International Standard

ISO 10642

Fasteners — Hexagon socket countersunk head screws with reduced loadability

Fixations — Vis à tête fraisée à six pans creux à capacité de charge réduite

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Foreword

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This document was prepared by Technical Committee ISO/TC 2, *Fasteners*, Subcommittee SC 11, *Fasteners with metric external thread,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 185, *Fasteners,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 10642:2019), which has been technically revised.

The main changes are as follows:

— Note 2 in Clause 1, Scope, editorially improved;

— Figure 4 corrected with d substituted by D_a;

— Footnote e in Tables 1 and 2 corrected in the second sentence: Values for k_{min} are in relation to D_a.;

— Footnote f in Figure 1 corrected to $a \leq 3P$;

— Footnote h in Table 1 and Table 2 corrected to $3P$;

— Table 4 editorially revised according to the latest template for product standards;

— Table 5 revised according to the latest agreed rounding rules for fasteners with reduced loadability and wrong value for M3 with property class 12.9 corrected;

— Labelling on package (6.2) editorially improved;

— Clause 7, Designation, editorially revised according to the latest template for product standards;

— value for M2, property class 70 in Table A.1 in Annex A corrected to the new rounding rules and Footnote a adjusted accordingly.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Fasteners — Hexagon socket countersunk head screws with reduced loadability

1 Scope

This document specifies the characteristics of hexagon socket countersunk head screws with reduced loadability due to head design, in steel and stainless steel, with metric coarse pitch threads M2 to M20, and with product grade A.

NOTE 1 Other dimensional options are given in ISO 888, ISO 965-1 and ISO 4753.

NOTE 2 The reduced loadability (related to the countersunk head dimensions in combination with penetration of the hexagon socket specified in this document) implies a limitation of ultimate tensile load shown by a specific marking (property class preceded by a zero). The loadability in the head is assumed to be 80 % of that in the thread for all sizes and all property classes; see Table 5.

NOTE 3 Particular attention is needed to ensure alignment of the countersunk head with the bearing surface of the countersink in the assembly.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 225, *Fasteners — Bolts, screws, studs and nuts — Symbols and descriptions of dimensions*

ISO 898-1, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 1: Bolts, screws and studs with specified property classes — Coarse thread and fine pitch thread*

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

ISO 1891-4, *Fasteners — Vocabulary — Part 4: Control, inspection, delivery, acceptance and quality*

ISO 3269, *Fasteners — Acceptance inspection*

ISO 3506-1, *Fasteners — Mechanical properties of corrosion-resistant stainless steel fasteners — Part 1: Bolts, screws and studs with specified grades and property classes*

ISO 4042, *Fasteners — Electroplated coating systems*

ISO 4753, *Fasteners — Ends of parts with external ISO metric thread*

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

ISO 6157-1, *Fasteners — Surface discontinuities — Part 1: Bolts, screws and studs for general requirements*

ISO 6157-3, *Fasteners — Surface discontinuities — Part 3: Bolts, screws and studs for special requirements*

ISO 8991, *Designation system for fasteners*

ISO 8992, *Fasteners — General requirements for bolts, screws, studs and nuts*

ISO 10683, *Fasteners — Non-electrolytically applied zinc flake coating systems*

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