

Countersunk flat head screws (common head style) with type H or type Z cross recess - Product grade A - Part 2: Steel of property class 8.8, stainless steel and non-ferrous metals (ISO 7046-2:2011)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 7046-2:2011 sisaldab Euroopa standardi EN ISO 7046-2:2011 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 30.09.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.09.2011.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 7046-2:2011 consists of the English text of the European standard EN ISO 7046-2:2011.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 30.09.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 01.09.2011.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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English Version

Countersunk flat head screws (common head style) with type H
or type Z cross recess - Product grade A - Part 2: Steel screws
of property class 8.8, stainless steel screws and non-ferrous
metal screws (ISO 7046-2:2011)

Vis à métaux à tête fraisée à empreinte cruciforme de type
H ou de type Z - Grade A - Partie 2: Vis en acier de classe
de qualité 8.8, vis en acier inoxydable et vis en métaux non
ferreux (ISO 7046-2:2011)

Senkschrauben (Einheitskopf) mit Kreuzschlitz Form H
oder Form Z - Produktklasse A - Teil 2: Stahl mit
Festigkeitsklasse 8.8, nichtrostender Stahl und
Nichteisenmetalle (ISO 7046-2:2011)

This European Standard was approved by CEN on 8 August 2011.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN ISO 7046-2:2011) has been prepared by Technical Committee ISO/TC 2 "Fasteners" in collaboration with Technical Committee CEN/TC 185 "Fasteners" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2012, and conflicting national standards shall be withdrawn at the latest by March 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 7046-2:1994.

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Endorsement notice

The text of ISO 7046-2:2011 has been approved by CEN as a EN ISO 7046-2:2011 without any modification.

Introduction

The penetration depth of cross recesses for countersunk flat head screws is intended to satisfy two requirements, which act in opposite directions for a given head dimension.

Firstly, there is the requirement for sufficient head strength to attain the proof and breaking loads of the respective property class. A shallow cross recess increases the head strength. On the other hand, it is necessary for the wrench ability of the screw to be satisfactory; this can only be achieved by a sufficiently deep cross recess.

ISO 7721-2 was developed in order to find a compromise which, as far as possible, would meet both requirements.

ISO 7721-2 specifies deep cross recesses for countersunk head screws of low strength: a good wrench ability is achieved and the head strength is still sufficient. This execution is used in ISO 7046-1 (see the Foreword).

For screws of higher strength, sufficient head strength can only be attained by a shallower penetration depth of the cross recesses. If such screws also require good wrench ability, then, under the conditions of the common head style, it is necessary for a shoulder to be provided under the head, in addition to the larger penetration depth, in order to guarantee sufficient head strength. This part of ISO 7046 covers both possibilities.

This compromise, which unfortunately results in different, but interchangeable, types of cross-recessed flat countersunk head screws, is the only way of reaching an agreement at the international level.

Countersunk flat head screws (common head style) with type H or type Z cross recess — Product grade A —

Part 2: Steel screws of property class 8.8, stainless steel screws and non-ferrous metal screws

1 Scope

This part of ISO 7046 specifies the characteristics of recessed countersunk flat head screws with threads M2 up to and including M10, of grade A and of property class 8.8 for steel, A2-70 for stainless steel and CU2 and CU3 for non-ferrous metals.

If, in special cases, specifications other than those listed in this part of ISO 7046 are required, they can be selected from existing International Standards, for example ISO 261, ISO 888, ISO 898-1, ISO 965-2, ISO 3506-1, ISO 4759-1 and ISO 8839.

2 Normative references

The following referenced documents are indispensable for the application 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 261, *ISO general purpose metric screw threads — General plan*

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 965-2, *ISO general purpose metric screw threads — Tolerances — Part 2: Limits of sizes for general purpose external and internal screw threads — Medium quality*

ISO 3269, *Fasteners — Acceptance inspection*

ISO 3506-1, *Mechanical properties of corrosion-resistant stainless steel fasteners — Part 1: Bolts, screws and studs*

ISO 4042, *Fasteners — Electroplated coatings*

ISO 4757, *Cross recesses for screws*

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 7721-2, *Countersunk flat head screws — Part 2: Penetration depth of cross recesses*

ISO 8839, *Mechanical properties of fasteners — Bolts, screws, studs and nuts made of non-ferrous metals*

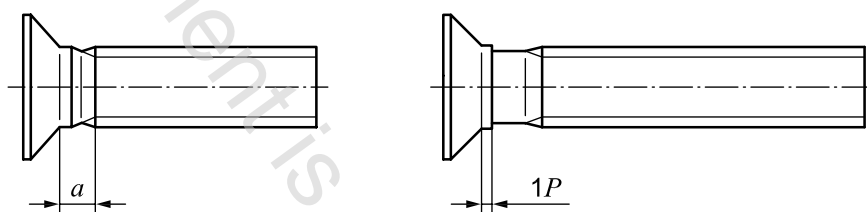
ISO 10683, *Fasteners — Non-electrolytically applied zinc flake coatings*

ISO 16048, *Passivation of corrosion-resistant stainless-steel fasteners*

3 Dimensions

See Figures 1, 2 and 3 and Table 1. Symbols and descriptions of dimensions are specified in ISO 225.

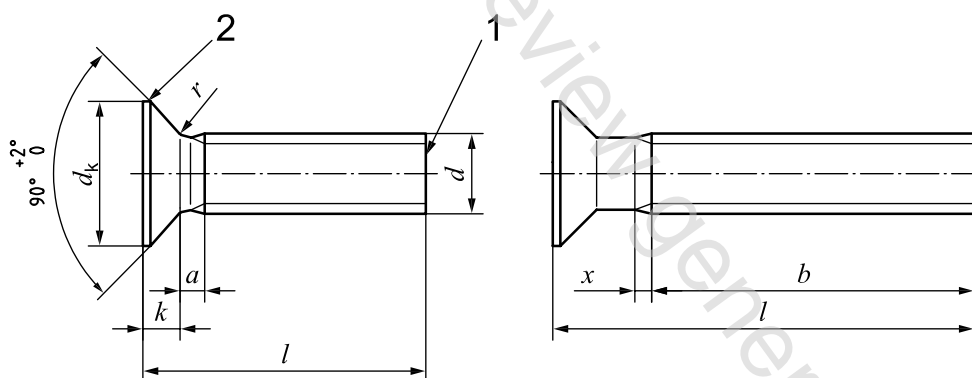
The shank diameter is approximately equal to the pitch diameter or equal to the permissible major thread diameter.



$$a_{\max} = 2,5P$$

NOTE For other dimensions, see Figures 2 and 3.

Figure 1 — Screw with underhead shoulder for penetration depth series 1 — Deep



$$a_{\max} = 2P$$

Key

- 1 as-rolled end
- 2 edge (rounded or flat)

Figure 2 — Screw without underhead shoulder for penetration depth series 2 — Shallow