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ISO 2296

Second edition
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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

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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 2296 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 2, *High speed steel cutting tools and their attachments*.

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This second edition cancels and replaces the first edition (ISO 2296:1972), of which it constitutes a minor revision. In particular, the normative references have been updated.

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Metal slitting saws with fine and coarse teeth — Metric series

1 Scope

This International Standard 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

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The following referenced documents are indispensable for the application 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.

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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 Dimensions and number of teeth

3.1 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.

3.2 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.

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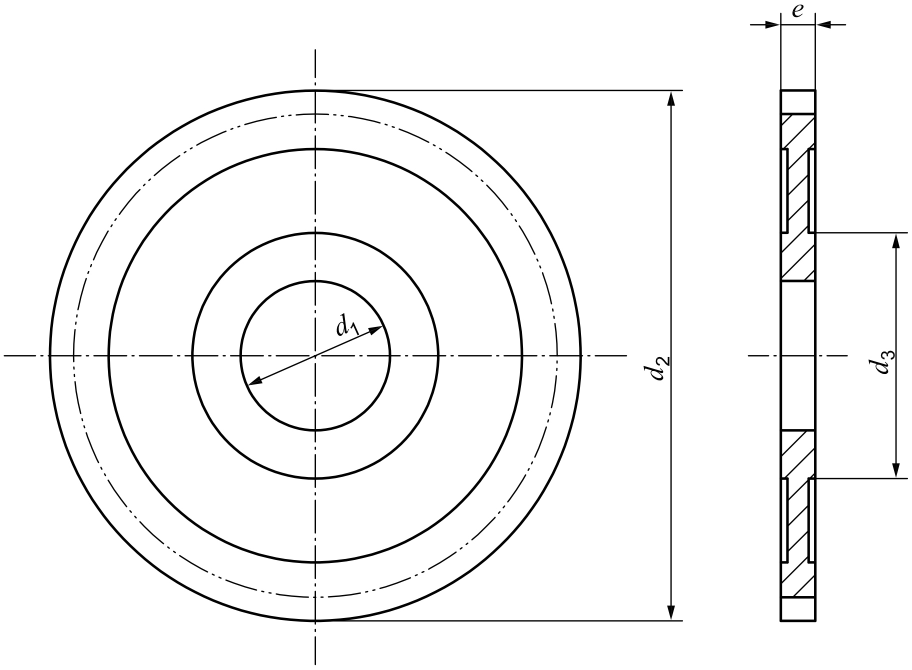

Figure 1 — Dimensions of metal slitting saws

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Table 1 — Dimensions of metal slitting saws with fine teeth

Dimensions in millimetres

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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[a]	Number of teeth												
0,2	±0,030	0,8	80		100	128									
0,25		1,0		80			128								
0,3			64			100									
0,4					80			128							
0,5		1,25		64			100								
0,6			48			80			128	160					
0,8					64			100			160				
1,0		1,6		48			80			128					
1,2			40			64			100			160			
1,6					48			80			128				
2,0		2,0	32	40			64			100			160	200	
2,5					40	48			80			128			200
3,0								64			100			160	
4,0	±0,037	2,5				40	48			80			128		
5,0								48	64		80	100			160
6,0										64			100		
				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.

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3.3 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[a]	Number of teeth										
0,3	±0,030	2,5	40	48	64	64							
0,4													
0,5				40	48								
0,6		3,2	32			48	64						
0,8					40			64	80				
1,0				32			48			80	100		
1,2		4,0	24		32	40		48	64			100	
1,6				24			40			64	80		100
2,0						32			48			80	
2,5		5,0	20		24		32	40		48	64		
3,0				20		24			40			64	80
4,0	±0,037						24	32		40	48		
5,0									32			48	64
6,0													
			6,3		8,0		10,0			12,5			

[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.

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4 Mechanical characteristics

4.1 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.

4.2 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.

4.3 Metal slitting saws with pine 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.

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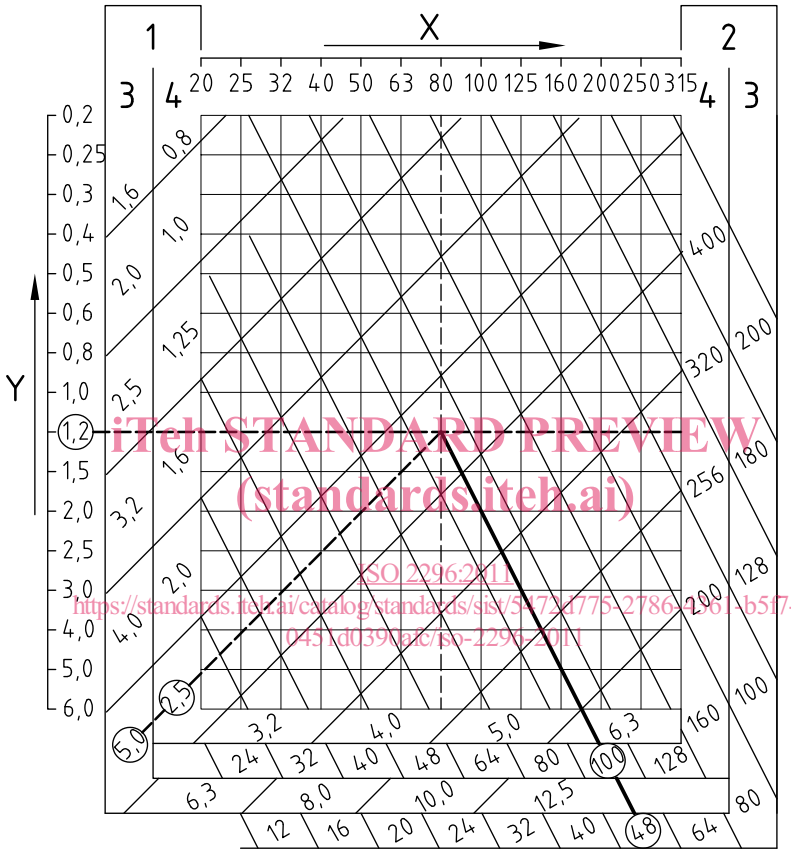
Annex A
(informative)

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.



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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.

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