

Fasteners - Non-electrolytically applied zinc flake coatings (ISO 10683:2014)

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EUROPEAN STANDARD

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English Version

Fasteners - Non-electrolytically applied zinc flake coatings (ISO 10683:2014)

Fixations - Revêtements non électrolytiques de zinc lamellaire (ISO 10683:2014)

Verbindungselemente - Nichtelektrolytisch aufgebrachte Zinklamellenüberzüge (ISO 10683:2014)

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN ISO 10683:2014) has been prepared by Technical Committee ISO/TC 2 “Fasteners” in collaboration with Technical Committee CEN/TC 185 “Fasteners” 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of an identical text or by endorsement, at the latest by November 2014, and conflicting national standards shall be withdrawn at the latest by November 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 10683:2014 has been approved by CEN as EN ISO 10683:2014 without any modification.

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Introduction

The revision of ISO 10683:2000 was made in order to define the relevant requirements on zinc flake coated fasteners (coating systems with and without hexavalent chromium) for all parties involved in the fastener field, i.e. chemical suppliers, coaters, fastener manufacturers, distributors and end users. It covers all types of fasteners, i.e. fasteners with ISO metric thread, fasteners with non-ISO metric thread (including thread forming, ASME inch 60° screw thread, etc.) and non-threaded fasteners (including washers, pins, clips, etc.). It also provides basic advice for the design and use of coated fasteners in assembly.

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Fasteners — Non-electrolytically applied zinc flake coatings

1 Scope

This International Standard specifies requirements for non-electrolytically applied zinc flake coatings for steel fasteners. It applies to coatings:

- with or without hexavalent chromium;
- with or without top coat;
- with or without lubricant (integral lubricant and/or subsequently added lubricant).

National regulations for the restriction or prohibition of certain chemical elements should be taken into account in the countries or regions concerned.

It applies to bolts, screws, studs and nuts with ISO metric thread, to fasteners with non-ISO metric thread, and to non-threaded fasteners such as washers, pins, clips, etc.

NOTE Coatings in accordance with this International Standard are especially used for high strength fasteners ($\geq 1\ 000$ MPa) to avoid risk of internal hydrogen embrittlement (see 4.4).

Information for design and assembly of coated fasteners is given in [Annex A](#).

This International Standard does not specify requirements for such fastener properties as weldability or paintability. It does not apply to mechanically applied zinc coatings.

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.

ISO 1463, *Metallic and oxide coatings — Measurement of coating thickness — Microscopical method*

ISO 1502, *ISO general-purpose metric screw threads — Gauges and gauging*

ISO 1891-2, *Fasteners — Terminology — Part 2: Vocabulary and definitions for coatings*¹⁾

ISO 3269, *Fasteners — Acceptance inspection*

ISO 3613:2010, *Metallic and other inorganic coatings — Chromate conversion coatings on zinc, cadmium, aluminium-zinc alloys and zinc-aluminium alloys — Test methods*

ISO 6988, *Metallic and other non organic coatings — Sulfur dioxide test with general condensation of moisture*

ISO 8991, *Designation system for fasteners*

ISO 9227:2012, *Corrosion tests in artificial atmospheres — Salt spray tests*

ISO 16047, *Fasteners — Torque/clamp force testing*

1) To be published.