



NSAI
Standards

Irish Standard
I.S. EN ISO 7046-2:2011

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)

I.S. EN ISO 7046-2:2011

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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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Contents

Page

| | |
|----------------------|----------|
| Foreword..... | 3 |
|----------------------|----------|

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of an identical text or by endorsement, at the latest by March 2012, and conflicting national standards shall be withdrawn at the latest by March 2012.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.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

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

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I.S. EN ISO 7046-2:2011
**INTERNATIONAL
STANDARD**

**ISO
7046-2**

Second edition
2011-09-01

**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**

*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*



Reference number
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 7046-2 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 7046-2:1990), of which it constitutes a minor revision.

ISO 7046 consists of the following parts, under the general title *Countersunk flat head screws (common head style) with type H or type Z cross recess — Product grade A*:

- *Part 1: Steel screws of property class 4.8*
- *Part 2: Steel screws of property class 8.8, stainless steel screws and non-ferrous metal screws*

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.

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