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**Assembly tools for screws and nuts —  
Technical specifications —**

Part 2:  
**Machine-operated sockets (impact)**

*Outils de manoeuvre pour vis et écrous — Spécifications techniques —  
Partie 2: Douilles à machine (impact)*

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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](http://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](http://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 on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 10, *Assembly tools for screws and nuts, pliers and nippers*.

This third edition cancels and replaces the second edition (ISO 1711-2:2015), which has been technically revised with the following changes:

- [Clause 4](#) has been added, giving empiric formulae for minimum test torsion torques as a function of width across flats;
- in [7.1](#) the angle chamfer  $\alpha$  of the test mandrel in [Figure 1](#) has been changed from 30° max to 15° ≤  $\alpha$  ≤ 30°;
- revision of sizes for width across flats covered in [Table 3](#); Sizes 3,5, 4,5, 26 and 28 have been deleted;
- revision of minimum test torque values in [Table 3](#).

A list of all parts in the ISO 1711 series can be found on the ISO website.

## Introduction

When testing machine-operated impact sockets, there are three types of testing that could be relevant:

- torsional testing;
- impact testing;
- endurance testing.

This document covers only torsional testing of machine-operated sockets. Presently, the torsional test and hardness values given in this document ensure sockets will last a reasonable impact life if the appropriate tool is used.

An impact test or endurance test is desired, but at present, there is no procedure suitable for standardization available. This will be an issue for a future revision of this document.



# Assembly tools for screws and nuts — Technical specifications —

## Part 2: Machine-operated sockets (impact)

### 1 Scope

This document specifies hardness and minimum torsional strength for machine-operated square drive sockets in accordance with ISO 2725-2 intended for use with impact wrenches.

EXAMPLE Reference nos. 2 2 02 01 0; 2 2 02 02 0; 5 2 00 04 0.

NOTE The sockets mentioned above are listed under their respective reference numbers in ISO 1703.

### 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 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

### 3 Terms and definitions

No terms and definitions are listed in this document.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### 4 Test torsion torques

The empiric formulae giving minimum test torsion torques,  $M$ , in newton metres, as a function of width across flats,  $s$ , in millimetres, are given for information in [Table 1](#).

The minimum test torsion torques to be applied are given in [Table 3](#).

**Table 1 — Formulae giving minimum test torsion torques**

Nominal dimension for driving square	Minimum test torsion torque
	$M$ N · m
6,3	$s^{1,7}$
10	$0,6 \cdot s^{2,3}$
12,5	$1,85 \cdot s^2$