



**International
Standard**

ISO 7380-3

**Fasteners — Button head screws
with reduced loadability —**

**Part 3:
Hexalobular socket button head
screws**

Fixations — Vis à tête cylindrique bombée plate à capacité de charge réduite —

Partie 3: Tête cylindrique bombée plate à six lobes internes

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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 document 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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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

A list of all parts in the ISO 7380 series can be found on the ISO website.

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.

Fasteners — Button head screws with reduced loadability —

Part 3: Hexalobular socket button head screws

1 Scope

This document specifies the characteristics of hexalobular socket button head screws with reduced loadability due to head design, in steel and stainless steel, with metric coarse pitch threads M3 to M12, and with product grade A.

If, in certain cases, other specifications are requested, property classes and stainless steel grades can be selected from ISO 898-1 or ISO 3506-1, and the dimensional options from ISO 888 or ISO 4753.

NOTE The reduced loadability (related to the head dimensions in combination with penetration of the hexalobular 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 4](#).

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 888, *Fasteners — Bolts, screws and studs — Nominal lengths and thread lengths*

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 8991, *Designation system for fasteners*

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

ISO 10664, *Hexalobular internal driving feature for bolts and screws*

3 Terms and definitions

No terms and definitions are listed in this document.

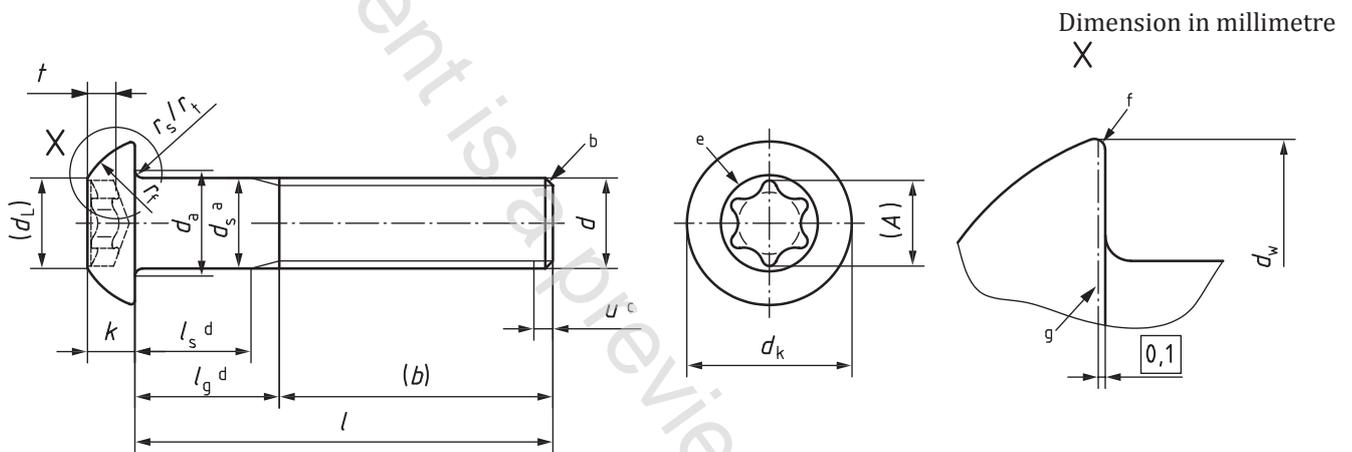
ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Dimensions

For dimensions see [Figure 1](#) and [Tables 1](#) and [2](#).

Symbols and their descriptions shall be as specified in ISO 225.



Key

- r_s underhead radius for screws with unthreaded shank
- r_t underhead radius for fully threaded screws
- d_s^a specified in [Table 1](#) only applies if $l_{s,min}$ is specified in [Table 2](#).
- b In accordance with ISO 4753: chamfered end (CH), but for sizes \leq M4 as rolled end (RL) is also allowed.
- c Incomplete thread $u \leq 2P$.
- d $l_{g,max} = l_{nom} - b$ and $l_{s,min} = l_{g,max} - 5P$.
- e A slight rounding or countersink at the mouth of the socket is permissible.
- f Contour at the discretion of the manufacturer.
- g Reference datum for d_w .

Figure 1 — Hexalobular socket button head screw