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Third edition
2019-09

Fasteners — Hexagon socket countersunk head screws with reduced loadability

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



Reference number
ISO 10642:2019(E)

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 2, *Fasteners*, Subcommittee SC 11, *Fasteners with metric external thread*.

This third edition cancels and replaces the second edition (ISO 10642:2004), which has been technically revised. It also incorporates the Amendment ISO 10642:2004/Amd.1:2012. The main changes compared to the previous edition are as follows:

- the whole standard has been improved to clearly point out that these hexagon socket countersunk head screws have reduced loadability because of their head design (head dimensions and penetration of the hexagon socket);
- screws made of stainless steel have been added;
- detailed head configuration has been added (see [Figure 4](#));
- M2 and M2,5 have been added; as their minimum ultimate tensile loads for full loadability are not specified in ISO 898-1 and ISO 3506-1, they have been calculated with the same formulae accordingly (see [Annex A](#));
- the reference threaded length b has been increased to $3d$ for partially threaded screws M14 to M20, so that these screws can be tensile tested in accordance with ISO 3506-1 ($b \geq 3d$ is required to tensile test screws with reduced loadability);
- head height k_{\min} has been added as reference dimension in [Tables 1](#) and [2](#);
- wall thickness between driving feature and bearing face w_{\min} has been replaced by the depth of the internal driving feature t_{\max} (same method as for hexalobular internal drive);
- D_a , D_k and F are pointed out as gauge dimensions in [Table 3](#) (see also [Figure 5](#));
- the minimum nominal lengths of the standardized range have been determined in accordance with footnote g of [Tables 1](#) and [2](#) and therefore the shorter lengths for M4 to M20 were deleted.

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