestressed concrete for use in construction drawings. It also establishes a system for the scheduling of reinforced bars, comprising

— a method for specifying dimensions,

— a coding system for bar shapes,

— a schedule of preferred shapes, and

— a shape schedule and bending schedule.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 128-23:1999, *Technical drawings — General principles of presentation — Part 23: Lines on construction drawings*

ISO 10209-4:1999, *Technical product documentation — Vocabulary — Part 4: Terms relating to construction documentation*

3 Requirements to reinforcement construction drawings

The construction parts shall be provided with the main dimensions, the concrete reinforcement shall be drawn and all parts shall be represented unambiguously and clearly in scaled plans, elevations and sections. The representations shall correspond with the indications in the structural calculations and should, where applicable, contain all dimensions required for the construction of the members and the verification of the calculations.

Drawings used for off-site casting and factory production are excepted from this provision.

Reference shall be referred to accessory drawings. For drawings modified later, all concerned drawings shall be modified as well.

The following characterizations (general information and placement information) of the reinforcement bars shall be given on the drawing:

— required concrete strength class, the exposure class and further requirements to the concrete given in reference standards;

— type of reinforcing steel and prestressed steel given in reference standards;

— bar mark, number, diameter, shape and position of the reinforcement bars; distance between the bars and overlap length at joints; arrangement, dimensions and development of welding points by specification of the joining metal, jarring plates, position of the concreting gap;

— type of the prestressing system; number, type and position of the tendons; number, type and position of the tendon anchoring and tendon coupling; bar mark, number, diameter, shape and position of the accessory not prestressed concrete reinforcement; type and diameter of the encasing tubes; specification of the intrusion grout;

— measures for securing the position of the concrete reinforcement and the tendons (e.g. kind and arrangement of the bar chairs, as well as arrangement, dimensions and shape for the support of the upper concrete reinforcement layer and the tendons);

— the layer dimension c_{V} which derives from the nominal dimension c_{nom} of the concrete cover, as well as the allowance in design for tolerance Δc of the concrete cover;

— the joint development;

— special measures for quality assurance, if required.

The following information on bending the reinforcement bars shall be given on the drawing or on separate documents such as a bar schedule:

— if the shape coding system according to 6.3 is applied, bending shapes of the reinforcement bars shall refer unambiguously to the shape numbers, hence the graphical representation may be unscaled;

— single length, sectional lengths and, if applicable, bending angles of the reinforcement bars shall be indicated (for typifying bending shapes, Table 5 shall be taken into account, and in every case the reference standard mandrel or radii shall be represented on the drawing);

— the mandrel diameters or radii.

Manufacturing tolerances shall be taken into account in dimensioning the reinforcement components, in order to reach the desired concrete cover in the ready-made structure.

4 Placement information and representation

4.1 Reinforcement without prestressing

The representation and drawing conventions of concrete reinforcements without prestressing shall be in accordance with Table 1.

Table 1 — Representation and drawing conventions of concrete reinforcements without prestressing

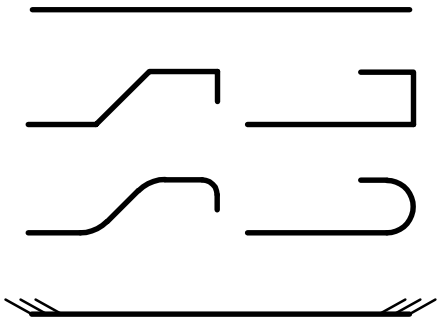
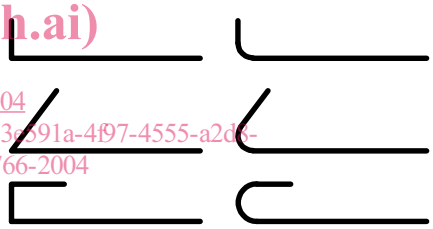
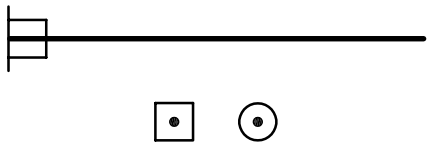
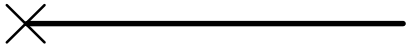
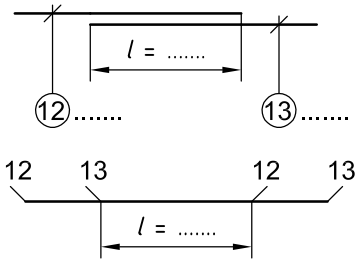
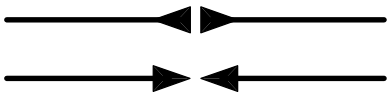
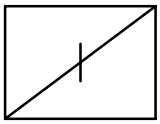
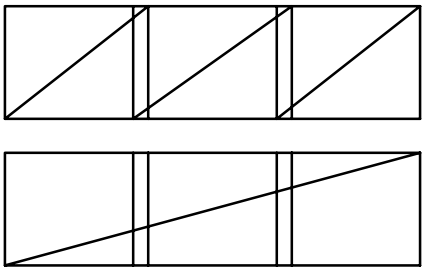
No.	Description	Representation
1	**Views** a) General representation of bar by a continuous extra-wide line b) Bent reinforcement bar 1) representation as a polygonal continuous line or 2) representation as a continuous line made up of straight lines and arcs c) Bundle of bars drawn using a single line, with end markings indicating number of bars in bundle EXAMPLE Bundle of three identical bars.	
2	**Section of bar** a) section of single reinforcement bar b) bundle of two reinforcement bars c) bundle of three reinforcement bars	
3	**Bar with hook anchoring** a) elevation of bar terminating in a 90° bend b) elevation of bar terminating in a bend between 90° and 180° c) elevation of bar terminating in a 180° bend	
4	Straight bars lying in a row or a plane to indicate the ends of the bars, showing corresponding bar marks using narrow line	
5	**End anchorage with plates** a) elevation or plan view b) section or end view	
6	Bar bent at a right angle away from viewer	
7	Bar bent at a right angle towards viewer	
8	**Overlapping stack of reinforcement bars** a) *without* marking bar ends by a slash and bar marks b) *with* marking bar ends by a slash and bar marks	

Table 1 (*continued*)

No.	Description	Representation
9	**Bars joined by mechanical couplers — general representation** a) tension coupler b) compression coupler	
10	Welded fabric, top view (If required, an oblique stroke crossing the diagonal line may be used to indicate the direction of the main reinforcement, as shown here.)	
11	**Welded fabric, identical sheets in a row** a) with representation of single sheets b) condensed representation Overlapping length shall be given on the drawing	
12	**Top view of layer containing identical sheets** a) with representation of single sheets