

**Keevituse kvaliteedinõuded. Metallide
sulakeevitus. Osa 3: Standardised
kvaliteedinõuded**

Quality requirements for welding - Fusion welding of
metallic materials - Part 3: Standard quality
requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 729-3:1997 sisaldab Euroopa standardi EN 729-3:1994 ingliskeelset teksti.

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English version

Quality requirements for welding

Fusion welding of metallic materials

Part 3: Standard quality requirements

Exigences de qualité en soudage; soudage par fusion de matériaux métalliques. Partie 3: Exigences de qualité normales

Schweißtechnische Qualitätsanforderungen; Schmelzschweißen metallischer Werkstoffe. Teil 3: Standard-Qualitätsanforderungen

This European Standard was approved by CEN on 1994-09-06.

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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.

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CEN

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

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Foreword

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

CEN/TC 121 decided to submit the final draft for Formal Vote. The result was positive.

EN 729 is composed of the four following Parts:

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 requirements

This European Standard has been prepared under a mandate given to CEN by the Commission of the European Communities and the European Free Trade Association, and supports essential requirements of the relevant EC Directives.

This European Standard shall be given the status of a national standard, either by publication of an identical text or endorsement, and conflicting national standards withdrawn, by March 1995 at the latest.

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.

1 Scope

This standard has been prepared such that:

- it is independent of the type of welded construction to be manufactured;
- it defines quality requirements for welding both in workshops and on site;
- it provides guidance for describing a manufacturers capability to produce welded constructions to meet specified requirements;
- it may also be used as a basis for assessing the manufacturer in respect to his welding capability.

This standard is appropriate when demonstration of a manufacturers capability to produce welded construction, fulfilling specified quality requirements, are specified in one or more of the following:

- a contract between involved parties;
- an application standard;
- a regulatory requirement.

The requirements contained within this standard may be adopted in full or may be selectively deleted by the manufacturer if not applicable to the construction concerned. They provide a flexible framework for the control of welding in the following cases:

- Case 1

To provide specific requirements for fusion welding in contracts which require the manufacturer to have a quality system other than EN 29001 or EN 29002.

- Case 2

To provide specific requirements for fusion welding as guidance to a manufacturer developing a quality system.

- Case 3

To provide specific requirements for references in application standards which uses fusion welding as part of its requirements or in a contract between relevant parties. It may however be more appropriate for EN 729-4 to be used in such cases.

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 qualification of welding procedures for metallic materials - Part 1: General rules for fusion welding |
| EN 288-2 | Specification and qualification of welding procedures for metallic materials - Part 2: Welding procedure specification for arc welding |
| EN 288-3 | Specification and qualification of welding procedures for metallic materials - Part 3: Welding procedure tests for the arc welding of steels |
| EN 288-4 | Specification and qualification of welding procedures for metallic materials - Part 4: Welding procedure tests for the arc welding of aluminium and its alloys |
| EN 288-5 | Specification and qualification of welding procedures for metallic materials - Part 5: Approval by using approved welding consumables for arc welding |
| EN 288-6 | Specification and qualification of welding procedures for metallic materials - Part 6: Approval related to previous experience |
| EN 473 | Non-destructive testing - Qualification and certification of personnel |
| 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 729-4 | Quality requirements for welding - Fusion welding of metallic materials - Part 4: Elementary quality requirements |
| prEN 1258 | Welding - Measurement of preheating temperature, interpass temperature and preheat maintenance temperature during welding |
| prEN 1418 | Welding personnel - Approval testing of welding personnel for fully mechanized and automatic welding of metallic materials |
| EN 29001:1987 | Quality systems - Model for quality assurance in design/development, production, installation and servicing |
| EN 29002:1987 | Quality systems - Model for quality assurance in production and installation |

EN 29692:1994 Metal-arc welding with covered electrode, gas-shielded metal-arc welding and gas welding - Joint preparations for steel

3 Definitions

For the purposes of this standard, definitions listed in EN 729-1 apply.

4 Contract and design review

4.1 General

The manufacturer shall review the contractual requirements and the design data provided by the purchaser or in-house data for construction designed by the manufacturer. This is to ensure that all information necessary to carry out the fabrication operations is available prior to the commencement of the work. The manufacturer shall affirm his capability to meet all welding contract requirements and ensure adequate planning of all quality related activities. The items in 4.2 are typically considered at or before the time of the contract review. The items in 4.3 usually form part of the design review and should be taken into account during the contract review if the design is not carried out by the fabricator. It shall be ensured that all relevant information has been supplied by the purchaser.

When a contract does not exist, e.g. items made for stock, the manufacturer is required to take into consideration the requirements of 4.2 whilst carrying out his design review (see 4.3).

4.2 Application - Contract review

Contractual requirements to be considered should include, when necessary:

- a) the application standard to be used, together with any supplementary requirements;
- b) the specification of welding procedures, non-destructive testing procedures and heat treatment procedures;
- c) the approach to be used for welding procedure approval;
- d) the approval of personnel;
- e) post-weld heat treatment;
- f) inspection and testing;
- g) selection, identification and/or traceability, e.g. for materials, welders and welds (see clause 15);
- h) quality control arrangements, including any involvement of an independent inspection body;
- i) other welding requirements, e.g. batch testing of consumables, ferrite content of weld metal, ageing, hydrogen content;