

Specification and approval of welding procedures for metallic materials

Part 7. Approval by a standard welding procedure for arc welding

The European Standard EN 288-7 : 1995 has the status of a
British Standard

ICS 25 160 10

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee WEE/36, Approval testing of welding procedures and welding, upon which the following bodies were represented:

AEA Technology
 Aluminium Federation
 Associated Offices Technical Committee
 Association of Consulting Scientists
 British Constructional Steelwork Association Ltd.
 British Nuclear Fuels plc
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 Health and Safety Executive
 Lloyd's Register of Shipping
 Ministry of Defence
 Power Generation Contractors' Association (PGCA (BEAMA Ltd.))
 Process Plant Association
 Railway Industry Association
 TWI
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National foreword

This British Standard has been prepared by Technical Committee WEE/36 and is the English language version of EN 288-7 : 1994 *Specification and approval of welding procedures for metallic materials — Part 7 : Approval by a standard welding procedure for arc welding*, published by the European Committee for Standardization (CEN).

EN 288-7 was produced as a result of international discussions in which the United Kingdom took an active part.

There has previously been no direct British Standard equivalent to this standard.

It is envisaged that this method of approval will not be included in application standards for products where weld integrity is critical for safety reasons and it is not intended for use as a direct alternative to BS EN 288-3 or BS EN 288-4.

It is assumed that the execution of the provisions of this document is entrusted to suitably qualified and experienced persons.

Cross-references

Publication referred to	Corresponding British Standard
EN 287-1 : 1992	BS EN 287 <i>Approval testing of welders for fusion welding</i> Part 1 : 1992 <i>Steels</i>
EN 287-2 : 1992	Part 2 : 1992 <i>Aluminium and aluminium alloys</i> BS EN 288 <i>Specification and approval of welding procedures for metallic materials</i>
EN 288-1 : 1992	Part 1 : 1992 <i>General rules for fusion welding</i>
EN 288-2 : 1992	Part 2 : 1992 <i>Welding procedures specification for arc welding</i>
EN 288-3 : 1992	Part 3 : 1992 <i>Welding procedure tests for the arc welding of steels</i>
EN 288-4 : 1992	Part 4 : 1992 <i>Welding procedure tests for the arc welding of aluminium and its alloys</i>
EN 719 : 1994	BS EN 719 : 1994 <i>Welding coordination — Tasks and responsibilities</i>
EN 729	BS EN 729 <i>Quality requirements for welding — Fusion welding of metallic materials</i>
EN 729-1 : 1994	Part 1 : 1994 <i>Guidelines for selection and use</i>
EN 729-2 : 1994	Part 2 : 1994 <i>Comprehensive quality requirements</i>
EN 729-3 : 1994	Part 3 : 1994 <i>Standard quality requirements</i>
EN 729-4 : 1994	Part 4 : 1994 <i>Elementary quality requirements</i>

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Specification and approval of welding procedures for metallic materials — Part 7: Approval by a standard welding procedure for arc welding

Descriptif et qualification d'un mode opératoire de soudage pour les matériaux métalliques — Partie 7: Qualification par référence à un mode opératoire de soudage standard pour le soudage à l'arc

Andforderung und Anerkennung von Schweißverfahren für metallische Werkstoffe — Teil 7: Anerkennung von Normschweißverfahren für das Lichtbogenschweißen

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Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 121, Welding, of which the secretariat is held by DS.

This standard consists of the following Parts with the following title, *Specification and approval of welding procedures for metallic materials*:

- Part 1: *General rules for fusion welding;*
 Part 2: *Welding procedure specification for arc welding;*
 Part 3: *Welding procedure tests for the arc welding of steels;*
 Part 4: *Welding procedure tests for the arc welding of aluminium and its alloys;*
 Part 5: *Approval by using approved welding consumables for arc welding;*
 Part 6: *Approval related to previous experience;*
 Part 7: *Approval by a standard welding procedure for arc welding;*
 Part 8: *Approval by a pre-production welding test.*

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 November 1995, and conflicting national standards shall be withdrawn at the latest by November 1995.

According to 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, United Kingdom.

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0 Introduction

In EN 288-1, one of the methods of welding procedure approval is by using an approved standard welding procedure.

1 Scope

This standard defines the conditions for the approval of a standard welding procedure and establishes the conditions, limits and ranges of approval necessary for the use of standard welding procedures.

The use of a standard welding procedure can be restricted by an application standard or at the enquiry/order stage by contracting parties.

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.

- EN 287-1 *Approval testing of welders — Fusion welding — Part 1: Steels*
- EN 287-2 *Approval testing of welders — Fusion welding — Part 2: Aluminium and aluminium alloys*
- EN 288-1 *Specification and approval of welding procedures for metallic materials — Part 1: General rules for fusion welding*
- EN 288-2 *Specification and approval of welding procedures for metallic materials — Part 2: Welding procedure specification for arc welding*

EN 288-3 *Specification and approval of welding procedures for metallic materials — Part 3: Welding procedure tests for the arc welding of steels*

EN 288-4 *Specification and approval of welding procedures for metallic materials — Part 4: Welding procedure tests for the arc welding of aluminium and its alloys.*

EN 719 *Welding coordination — Tasks and responsibilities*

EN 729-1 *Quality requirements for welding — Fusion welding of metallic materials — Part 1: Guidelines for selection and use*

EN 729-2 *Quality requirements for welding — Fusion welding of metallic materials — Part 2: Comprehensive quality requirements*

EN 729-3 *Quality requirements for welding — Fusion welding of metallic materials — Part 3 : Standard quality requirements*

EN 729-4 *Quality requirements for welding — Fusion welding of metallic materials — Part 4: Elementary quality requirement*

3 Definitions

For the purposes of this standard, the definitions listed in EN 288-1 apply.

4 Preliminary welding procedure specification (pWPS)

The approval of a welding procedure based on standard welding procedure shall be based on a pWPS according to EN 288-2, or a standard similar to EN 288-2. This pWPS shall specify the range for all the relevant parameters.

5 Approval of the standard welding procedure

5.1 General

The approval of the welding procedure shall be carried out by an examiner or an examining body according to EN 288-1. The examination and testing shall be carried out in accordance with the relevant Part of EN 288 for welding procedure testing.

After approval the preliminary welding procedure specification will be classified as a welding procedure specification and may be used as a standard welding procedure in accordance with the relevant application standards or contract.

Changes outside the range of approval given in the relevant Part of EN 288 for welding procedure testing, as modified in 5.2 to 5.7, shall require a new approval welding procedure.

5.2 Parent metal

This standard is applicable for groups of materials defined in table 1.

5.3 Consumables

The approval is limited to homogenous welded assemblies.

5.4 Parent metal thickness

A standard welding procedure shall not be used for thicknesses below 3 mm or above 40 mm.

5.5 Fillet weld throat thickness

A standard welding procedure shall not be used for fillet weld throat thickness below 3 mm.

5.6 Diameter of pipes

standard welding procedures are only valid for pipes with outside diameters greater than 25 mm.

5.7 Branch connection

For thickness: see 5.4.

For diameter: see 5.6

6 Use of a standard welding procedure

6.1 General

A standard welding procedure prepared and documented in accordance with clause 8 can be used without further tests providing the following requirements and limitations are observed.

6.2 Related to the user of standard welding procedure

The user of a standard welding procedure is responsible for the appropriate selection and application of the standard welding procedure.

The use of a standard welding procedure requires welding coordination in accordance with EN 719 and that the user fulfils quality requirements in accordance with the appropriate Part of EN 729.

6.3 Related to welding equipment

The standard welding procedure is approved for use in production with welding power sources and welding equipment having electrical and mechanical characteristics which are capable of achieving those used in preparing the test weld for approval of standard welding procedure as specified in the welding procedure specification WPS.

The equipment used during production shall permit control of all essential welding parameters.

6.4 Related to the personnel

A standard welding procedure shall only be used by welders or welding operators for mechanized equipment approved in accordance with the relevant Part of EN 287.

6.5 Related to the environmental conditions

The standard welding procedure shall specify the necessary limits on the environmental conditions (e.g. temperature, climate, pressure ...) and be valid when used only within these limits.

Materials used for the approval of the welding procedure	Range of approval
Steel (EN 288-3) ³⁾ Group 1 Group 9 ¹⁾²⁾	Group 1 welded with group 1 Group 9 welded with group 9
Aluminium and its alloys (EN 288-4) ³⁾ Group 21 Group 22a and 22b	Group 21 welded with group 21 Group 22a welding with group 22a Group 22b welded with group 22b Group 22a welded with group 22b

¹⁾Materials of group 9 excluding those which are sensitive to hot cracking.
²⁾A list of the accepted materials will be added when relevant EN is available.
³⁾Including castings, forged and wrought material with a similar chemical composition.

7 Validity

A standard welding procedure remains valid indefinitely unless otherwise agreed between the contracting parties at the time of issue.

8 Preparation and documentation

The standard welding procedure shall be issued as a specification covering ranges for all relevant parameters. Any restrictions e.g. equipment performance or environmental conditions shall be stated, as appropriate. The specification shall be in the format of either a WPS or a welding procedure approval record WPAR according to the relevant Part of EN 288.

The specification shall be signed and dated by the examiner or test body and then it becomes a standard welding procedure. Issue and amendment shall only be via the examiner or examining body.

All records on which the approval is based shall be kept on file during the entire period of validity of the standard welding procedure.

The standard welding procedure shall be kept on file by the user during the entire period of use.

List of references

See national foreword.

BS EN
288-7 : 1995

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