SLOVENSKI STANDARD
oSIST prEN ISO 7380-2:2022

01-januar-2022

Vezni elementi - Vijaki s sploščeno polkrožno glavo z manjšo obremenljivostjo - 2. del: Sploščena polkrožna glava z robom in notranjim šestkotnikom (ISO/DIS 7380-2:2021)

Fasteners - Button head screws with reduced loadability - Part 2: Hexagon socket button head screws with collar (ISO/DIS 7380-2:2021)

Mechanische Verbindungselemente - Schrauben mit abgeflachtem Halbrundkopf mit reduzierter Belastbarkeit - Teil 2: Schrauben mit abgeflachtem Halbrundkopf mit Innensechskant und Bund (ISO/DIS 7380-2:2021)

Fixations - Vis à tête cylindrique bombée plate à capacité de charge réduite - Partie 2: Tête cylindrique bombée plate à six pans creux et embase plate (ISO/DIS 7380-2:2021)

Ta slovenski standard je istoveten z: **prEN ISO 7380-2**

ICS:

21.060.10	Sorniki, vijaki, stebelni vijaki	Bolts, screws, studs

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Fasteners — Button head screws with reduced loadability —

Part 2:
Hexagon socket button head screws with collar

Partie 2: Tête cylindrique bombée plate à six pans creux à embase plate

ICS: 21.060.10

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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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*.

This second edition cancels and replaces the first edition (ISO 7380-2:2011), which has been technically revised.

The main changes compared to the previous edition are as follows:

— the whole standard including title has been improved to clearly point out that these hexagon socket button head screws have reduced loadability because of their head design (head dimensions and penetration of the hexagon socket);

— the reference thread length b has been increased to $3d$ for partially threaded screws M16 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);

— the reference datum for the outer diameter of the bearing face has been specified in accordance with other relevant product standards (see Figure 1), and the minimum values have been reduced to $d_{w,min} = d_{c,min} \times 0{,}9$ considering the manufacturing aspects for “button head with collar”(see Table 1);

— e_{min} values have been rounded to two decimal places (see Table 1);

— the maximum depth of the hexagon socket t_{max} has been added (see Table 1);

— the definition of r_f in Figure 1 has been changed to allow the offset of the centre of the radius from the thread axis;

— the smallest and greatest standardized nominal lengths have been amended (see Table 2);

— the minimum ultimate tensile loads were recalculated and have been changed to more precise values M5, M12 and M16 with property class 8.8, and M3, M6 and M10 with property class 10.9 (see Table 4);

— a new Clause 6, Marking and labelling, has been added.

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 2:
Hexagon socket button head screws with collar

1 Scope

This document specifies the characteristics of hexagon socket button head screws with collar, with reduced loadability, with metric coarse pitch threads M3 to M16, and with product grade A.

NOTE The reduced loadability (related to the head dimensions in combination with penetration of the hexagon socket specified in this document) implies a limitation of ultimate tensile load. 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.

If in certain cases other specifications are requested, dimensional options can be selected from ISO 888 or ISO 4753.

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 4042, *Fasteners — Electroplated coatings*

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

3 Terms and definition

No terms and definitions are listed in this document.

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

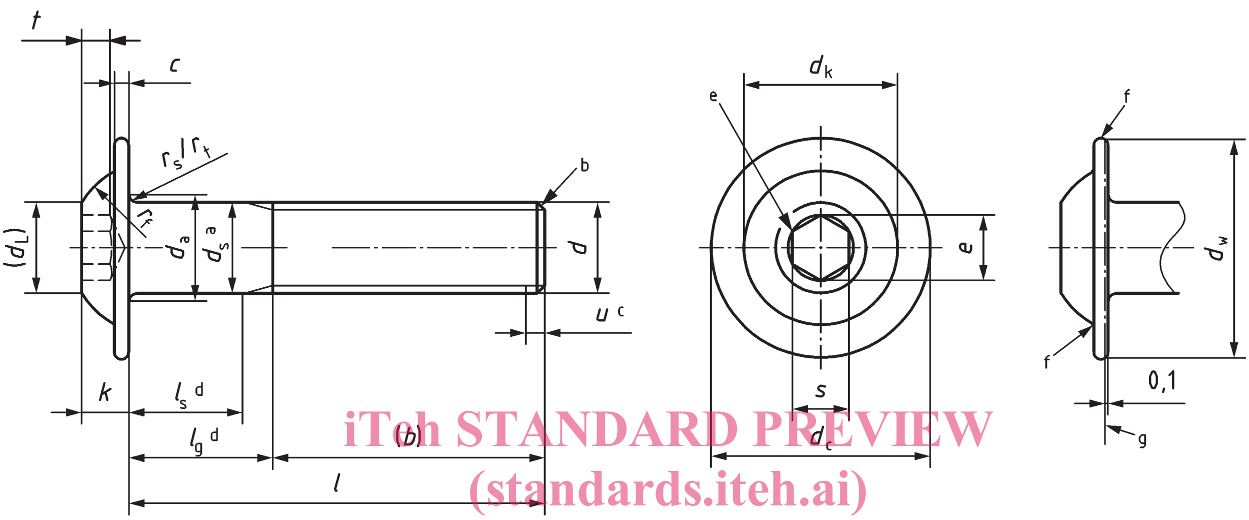
— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Dimensions

Dimensions shall be in accordance with Figure 1 to Figure 3 and with Table 1 and Table 2.

Symbols and descriptions of dimensions are specified in ISO 225.



Key

r_s underhead radius for a screw with unthreaded shank

r_t underhead radius for a fully threaded screw

a d_s only applies if $l_{s,min}$ is specified.

b In accordance with ISO 4753, chamfered end (CH) or for sizes ≤ M4 as rolled end (RL).

c Incomplete thread $u \leq 2P$.

d $l_{g,max} = l_{nom} - b$; $l_{s,min} = l_{g,max} - 5P$.

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 — Hexagon socket button head screw with collar

