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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



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Foreword

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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.