

Specification for

**Metal-arc welding with
covered electrode, gas-shielded
metal-arc welding and gas
welding — Joint preparations
for steel**

The European Standard EN 29692 : 1994 has the status of a
British Standard

Soudage à l'arc avec électrode enrobée,
soudage à l'arc sous protection gazeuse et
soudage aux gas - Préparations de joint sur
acier

Lichtbogenhandschweißen,
Schutzgasschweißen und Gasschweißen,
Schweißnahtvorbereitung für Stahl

UDC (621.791.5 + .75):621.791.02

Cooperating organizations

The European Committee for Standardization (CEN), under whose supervision this European Standard was prepared, comprises the national standards organizations of the following countries:

Austria	Oesterreichisches Normungsinstitut
Belgium	Institut belge de normalisation
Denmark	Dansk Standardiseringsraad
Finland	Suomen Standardisoimisliitto, r.y.
France	Association française de normalisation
Germany	Deutsches Institut für Normung e. V.
Greece	Hellenic Organization for Standardization
Iceland	Technological Institute of Iceland
Ireland	National Standards Authority of Ireland
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Sweden	Standardiseringskommissionen i Sverige
Switzerland	Association suisse de normalisation
United Kingdom	British Standards Institution

This British Standard, having been prepared under the direction of the Welding Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 June 1994

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The following BSI references relate to the work on this standard:
Committee reference WEE/1
Draft for comment 90/79296 DC

ISBN 0 580 23161 5

Amendments issued since publication

Amd. No.	Date	Text affected

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National foreword

This British Standard has been prepared under the direction of the Welding Standards Policy Committee and is the English language version of EN 29692 : 1994 *Metal-arc welding with covered electrode, gas-shielded metal-arc welding and gas welding — Joint preparations for steel*, published by the European Committee for Standardization (CEN).

EN 29692 : 1994 is identical with ISO 9692 : 1992 published by the International Organization for Standardization (ISO).

Compliance with a British Standard does not of itself confer immunity from legal obligations.

UDC (621.579.5+.75):621.791.02

Descriptors: Arc welding, gas shielded welding, gas welding, welding electrodes, covered electrodes, welded joints, steels, butt welds, fillet welds, edge preparation, dimensions

English version

Metal-arc welding with covered electrode, gas-shielded metal-arc welding and gas welding - Joint preparations for steel

(ISO 9692 : 1992)

Soudage à l'arc avec électrode enrobée,
soudage à l'arc sous protection gazeuse et
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Lichtbogenhandschweißen,
Schutzgasschweißen und Gasschweißen,
Schweißnahtvorbereitung für Stahl
(ISO 9692 : 1992)

This European Standard was approved by CEN on 1994-02-04. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Ref. No. EN 29692 : 1994 E

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Foreword

This European Standard based on the International Standard *Metal-arc welding with covered electrode, gas-shielded metal-arc welding — Joint preparations for steel* (ISO 9692 : 1992) has been submitted to the Unique Acceptance Procedure in accordance with resolution BTS 2 C 48/1992 taken by BTS 2 'Engineering'.

The result of the Unique Acceptance Procedure was positive.

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 August 1994, and conflicting national standards shall be withdrawn at the latest by August 1994.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

NOTE. Normative references to international publications are listed in annex ZA (normative).

Introduction

This International Standard defines the parameters characterizing the joint preparation and the collection of well-experienced values and shapes representing more design limits than manufacturing limits.

The requirements given in this International Standard have been compiled on the basis of experience, and contain dimensions for types of joint preparation that are generally found to provide suitable welding conditions. However, the extended field of application makes it necessary to give a range of dimensions. The dimension ranges specified represent design limits and are not tolerances for manufacturing purposes. Manufacturing limits depend, for instance, on welding process, parent metal, welding position, quality level, etc. Therefore, the requirements given are more a recommendation than a specification. Because of the common character of this International Standard, the examples given cannot be regarded as the only solution for the selection of a joint type.

Specific fields of application and manufacturing requirements (e.g. pipeline construction) may be covered by selected ranges specified in other standards adapted from this basic International Standard.

Metal-arc welding with covered electrode, gas-shielded metal-arc welding and gas welding — Joint preparations for steel

1 Scope

This International Standard pertains to types of joint preparation for metal-arc welding with covered electrode, gas-shielded metal-arc welding and gas welding on steel (see clauses 3 and 4).

It applies to joint preparation for fully-penetrated butt welds, except in the case of some recommended types of joint preparation (reference numbers 3.10A, 3.10B and 4.10.10C); if a butt weld is not possible or necessary, special arrangements need to be made. For not-fully-penetrated butt welds, types of joint preparation and dimensions differing from those specified in this International Standard may be stipulated.

The root gaps referred to in this International Standard are those gaps presented after tack welding, if used.

Consideration should be given to altering the joint preparation details (where appropriate) to facilitate temporary backing, "one-sided welding", etc.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2553:1992, *Welded, brazed and soldered joints — Symbolic representation on drawings*.

ISO 4063:1990, *Welding, brazing, soldering and braze*

welding of metals — Nomenclature of processes and reference numbers for symbolic representation on drawings.

ISO 6947:1990, *Welds — Working positions — Definitions of angles of slope and rotation*.

3 Materials

Joint preparations recommended in this International Standard are suitable for all kinds of steel.

4 Welding processes

Joint preparations recommended in this International Standard are suitable for welding carried out in accordance with the following processes as specified in tables 1 to 4; combinations of different processes are possible:

- a) (3) gas welding; fuel gas welding.
- b) (111) metal-arc welding with covered electrode; (manual metal-arc welding); shielded metal-arc welding.
- c) (13) gas-shielded metal-arc welding; gas metal-arc welding:
 - (131) metal-arc inert gas welding; MIG welding;
 - (135) metal-arc active gas welding; MAG welding.
- d) (141) tungsten inert gas welding; TIG welding; gas tungsten arc welding.

NOTE 1 The numbers in parentheses refer to the reference number of the welding process specified in ISO 4063.