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**Assembly tools for screws and nuts —  
Machine-operated screwdriver bits —**

**Part 1:  
Screwdriver bits for slotted head screws**

*Outils de manœuvre pour vis et écrous — Embouts tournevis à machine —  
Partie 1: Embouts tournevis pour vis à tête fendue*  
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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 3.

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 part of ISO 2351 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 2351-1 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 10, *Assembly tools for screws and nuts, pliers and nippers*.

This first edition of ISO 2351-1 cancels and replaces ISO 2351:1986, which has been technically revised.

ISO 2351 consists of the following parts, under the general title *Assembly tools for screws and nuts — Machine-operated screwdriver bits*:

- Part 1: *Screwdriver bits for slotted head screws*
- Part 2: *Screwdriver bits for cross-recessed head screws*
- Part 3: *Screwdriver bits for hexagon socket screws*

# Assembly tools for screws and nuts — Machine-operated screwdriver bits —

## Part 1: Screwdriver bits for slotted head screws

### 1 Scope

This part of ISO 2351 prescribes the technical specifications for machine-operated screwdriver bits for slotted head screws. It applies to bits with male hexagon drive or with cylindrical flat end drive as defined in ISO 1173, and to tips for screwdrivers type C as defined in ISO 2380-1.

It also gives recommended combinations between tips and bits.

### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 2351. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 2351 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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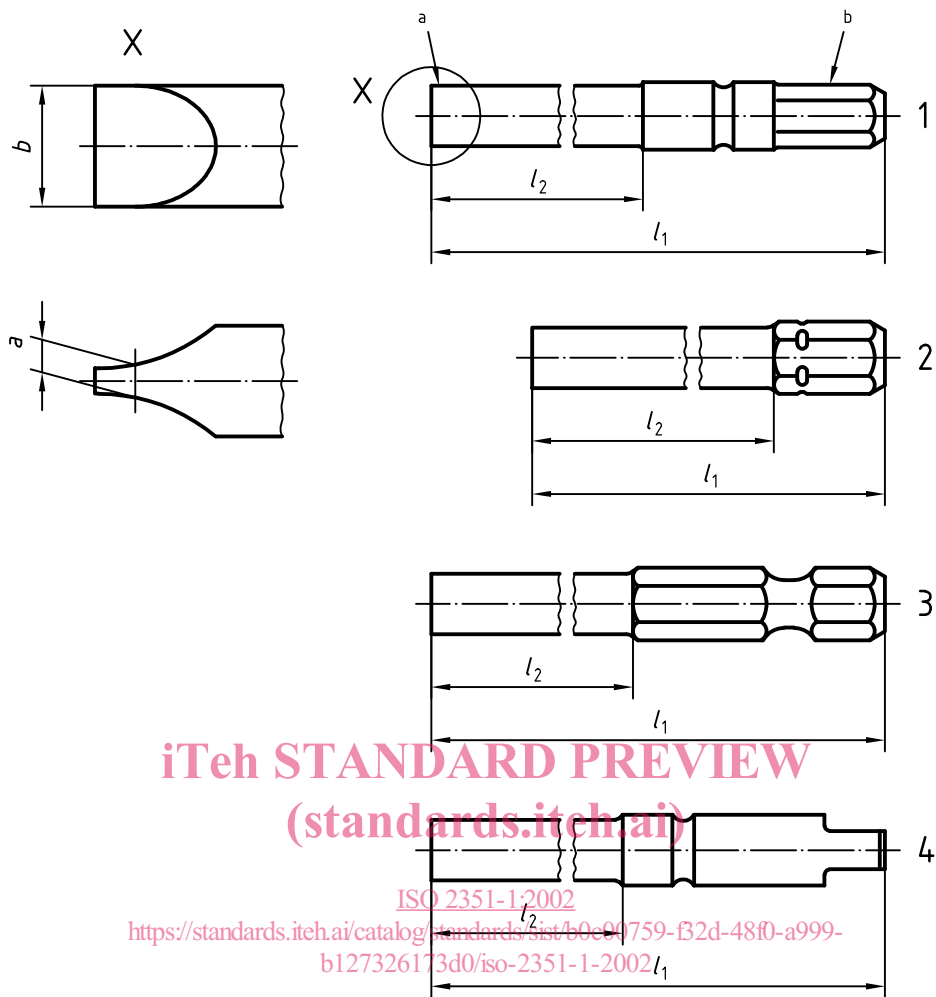
ISO 1173, *Assembly tools for screws and nuts — Drive ends for hand- and machine-operated screwdriver bits and connecting parts — Dimensions, torque testing*

ISO 2380-1, *Assembly tools for screws and nuts — Screwdrivers for slotted-head screws — Part 1: Tips for hand- and machine-operated screwdrivers*

### 3 Dimensions

Figure 1 and Table 1 show the recommended combinations of screwdriver bits for slotted head screws.

The shape of the liaison between the tip and the driver end is at the discretion of the manufacturer.



**Key**

- 1 Form A
- 2 Form C
- 3 Form E
- 4 Form G

<sup>a</sup> Part in contact with the screw (in accordance with ISO 2380-1, type C)

<sup>b</sup> Driver end (in accordance with ISO 1173)

**Figure 1 — Screwdriver bits**

Table 1 — Recommended combinations between tip and driver end

Dimensions in millimetres

Nominal dimensions of tips (in accordance with ISO 2380-1, type C)		Male hexagon or cylindrical flat end of form and dimensions (in accordance with ISO 1173)									
Thickness <i>a</i>	Width <i>b</i>	A 3	A 5,5	C 4	C 6,3	C 8	C 12,5	E 6,3	E 8	E 11,2	G 7
		<i>l</i> <sub>1</sub> max.									
		51		29	40	42	51	51	86		54
		<i>l</i> <sub>2</sub> min.									
		25		11	13	14	14	24	52	47	25
0,4	2	×		×							
	2,5	×		×	×						
0,5	3	×	×	×	×			×			×
	4	×	×	×	×			×			×
0,6	3	×	×	×	×			×			×
	3,5	×	×	×	×			×			×
	4,5	×	×	×	×			×			×
0,8	4	×	×	×	×			×		×	×
	5,5	×	×	×	×	×		×	×	×	×
1	4,5	×	×	×	×	×		×	×	×	×
	5,5	×	×	×	×	×		×	×	×	×
	6		×	×	×	×		×	×	×	×
1,2	6,5		×		×	×		×	×	×	×
	8		×		×	×		×	×	×	×
1,6	8		×		×	×	×	×	×	×	×
	10		×		×	×	×	×	×	×	×
2	12					×	×		×	×	
2,5	14					×	×		×	×	

#### 4 Technical requirements

The bits must have a complete heat treatment.

The technical specifications of bits are the same as those for screwdrivers in accordance with ISO 2380-1 type C.

#### 5 Torque test

Torque testing shall be carried out in accordance with ISO 2380-1, type C.

Torque test values are listed in Table 2. These values apply only to connecting parts made of alloyed steel for hardening and tempering or to steel, heat treated over the whole length, having a hardness of at least 64 HRC.

Table 2 — Torque test

Dimensions in millimetres

Nominal thickness (in accordance with ISO 2380-1, type C) <i>a</i>	Nominal width (in accordance with ISO 2380-1, type C) <i>b</i>	Torque $M_{\min}$ N · m
0,4	2	0,35
	2,5	0,45
0,5	3	0,8
	4	1,1
0,6	3	1,2
	3,5	1,4
	4,5	1,8
0,8	4	2,9
	5,5	3,9
1	4,5	5,1
	5,5	6,2
	6	6,7
1,2	6,5	10,5
	8	12,9
1,6	8	22,9
	10	28,7
2	12	53,8
2,5	14	98

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## 6 Designation

A screwdriver bit in accordance with this part of ISO 2351 shall be designated by:

- a) "Bit";
- b) reference to this part of ISO 2351, i.e. ISO 2351-1;
- c) the form and the dimensions of the driver end (in accordance with ISO 1173);
- d) the dimensions of the tip (in accordance with ISO 2380-1, type C).

EXAMPLE A screwdriver bit for slotted head screws with a drive end E 11,2 (in accordance with ISO 1173) and the tip dimensions 1,6 mm × 8 mm (in accordance with ISO 2380-1, type C) is designated as follows:

**Bit ISO 2351-1 E 11,2 - 1,6 × 8**

## 7 Marking

Screwdriver bits in accordance with this part of ISO 2351 shall be marked permanently and legibly with

- a) the name of the manufacturer or supplier;
- b) dimensions of the tip,  $a \times b$ .

For male hexagons A 3 and C 4, the marking shall be given only on the smallest commonly used packaging unit.

## Bibliography

- [1] ISO 1703, *Assembly tools for screws and nuts — Nomenclature*
- [2] ISO 2351-2, *Assembly tools for screws and nuts — Machine-operated screwdriver bits — Part 2: Screwdriver bits for cross-recessed head screws*
- [3] ISO 2351-3, *Assembly tools for screws and nuts — Machine-operated screwdriver bits — Part 3: Screwdriver bits for hexagon socket screws*

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