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**Metal slitting saws with fine and  
coarse teeth — Metric series**

*Fraises-scies à dentures fine et grosse — Série métrique*

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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)).

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For an explanation of the voluntary nature of standards, 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 9, *Tools with defined cutting edges, holding tools, cutting items, adaptive items and interfaces*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

This third edition cancels and replaces the second edition (ISO 2296:2011), of which it constitutes a minor revision.

The main changes compared to the previous edition are as follows:

- addition of [Annex B](#);
- editorial changes to align with the ISO/IEC Directives.

# Metal slitting saws with fine and coarse teeth — Metric series

## 1 Scope

This document specifies the dimensions and the mechanical characteristics of metal slitting saws, metric series. It applies to the following two types of metal slitting saws:

- metal slitting saws with fine teeth;
- metal slitting saws with coarse teeth.

If there is a need to extend the range or introduce other series of teeth, it is intended that such additions be according to the data given in the graph in [Annex A](#).

## 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 240, *Milling cutters — Interchangeability dimensions for cutter arbors or cutter mandrels*

ISO 2924, *Solid and segmental circular saws for cold cutting of metals — Interchangeability dimensions of the drive — Saw diameter range 224 to 2 240 mm*

## 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:

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

## 4 Dimensions and number of teeth

### 4.1 General

The ratio between the number of teeth for saws with coarse teeth and the number of teeth for saws with fine teeth is 0,5 and specific values are related to saw diameter and thickness.

### 4.2 Dimensions of metal slitting saws with fine teeth

The dimensions of metal slitting saws with fine teeth shall be in accordance with the indications given in [Figure 1](#) and [Table 1](#).

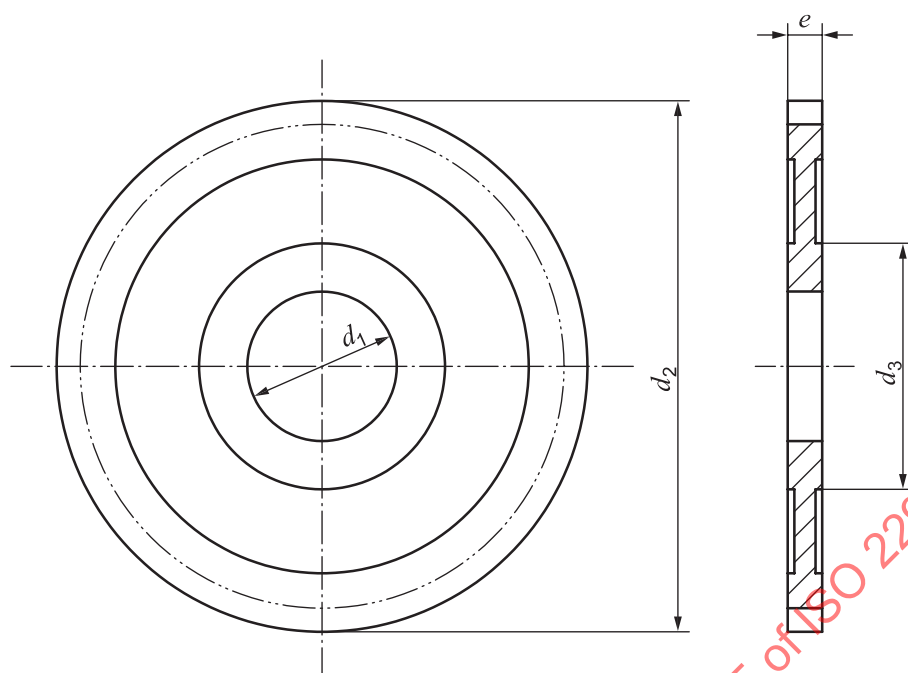


Figure 1 — Dimensions of metal slitting saws

Table 1 — Dimensions of metal slitting saws with fine teeth

Dimensions in millimetres

|            |        |                    |      |                 |     |     |     |     |     |     |     |     |     |     |
|------------|--------|--------------------|------|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| $d_1$ H7   |        | 5                  | 8    |                 | 10  | 13  | 16  | 22  |     |     | 32  |     |     | 40  |
| $d_2$ js16 |        | 20                 | 25   | 32              | 40  | 50  | 63  | 80  | 100 | 125 | 160 | 200 | 250 | 315 |
| $d_3$ min. |        | Without hub        |      |                 |     |     |     | 34  |     |     | 47  | 63  |     | 80  |
| $e$ js11   |        | Pitch <sup>a</sup> |      | Number of teeth |     |     |     |     |     |     |     |     |     |     |
| 0,2        | ±0,030 | 0,8                | 80   | 80              | 100 | 128 |     |     |     |     |     |     |     |     |
| 0,25       |        | 1,0                | 64   |                 | 80  | 100 | 128 |     |     |     |     |     |     |     |
| 0,3        |        |                    | 1,25 |                 | 64  | 80  | 100 | 128 | 160 |     |     |     |     |     |
| 0,4        |        |                    |      | 1,6             | 48  | 64  | 80  | 100 | 128 | 160 |     |     |     |     |
| 0,5        |        | 2,0                |      |                 | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |     |
| 0,6        |        |                    | 2,5  |                 | 40  | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |
| 0,8        |        |                    |      | 3,2             | 40  | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |
| 1,0        |        | 4,0                |      |                 | 40  | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |
| 1,2        |        |                    | 5,0  |                 | 40  | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |
| 1,6        |        |                    |      | 6,3             | 40  | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |
| 2,0        |        | 8,0                |      |                 | 40  | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |
| 2,5        | 10,0   |                    | 40   |                 | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |     |
| 3,0        |        |                    | 12,5 | 40              | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |     |
| 4,0        |        | 16,0               |      | 40              | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |     |
| 5,0        | 20,0   |                    |      | 40              | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |     |
| 6,0        |        |                    | 25,0 | 40              | 48  | 64  | 80  | 100 | 128 | 160 | 200 |     |     |     |
|            |        |                    |      | 3,2             |     | 4,0 |     | 5,0 |     |     | 6,3 |     |     |     |

a The tooth pitch, in relation to the number of teeth of a metal slitting saw of a given diameter, is expressed as an approximate rounded value.

### 4.3 Dimensions of metal slitting saws with coarse teeth

The dimensions of metal slitting saws with coarse teeth shall be in accordance with the indications given in [Figure 1](#) and [Table 2](#).

**Table 2 — Dimensions of metal slitting saws with coarse teeth**

Dimensions in millimetres

|            |        |                    |                 |    |     |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
|------------|--------|--------------------|-----------------|----|-----|----|-----|------|-----|-----|------|-----|--|--|--|--|--|--|--|--|--|
| $d_1$ H7   |        | 8                  | 10              | 13 | 16  | 22 |     |      | 32  |     |      | 40  |  |  |  |  |  |  |  |  |  |
| $d_2$ js16 |        | 32                 | 40              | 50 | 63  | 80 | 100 | 125  | 160 | 200 | 250  | 315 |  |  |  |  |  |  |  |  |  |
| $d_3$ min. |        | Without hub        |                 |    |     | 34 |     |      | 47  | 63  |      | 80  |  |  |  |  |  |  |  |  |  |
| $e$ js11   |        | Pitch <sup>a</sup> | Number of teeth |    |     |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 0,3        | ±0,030 | 2,5                | 40              | 48 | 64  |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 0,4        |        |                    |                 | 48 | 64  |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 0,5        |        |                    |                 |    |     |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 0,6        |        | 3,2                | 32              | 40 | 48  | 64 |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 0,8        |        |                    |                 |    |     |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 1,0        |        |                    |                 |    |     |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 1,2        |        | 4,0                | 24              | 32 | 40  | 48 | 64  | 80   |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 1,6        |        |                    |                 |    |     |    |     | 80   |     |     |      | 100 |  |  |  |  |  |  |  |  |  |
| 2,0        |        |                    |                 |    |     |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 2,5        |        | 5,0                | 20              | 24 | 32  | 40 | 48  | 64   | 80  | 100 | 100  |     |  |  |  |  |  |  |  |  |  |
| 3,0        | ±0,037 |                    |                 |    |     |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 4,0        |        |                    |                 |    |     |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 5,0        |        |                    |                 |    |     |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
| 6,0        |        |                    |                 |    |     |    |     |      |     |     |      |     |  |  |  |  |  |  |  |  |  |
|            |        | 6,3                |                 |    | 8,0 |    |     | 10,0 |     |     | 12,5 |     |  |  |  |  |  |  |  |  |  |

<sup>a</sup> The tooth pitch, in relation to the number of teeth of a metal slitting saw of a given diameter, is expressed as an approximate rounded value.

<sup>a</sup> The tooth pitch, in relation to the number of teeth of a metal slitting saw of a given diameter, is expressed as an approximate rounded value.

## 5 Mechanical characteristics

### 5.1 Side relief

Metal slitting saws may have side relief up to the bore or up to a hub diameter,  $d_3$ . The side relief shall be at the manufacturer's discretion.

### 5.2 Keying

Metal slitting saws are generally supplied without keyways. The execution of the keyway, by agreement between the user and the manufacturer, shall be in accordance with the dimensions given in ISO 240.

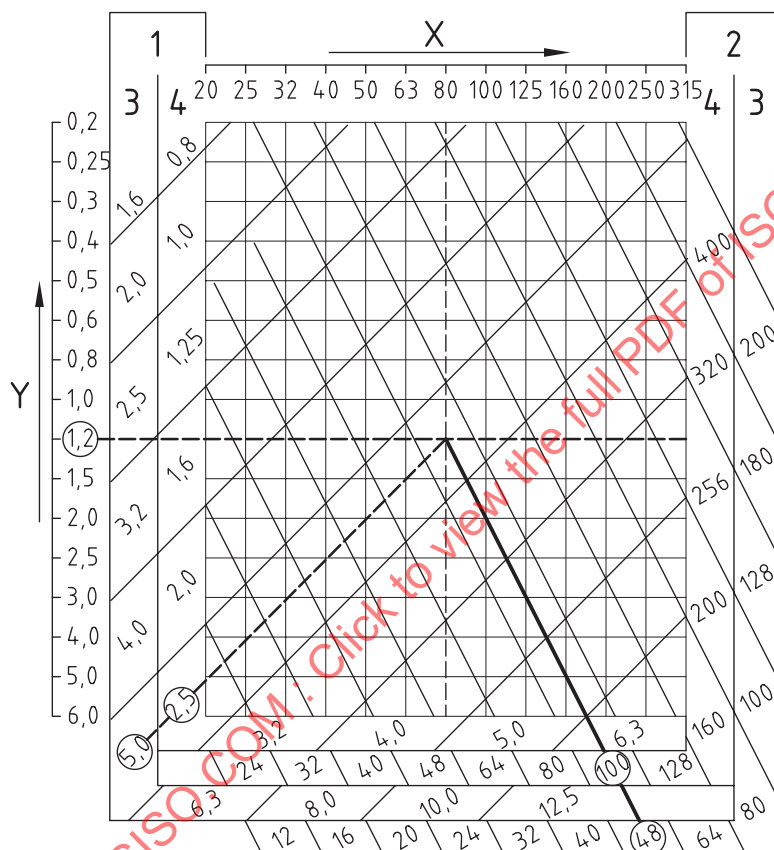
### 5.3 Metal slitting saws with pin hole drive

By agreement between the user and the manufacturer, metal slitting saws of diameters  $d_2 = 200$  mm,  $d_2 = 250$  mm and  $d_2 = 315$  mm may be supplied with pin hole drives. The number of these holes, their drilling diameters and their pitch circle diameters shall be in accordance with ISO 2924.

## Annex A (informative)

### Determination of the number or pitch of the teeth

The number or pitch of the teeth in accordance with the diameter and thickness of metal slitting saw is determined by using the graph shown in [Figure A.1](#).



#### Key

- X outside diameter,  $d_2$
- Y thickness,  $e$
- 1 pitch
- 2 number of teeth
- 3 coarse
- 4 fine

**Figure A.1 — Determination of the number or pitch of teeth in accordance with the diameter and thickness**

**EXAMPLE** Determination of the number or pitch of the teeth of a metal slitting saw with an outside diameter  $d_2 = 80$  mm and thickness  $e = 1,2$  mm.

At the intersection on the graph of the 80 and 1,2 lines, the oblique dotted line determines the pitch of the teeth: 2,5 mm for fine teeth and 5 mm for coarse teeth. From the same intersection, the oblique full line determines the number of teeth: 100 for fine toothing and 48 for coarse toothing.

## Annex B (informative)

### Relationship between designations in this document and ISO 13399 (all parts)

See [Table B.1](#).

**Table B.1 — Relationship between designations in this document and ISO 13399 (all parts)**

| Symbol in this document | Reference in this document                          | Property name in ISO 13399 (all parts)           | Symbol in ISO 13399 (all parts) | Reference in ISO 13399 (all parts) |
|-------------------------|-----------------------------------------------------|--------------------------------------------------|---------------------------------|------------------------------------|
| $d_1$                   | <a href="#">Figure 1</a><br><a href="#">Table 1</a> | connection diameter machine side                 | DCONMS                          | 71EBDBF5060E6                      |
| $d_1$ H7                | <a href="#">Table 1</a>                             | tolerance class connection diameter machine side | TCDCONMS                        | 72719B2BD8041                      |
| $d_2$                   | <a href="#">Figure 1</a><br><a href="#">Table 1</a> | cutting diameter                                 | DC                              | 71D084653E57F                      |
| $d_3$                   | <a href="#">Figure 1</a><br><a href="#">Table 1</a> | contact surface diameter machine side            | DCSFMS                          | 71D087D97FCE3                      |
| $e$                     | <a href="#">Figure 1</a><br><a href="#">Table 1</a> | cutting width                                    | CW                              | 71CEAEBE2B825                      |