

Welding - Studs and ceramic ferrules for arc stud welding

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Welding - Studs and ceramic ferrules for arc stud welding (ISO 13918:2008)

Soudage - Goujons et bagues céramiques pour le soudage à l'arc des goujons (ISO 13918:2008)

Schweißen - Bolzen und Keramikringe für das Lichtbogenbolzenschweißen (ISO 13918:2008)

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Foreword

This document (EN ISO 13918:2008) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with Technical Committee CEN/TC 121 "Welding" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by November 2008, and conflicting national standards shall be withdrawn at the latest by November 2008.

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Endorsement notice

The text of ISO 13918:2008 has been approved by CEN as a EN ISO 13918:2008 without any modification.

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Introduction

The range of types of studs specified in this International Standard represents customary applications.

This International Standard can be used in all fields of the metal-working industry.

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Welding — Studs and ceramic ferrules for arc stud welding

1 Scope

This International Standard specifies:

- requirements for studs and ceramic ferrules for arc stud welding;
- dimensions, materials, mechanical properties and, when required, conditions of evaluation of conformity.

Table 1 shows types of studs and the symbols for studs and ceramic ferrules that are covered by this document.

Table 1 — Types of studs and symbols for studs and ceramic ferrules

Welding technique	Type of stud ^a	Symbol for studs	Symbol for ceramic ferrules
Drawn arc stud welding with ceramic ferrule or shielding gas	threaded stud (pitch)	PD	PF
	threaded stud with reduced shaft	RD	RF
	unthreaded stud	UD	UF
	stud with internal thread	ID	UF
	shear connector	SD	UF
Short-cycle drawn arc stud welding	threaded stud with flange (pitch)	PS	—
	unthreaded stud	US	—
	stud with internal thread	IS	—
Stud welding with tip ignition	threaded stud (pitch)	PT	—
	unthreaded stud	UT	—
	stud with internal thread	IT	—
^a Further types of stud and ceramic ferrules can be specified as required for special applications.			

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 898-1, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 1: Bolts, screws and studs*

ISO 3506-1, *Mechanical properties of corrosion-resistant stainless-steel fasteners — Part 1: Bolts, screws and studs*

ISO 4042, *Fasteners — Electroplated coatings*

ISO 4759-1, *Tolerances for fasteners — Part 1: Bolts, screws, studs and nuts — Product grades A, B and C*

ISO 4964, *Steel — Hardness conversions*

ISO 6892, *Metallic materials — Tensile testing at ambient temperature*

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

ISO 14555, *Welding — Arc stud welding of metallic materials*

ISO/TR 15608, *Welding — Guidelines for a metallic materials grouping system*

EN 573-3, *Aluminium and aluminium alloys — Chemical composition and form of wrought products — Part 3: Chemical composition and form of products*

EN 1301-2, *Aluminium and aluminium alloys — Drawn wire — Part 2: Mechanical properties*

EN 10088-1, *Stainless steels — Part 1: List of stainless steels*

EN 12166, *Copper and copper alloys — Wire for general purposes*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14555 and the following apply.

3.1

inspection lot

arrangement of units of which a random sample is taken for testing and which requires the same chemical composition of the raw material, the same diameter of the finished product and the same manufacturing procedure during the stud production

3.2

manufacturing lot

quantity of studs of a single designation including type of stud, size, property class and material, manufactured from bar, wire, rod or flat product from a single cast, processed through the same or similar steps at the same time or over a continuous time period through the same heat treatment and/or coating process, if any

NOTE Same heat treatment or coating process means:

- for a continuous process, the same treatment cycle without any setting modification;
- for a discontinuous process, the same treatment cycle for identical consecutive loads (batches).

The manufacturing lot can be split into a number of manufacturing batches for processing purposes and then reassembled into the same manufacturing lot.

[Adapted from ISO 15330:1999, definition 3.3]

4 Symbols and abbreviated terms

- b length of the thread
- c_d depth of the crack in the head
- d_1 nominal diameter
- d_2 diameter at the weld area
- d_3 diameter of the weld collar