

BS EN 4710-03:2015



BSI Standards Publication

Aerospace series — Quick release fastening systems for non-structural applications

Part 03: Spring clamp

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee ACE/12, Aerospace fasteners and fastening systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Aerospace series - Quick release fastening systems for non-structural applications - Part 03: Spring clamp

Série aérospatiale - Fixations rapides filetées pour
applications non-structurales - Partie 03: Collier lyre

Luft- und Raumfahrt - Druckverschlüsse nicht-
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European foreword

This document (EN 4710-03:2015) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

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of an identical text or by endorsement, at the latest by April 2016, and conflicting national standards shall be withdrawn at the latest by April 2016.

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1 Scope

This standard specifies the dimensions, mass, tolerances and static values of catch spring for use in fuselage interior equipment and non-structural or secondary structural area. This standard part shall be used in conjunction with EN 4710-06 and EN 4710-07 as described in EN 4710-02.

The applicable temperature range is $-55\text{ }^{\circ}\text{C}$ to $85\text{ }^{\circ}\text{C}$.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2424, *Aerospace series — Marking of aerospace products*

EN 2516, *Aerospace series — Passivation of corrosion resistant steels and decontamination of nickel base alloys*

EN 4710-01, *Aerospace series — Quick release fastening systems for non-structural applications — Part 01: Technical specification*

EN 4710-02, *Aerospace series — Quick release fastening systems for non-structural applications — Part 02: Stud spring clamp family*

EN 4710-06, *Aerospace series — Quick release fastening systems for non-structural applications — Part 06: Stud - quick-release and locking*

EN 4710-07, *Aerospace series — Quick release fastening systems for non-structural applications — Part 07: Retaining grommet*

EN 10151, *Stainless steel strip for springs — Technical delivery conditions*

EN 10132-4, *Cold-rolled narrow steel strip for heat-treatment — Technical delivery conditions — Part 4: Spring steels and other applications*

ISO 2768-1:1989, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

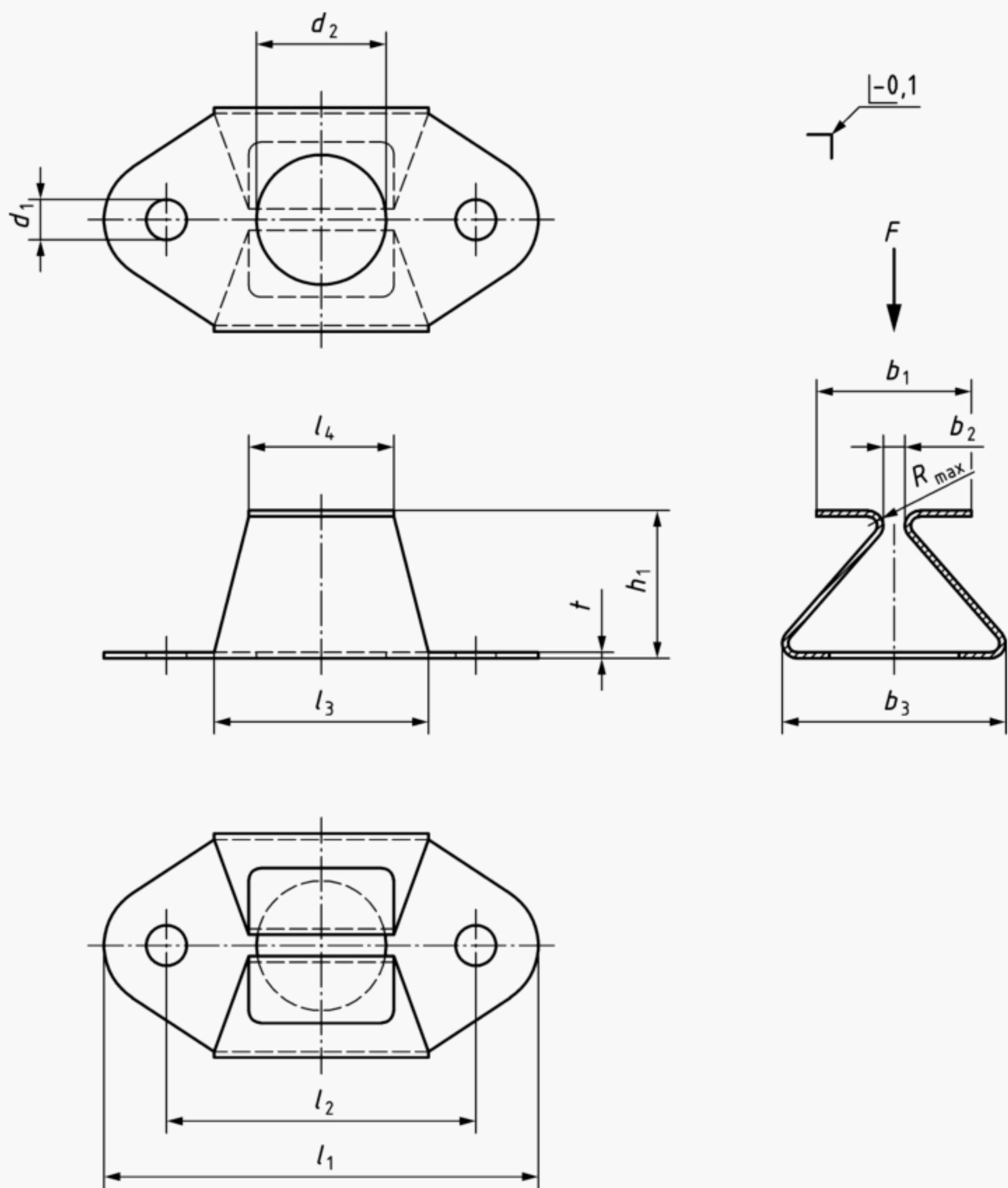
ISO 2768-2:1989, *General tolerances — Part 2: Geometrical tolerances for features without individual tolerance indications*

DIN 50979, *Metallic coatings — Electroplated coatings of zinc and zinc alloys on iron or steel with supplementary Cr(VI)-free treatment*

3 Requirements

3.1 Configuration, dimensions, tolerances and mass

The configuration, dimensions, tolerances and mass shall conform with Figure 1 and Table 1. Tolerances not specified, shall be in accordance with ISO 2768-mK (ISO 2768-1:1989 and ISO 2768-2:1989). Dimensions are unless otherwise specified per manufacturer's option.



Key

F load direction

Figure 1 — Configuration spring clamp Cx

Table 1 — Dimensions and mass

Dimensions in millimetres

Type code	Plate code ^a	<i>b</i> ₁ ± 0,4	<i>b</i> ₂	<i>b</i> ₃ ± 0,3	∅ <i>d</i> ₁	∅ <i>d</i> ₂ ± 0,1	<i>h</i> ₁	<i>l</i> ₁	<i>l</i> ₂ ± 0,1	<i>l</i> ₃ ± 0,3	<i>l</i> ₄ ± 0,3	<i>t</i>	<i>R</i> _{max}	Mass approximate <i>g</i>
CS	3	5,0	0,8 ± 0,2	9,5	2,6	5,0	6,2	19,3	12,8	8,5	6,2	0,3	0,6	0,4
CM	4	7,0	1,2 ± 0,3	13,7	2,6	7,8	10,2	25,7	17,5	12,2	9,0	0,4	1,0	1,7
CL	5	13,0	1,8 ± 0,4	18,8	3,4	10,9	12,4	36,5	26,0	18,0	12,2	0,5	1,2	3,8

^a Plate code is according to dimension *t*.

3.2 Mechanical characteristics

Ultimate loads, see Table 2.

Table 2 — Loads

Type code	Ultimate loads <i>F</i> N	Material code
CS	500	A
		S
CM	900	A
		S
CL	2 000	A
		S

3.3 Materials and surface treatment

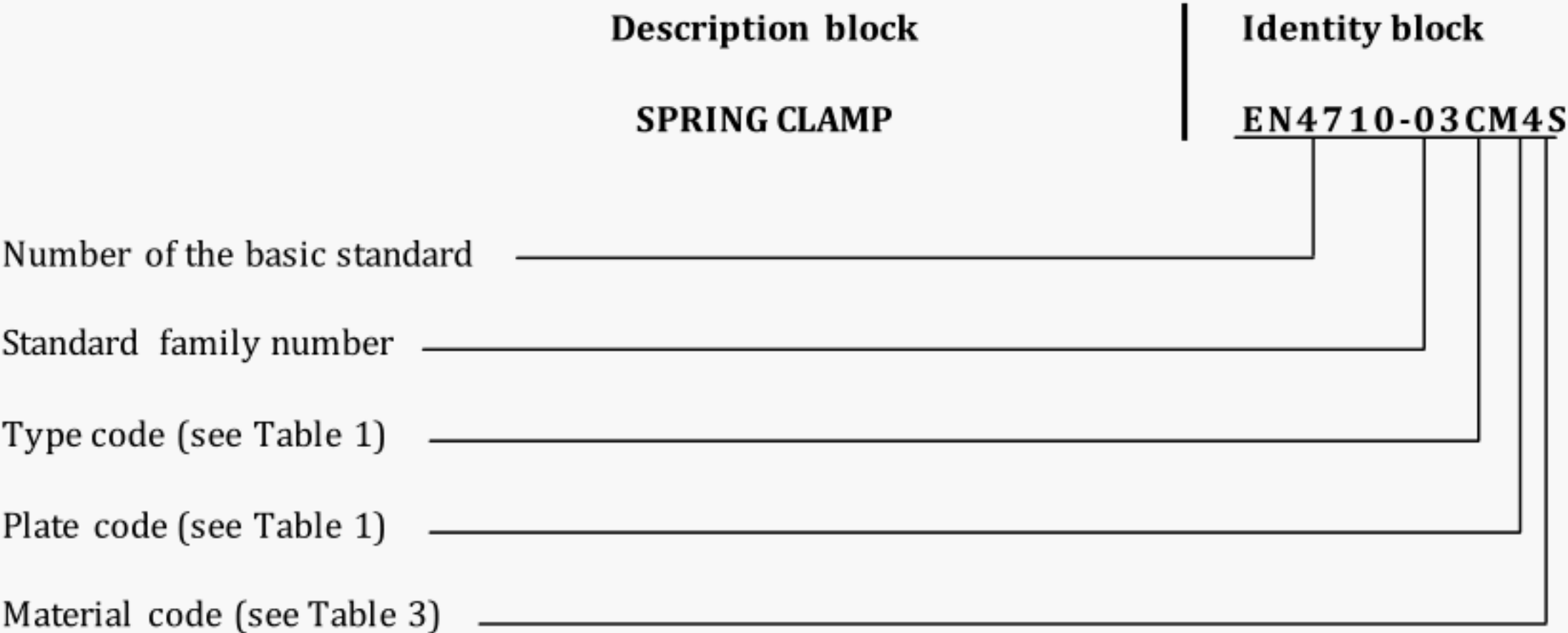
Materials and finished shall be in accordance with the Table 3.

Table 3 — Materials and surface treatment

Material code	Material	Surface treatment
S	Stainless steel 1.4310 per EN 10151	Passivated per EN 2516
A	Alloy steel 1.0605 per EN 10132-4 or Alloy steel 1.1248 per EN 10132-4	Electro plated coating per DIN 50979

4 Designation

EXAMPLE



5 Marking

EN 2424, style F.

6 Technical specification

Required tests for acceptance and qualification shall be in accordance to Table 4.

Table 4 — Requirements, inspections and tests

Characteristic	Requirements	Requirements as per EN 4710-01	Inspections and tests as per EN 4710-01	A ^a	Q ^b
Materials	In accordance with Table 3.	4.1	5.4.1	X	X
Dimensions and masses	In accordance with Table 1.	4.2	5.4.2	X	X
Surface defects	Refer to EN 4710-01.	4.3.1	5.4.3.1	X	X
Surface treatment	In accordance with Table 3.	4.3.2	5.4.3.2	X	X
Ultimate tensile loads	In accordance with Table 2.	4.4.1	5.4.4.1	–	X
Corrosion resistance	Refer to EN 4710-01.	4.5	5.4.5	–	X
Functionality	Refer to EN 4710-01.	4.7.1	5.4.7.1	–	X
Endurance	Material code A: 1 500 cycles Material code S: 500 cycles.	4.7.2	5.4.7.2	–	X
Identification marking of the product	Refer to EN 4710-01.	4.8.1	5.4.8.1	X	X
Identification marking of the package	Refer to EN 4710-01.	4.8.2	5.4.8.2	X	X
<div><div>^a Acceptance test.</div><div>^b Qualification test.</div></div>					

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