



JAPANESE
INDUSTRIAL
STANDARD

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JIS B 1014 : 1994

(ISO 7721-2 : 1990)

(Reaffirmed in 1999)

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

ICS 21.040.01

Descriptors : countersunk fasteners, screws (bolts), depth, penetration tests, recessed-head fasteners

Reference number : JIS B 1014 : 1994 (E)

B 1014 : 1994 (ISO 7721-2 : 1990)

Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Countersunk flat head screws— Part 2 : Penetration depth of cross recesses

Foreword for Japanese Industrial Standard

This Japanese Industrial Standard has been prepared based on **ISO 7721-2 Countersunk flat head screws—Part 2 : Penetration depth of cross recesses** issued in 1990 as the first edition without changing the technical contents.

The “Informative references” underlined with dots in this Standard show the matters not specified in the original International Standard.

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

First, 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, the wrenchability of the screw should be satisfactory; this can only be achieved by a sufficiently deep cross recess.

This Standard was developed in order to find a compromise which, as far as possible, would meet both requirements.

This Standard specifies deep cross recesses for countersunk head screws of low strength: a good wrenchability is achieved and the head strength is still sufficient. This execution will be used in **ISO 7046-1** (see Annex A).

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 wrenchability, then, under the conditions of the common head style, a shoulder has to be provided under the head, in addition to the larger penetration depth, in order to guarantee sufficient head strength.

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

1 Scope This Standard specifies the penetration depth of cross recesses of countersunk flat head screws for the two series 1 and 2 (deep and shallow, respectively).

2 Normative references The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 225 : 1983 *Fasteners—Bolts, screws, studs and nuts—Symbols and designations of dimensions*