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Together with
DIN EN ISO 17660-2:2006-12,
supersedes
DIN 4099-1:2003-08 and
DIN 4099-2:2003-08

Welding –
Welding of reinforcing steel –
Part 1: Load-bearing welded joints (ISO 17660-1:2006)
English version of DIN EN ISO 17660-1:2006-12

Schweißen –
Schweißen von Betonstahl –
Teil 1: Tragende Schweißverbindungen (ISO 17660-1:2006)
Englische Fassung DIN EN ISO 17660-1:2006-12

Document comprises 42 pages

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National foreword

This document (EN ISO 17660-1:2006) has been prepared by Technical Committee CEN/TC 121, the secretariat of which is held by DIN, in collaboration with Technical Committee ISO/TC 44/SC 10 “Unification of requirements in the field of metal welding”.

The responsible German body involved in its preparation was the *Normenausschuss Schweißtechnik* (Welding Standards Committee), Technical Committee NA 092-00-22 AA *Schweißen von Betonstahl.*

Amendments

This standard differs from DIN 4099-1:2003-08 and DIN 4099-2:2003-08 as follows:

a) The content of EN ISO 17660-1 has been adopted.

b) The following subjects are described in more detail: Welding processes, welded joints, materials, quality requirements, welding personnel, welding procedure specification, welding procedures, production weld test, execution and inspection of welding, examination and testing of test specimens, production log.

Previous editions

DIN 4099: 1985-11
DIN 4099-1: 1972-04, 2003-08
DIN 4099-2: 1978-12, 2003-08

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 17660-1

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English Version

Welding - Welding of reinforcing steel - Part 1: Load-bearing welded joints (ISO 17660-1:2006)

Soudage - Soudage des aciers d'armatures - Partie 1: Assemblages transmettant des efforts (ISO 17660-1:2006)

Schweißen - Schweißen von Betonstahl - Teil 1: Tragende Schweißverbindungen (ISO 17660-1:2006)

This European Standard was approved by CEN on 2 August 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, 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
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Foreword

This document (EN ISO 17660-1:2006) 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 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 March 2007, and conflicting national standards shall be withdrawn at the latest by March 2007.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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.

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 and that special procedures for quality assurance need to be adopted.

1 Scope

This part of ISO 17660 is applicable to the welding of weldable reinforcing steel and stainless reinforcing steel of load-bearing joints, in workshops or on site. It specifies requirements for materials, design and execution of welded joints, welding personnel, quality requirements, examination and testing.

This part of ISO 17660 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 part of ISO 17660 is not applicable to factory production of welding fabric and lattice girders using multiple spot welding machines or multiple projection welding machines.

The requirements of this part of ISO 17660 are only applicable to static loaded structures.

NOTE For fatigue-loaded structures, depending on type of joint and welding process, it is recommended that an appropriate reduction be taken into account on the fatigue strength of the reinforcing steel.

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 3834-3 *Quality requirements for fusion welding of metallic materials — Part 3: Standard quality requirements*

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

ISO 9606-1, *Approval testing of welders — Fusion welding — Part 1: Steels*

ISO 14731:—[1)], *Welding coordination — Tasks and responsibilities*

ISO 14732[2)], *Welding personnel — Approval testing of welding operators for fusion welding and of 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*

1) To be published (revision of ISO 14731:1997, EN 719:1994).

2) Equivalent to EN 1418.