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Fasteners — Electroplated coatings

Éléments de fixation — Revêtements électrolytiques



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International Organization for Standardization
 Case postale 56 • CH-1211 Genève 20 • Switzerland
 Internet iso@iso.ch

Printed in Switzerland

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 4042 was prepared by Technical Committee ISO/TC 2, *Fasteners*, Subcommittee SC1, *Mechanical properties of fasteners*.

This second edition cancels and replaces the first edition (ISO 4042:1989) which has been technically revised.

Annexes D and E form a normative part of this International Standard. Annexes A, B, C, F and G are for information only.

Fasteners — Electroplated coatings

1 Scope

This International Standard specifies dimensional requirements for electroplated fasteners of steel or copper alloy. It specifies coating thicknesses and gives recommendations for hydrogen embrittlement relief for fasteners with high tensile strength or hardness and for surface-hardened fasteners.

This International Standard primarily concerns the electroplating of threaded fasteners, but it may also be applied to other threaded parts. For the applicability to screws that cut or form their own mating threads, see clause 8.

The specifications given in this International Standard may also be applied to non-threaded parts such as washers and pins.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 965-1:1999, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data.*

ISO 965-2:1999, *ISO general purpose metric screw threads — Tolerances — Part 2: Limits of sizes for general purpose bolt and nut threads — Medium quality.*

ISO 965-3:1999, *ISO general purpose metric screw threads — Tolerances — Part 3: Deviations for constructional threads.*

ISO 1456:1988, *Metallic coatings — Electrodeposited coatings of nickel plus chromium and of copper plus nickel plus chromium.*

ISO 1458:1988, *Metallic coating — Electrodeposited coatings of nickel.*

ISO 1502:1996, *ISO general purpose metric screw threads — Gauges and gauging.*

ISO 2064:1996, *Metallic and other non-organic coatings — Definitions and conventions concerning the measurement of thickness.*

ISO 2081:1986, *Metallic coatings — Electroplated coatings of zinc on iron or steel.*

ISO 2082:1986, *Metallic coatings — Electroplated coatings of cadmium on iron or steel.*

ISO 3269:—¹⁾, *Fasteners — Acceptance inspection.*

ISO 4520:1981, *Chromate conversion coatings on electroplated zinc and cadmium coatings.*

ISO 9227:1990, *Corrosion tests in artificial atmospheres — Salt spray tests.*

ISO 9587:—²⁾, *Metallic and other inorganic coatings — Pre-treatments of iron or steel for reducing the risk of hydrogen embrittlement.*

ISO 15330:—²⁾, *Fasteners — Preloading test for the detection of hydrogen embrittlement — Parallel bearing surface method.*

3 Terms and definitions

For the purposes of this International Standard, the definitions given in ISO 2064 (in particular, the definitions of significant surface, measuring area, local thickness and minimum local thickness) and ISO 3269 together with the following, apply.

3.1

batch

quantity of identical fasteners from the same manufacturing lot processed together at one time

3.2

production run

those batches of parts processed continuously without any changes in coating techniques or constituents

3.3

batch average thickness

calculated average thickness of a coating if it was uniformly distributed over the surface of the parts of the batch

3.4

baking

process of heating parts for a definite time at a given temperature in order to minimize the risk of hydrogen embrittlement

3.5

baking duration

time at which the parts are held at the specified temperature which they shall have completely reached

¹⁾ To be published. (Revision of ISO 3269:1988)

²⁾ To be published.



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