

INTERNATIONAL STANDARD

ISO
3315

Second edition
1988-10-01



INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALISATION
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Assembly tools for screws and nuts — Driving parts for hand-operated square drive socket wrenches — Torque testing

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ISO 3315:1988

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Reference number
ISO 3315:1988 (E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 3315 was prepared by Technical Committee ISO/TC 29, *Small tools*.

This second edition cancels and replaces the first edition (ISO 3315:1975), clause 5 of which has been technically revised.

ISO 3315:1988

http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=41d-435f-9876-8ad5cf359087/iso-3315-1988

Assembly tools for screws and nuts — Driving parts for hand-operated square drive socket wrenches — Torque testing

1 Scope

This International Standard applies to driving parts for hand-operated square drive socket wrenches listed under numbers 253, 255, 256, 257, 251, 252 and 254 in ISO 1703 : 1983, *Assembly tools for screws and nuts — Nomenclature*. It specifies

- a) the minimum hardness value for their driving squares;
- b) the method of torque testing;
- c) the minimum torsional strength values.

2 Normative reference

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

ISO 1174 : 1975, *Assembly tools for bolts and screws — Driving squares for power socket wrenches and hand socket wrenches*.

3 Driving squares

Driving squares shall be in accordance with ISO 1174, and have a minimum hardness of 39 HRC.

4 Torque testing

4.1 Procedure

Place the tool in a female test square and apply the corresponding torque.

Do not jerk or strike the tool when testing and apply the load gradually until the minimum testing torque (see clause 5) is reached. The torque is calculated as the product of the magnitude of the load by the distance measured between the point of application of the load and the axis of the female test square.

The across flats dimension of the female test square shall be equal to the minimum dimension of the corresponding female square (see ISO 1174) with a tolerance of H8; the female test square shall be hardened to not less than 55 HRC.

A device in which the female test square can be rotated at a certain torque, determined with an accuracy of $\pm 2,5\%$, may also be used for this test.

Following the application of the minimum test torque, the tool shall not show permanent deformation or other damage which could affect its usability.

4.2 Special requirements

4.2.1 Test of tee handle square drive

Draw out the handle completely at one end and apply the load to the end farthest from the test square.

4.2.2 Test of speed brace

Apply the load in the middle of the part on which the operator's hand normally rests.

4.2.3 Test of ratchet handle and reversible ratchet handle

Apply the load as near to the end of the handle as possible.

For tools having a reversible ratchet, type 257, the test shall be carried out in both directions.

4.2.4 Test of male square spin type handle

An appropriate appliance shall allow the load to be applied to the handle without clamping the handle on the rod, which could alter the test result.

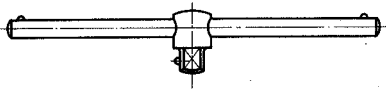
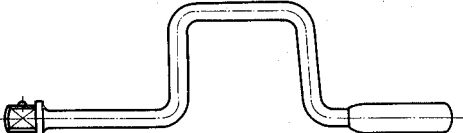
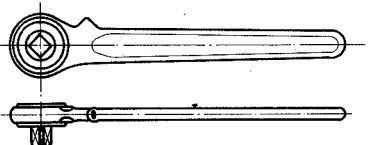


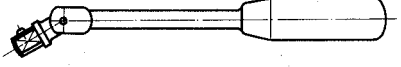
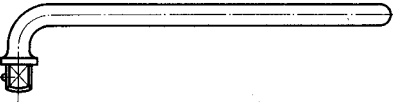
4.2.5 Test of flex head nut spinner

Apply the load as near as possible to the end of the handle, which is placed at right angles to the axis of the square.

4.2.6 Test of offset handle square drive

Apply the load as near to the end of the handle as possible.

5 Minimum test torque, M

No.	Tool	Designation	Nominal dimension of driving square	Torque ¹⁾ M min.
			mm	N·m
253		Tee handle square drive	6,3	55
			10	180
			12,5	455
			20	1 255
			25	2 236
255		Speed brace	6,3	24
			10	79
			12,5	199
			20	549
			25	978
256		Ratchet handle	6,3	62
			10	202
			12,5	512
			20	1 412
			25	2 515
257		Reversible ratchet handle	6,3	62
			10	202
			12,5	512
			20	1 412
			25	2 515
251		Male square spin type handle	6,3	10
			10	34
252		Flex head nut spinner	6,3	62
			10	202
			12,5	512
254		Offset handle square drive	6,3	62
			10	202
			12,5	512

1) Torques M have been calculated using the maximum values from series E of ISO 1711 : 1975, *Hand operated wrenches and sockets — Technical specifications*, multiplied by the following coefficients :

- No. 253 : 0,8
- No. 255 : 0,35
- Nos. 256, 257, 252 and 254 : 0,9
- No. 251 : 0,15

UDC 621.883 : 620.175

Descriptors : tools, assembly tools, hand tools, wrenches, specifications, tests, torsion tests.

Price based on 2 pages