SLOVENSKI PREDSTANDARD

oSIST prEN ISO 17660-1:2005

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Varjenje - Varjenje betonskega jekla - 1. del: Obremenjeni zvarni spoji (ISO/DIS 17660-1:2004)

Welding - Welding of reinforcing steel - Part 1: Load bearing welded joints (ISO/DIS 17660-1:2004)

ICS 25.160.10

Referenčna številka
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Welding - Welding of reinforcing steel - Part 1: Load bearing welded joints (ISO/DIS 17660-1:2004)

Soudage - Soudage des aciers pour armature - Partie 1: Assemblages transmettants les efforts (ISO/DIS 17660-1:2004)

This draft European Standard is submitted to CEN members for third parallel enquiry. It has been drawn up by the Technical Committee CEN/TC 121.

If this draft becomes a European Standard, 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.

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

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Foreword

This document (prEN ISO 17660-1:2004) has been prepared by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DIN, in collaboration with Technical Committee ISO/TC 44 "Welding and allied processes".

This document is currently submitted to the third parallel Enquiry.

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Welding — Welding of reinforcing steel —

Part 1:
Load bearing welded joints

Soudage — Soudage des aciers pour armature —

Partie 1: Assemblages transmettant les efforts

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ISO/CEN PARALLEL ENQUIRY

This draft International Standard is a draft standard developed within the European Committee for Standardization (CEN) and processed under the CEN-lead mode of collaboration as defined in the Vienna Agreement. The document has been transmitted by CEN to ISO for circulation for ISO member body voting in parallel with CEN enquiry. Comments received from ISO member bodies, including those from non-CEN members, will be considered by the appropriate CEN technical body. Should this DIS be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month FDIS vote in ISO and formal vote in CEN.

In accordance with the provisions of Council Resolution 15/1993 this document is circulated in the English language only.

Conformément aux dispositions de la Résolution du Conseil 15/1993, ce document est distribué en version anglaise seulement.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

Pour accélérer la distribution, le présent document est distribué tel qu'il est parvenu du secrétariat du comité. Le travail de rédaction et de composition de texte sera effectué au Secrétariat central de l'ISO au stade de publication.

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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 17660-1 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Unification of requirements in the field of metal welding*.

ISO 17660 consists of the following parts, under the general title *Welding — Welding of reinforcing steel*:

— *Part 1: Load bearing welded joints (ISO/DIS 17660-1:2004)*

— *Part 2: Non-load bearing welded joints (ISO/DIS 17660-1:2004):*

Introduction

Reinforcing steel bars are produced by a number of process routes and usually have a ribbed profile. Taking these issues into account it is apparent that both the welder and the welding coordinator require a specific level of skill and job knowledge, as well as the need for the adoption of special procedures for quality assurance.

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 10 via your national standards body, a complete listing which can be found at ww.iso.org.

Welding — Welding of reinforcing steel —

Part 1:
Load bearing welded joints

1 Scope

This standard applies to the welding of weldable reinforcing steel and stainless reinforcing steel of load bearing joints in work shops or on site. It also covers welded joints between reinforcing steel bars and other steel components such as connection devices and insert anchors, including prefabricated assemblies. Non-load bearing joints are covered by ISO 17660-2.

This standard does not apply to factory production of welding fabric and lattice girders using multiple spot welding machines or multiple projection welding machines.

The requirements of this standard only apply for static loaded structures. This standard specifies requirements for materials, design and execution of welded joints, welding personnel, quality requirements, examination and testing.

NOTE For fatigue loaded structures depending on type of joint and welding process, some relevant reduction on the fatigue-strength of the reinforcing steel should be taken into account.

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.

EN 287-1:2004, *Qualification test of welders — Fusion welding — Part 1: Steels (ISO 9606-1, Qualification test of welders — Fusion welding — Part 1: Steels).*

EN 10079, *Definition of steel products*.

prEN 10080-1, *Steel for the reinforcement of concrete — Weldable reinforcing steel — Part 1: General requirements.*

EN 10164, *Steel products with improved deformation properties perpendicular to the surface of the product — Technical delivery conditions*.

ISO 3834-3, *Quality requirements for welding — Fusion welding of metallic materials — Part 3: Standard quality requirements.*

ISO 4063, *Welding and allied processes — Nomenclature of processes and reference numbers.*

ISO 5817, *Welding — Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) — Quality levels for imperfections.*

ISO 14731, *Welding coordination — Tasks and responsibilities.*

ISO 14732, *Welding personnel — Approval testing of welding operators for fusion welding and resistance weld setters for fully mechanized and automatic welding of metallic materials.*

ISO 15609-1, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding.*

ISO 15609-2, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 2: Gas welding.*

ISO 15609-5, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 5: Resistance welding.*

ISO 15614-1, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys.*

ISO 15614-12, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 12: Spot, seam and projection welding.*

ISO 15614-13, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 13: Resistance butt and flash-butt welding.*

ISO 15620, *Welding — Friction welding of metallic materials.*

ISO 15630-1, *Steel for the reinforcement and prestressing of concrete — Test methods — Part 1: Reinforcing bars and wires.*

ISO 15630-2, *Steel for the reinforcement and prestressing of concrete — Test methods — Part 2: Welded fabric.*

ISO/DIS 16020, *Steel for the reinforcement and prestressing of concrete — Vocabulary.*

ISO/DIS 17660-2, *Welding — Welding of reinforcing steel — Non-load bearing welded joints.*

NOTE A list of European Standards (EN) conforming to these International Standards (ISO) is given in Annex ZA.

3 Terms and definitions

For the purposes of this standard, the terms and definitions given in EN 10079, prEN 10080-1 and ISO/DIS 16020 and the following apply.

3.1
load bearing welded joints
used for transmission of specified loads between reinforcing steel bars and between reinforcing steel bars and other steel products

3.2
non-load bearing welded joints
welded joints of which the strength is not taken into account in the design of the reinforced concrete structure

NOTE The purpose of these joints is usually only to keep the reinforcing components in their correct places during fabrication, transport and concreting. These welds are often referred to as tack welds.

3.3
shear factor
S_f
relation between the shear force of a cross joint and the nominal yield strength (R_e) times the nominal cross section area (A_s) of the loaded bar

3.4
manufacturer
enterprise carrying out the welding works within workshops or on site

