INTERNATIONAL STANDARD

ISO 4875-2

Second edition
2006-07-01

Metal-cutting band saw blades —

Part 2: Characteristics and dimensions

Lames de scies à ruban à métaux —

Partie 2: Caractéristiques et dimensions

Reference number
ISO 4875-2:2006(E)

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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 4875-2 was prepared by Technical Committee ISO/TC 29, *Small tools*.

This second edition of ISO 4875-2 cancels and replaces ISO 4875-2:1978 and ISO 4875-3:1978, of which it constitutes a technical revision.

ISO 4875 consists of the following parts, under the general title *Metal-cutting band saw blades*:

— *Part 1: Vocabulary*

— *Part 2: Characteristics and dimensions*

Metal-cutting band saw blades —

Part 2:
Characteristics and dimensions

1 Scope

This part of ISO 4875 specifies the characteristics and dimensions of the various types of metal-cutting band saw blades.

2 Normative references

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.

ISO 4875-1, *Metal-cutting band saw blades — Part 1: Vocabulary*

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4875-1 and the following apply.

3.1
carbon steel band saw blade
blade made of low alloyed steel containing more than 1 % and less than 1,5 % of carbon, the combination of manganese, silicon and chromium contents being not less than 0,5 %

3.2
bimetal band saw blade
blade whose teeth are made from a material different than that of the body

3.3
friction-cutting band saw blade
blade made of fatigue-resistant steel for cutting by heat resulting from the friction

3.4
composite steel band saw blade
blade made with a cutting edge of a material different from that of the body, the cutting edge being generally in carbide and the body in low alloyed steel

4 Basic dimensions

4.1 Usual section

The usual section is determined by the width and the thickness of the band saw blade.

4.1.1 Carbon steel band saw blades

See Table 1.

Table 1 — Usual sections of carbon steel band saw blades

Dimensions in millimetres

Width	3	5	6	8	10	13	16	20	25
Thickness	0,65	0,65	0,65	0,65	0,65	0,65	0,8	0,8	0,9

4.1.2 Bimetal band saw blades

See Table 2.

Table 2 — Usual sections of bimetal band saw blades

Dimensions in millimetres

Width	6	10	13		20	27	34	41	54		67	80
Thickness	0,9	0,9	0,65	0,9	0,9	0,9	1,1	1,3	1,3	1,6	1,6	1,6

4.1.3 Friction-cutting band saw blades

See Table 3.

Table 3 — Usual sections of friction-cutting band saw blades

Dimensions in millimetres

Width	16	20	25	32
Thickness	0,8	0,8	0,9	1,1

4.1.4 Composite steel band saw blades

See Table 4.

Table 4 — Usual sections of composite steel band saw blades

Dimensions in millimetres

Width	20	27	34	41	54	67	80
Thickness	0,8	0,9	1,1	1,3	1,6	1,6	1,6

4.2 Length

The length of a metal-cutting band saw blade is determined according to the type of machine used. This shall be clarified when ordering these blades.

4.3 Pitch and teeth per unit length

4.3.1 Fixed pitch

See Table 5.

Table 5 — Fixed pitch

Pitch, mm	1	1,4	1,8	2,5	3,15	4	6,3	8	12,5	20,3	33,9
Teeth per 25,4 mm length	24	18	14	10	8	6	4	3	2	1,25	0,75

4.3.2 Variable pitch

See Table 6.

Table 6 — Variable pitch

Pitch, mm	34-20	17-13	12-8	8-6	6-4	5-3	4-9	3-9	2,5-1,8
Teeth per 25,4 mm length	0,75-1,25	1,5-2	2-3	3-4	4-6	5-8	6-10	8-12	10-14

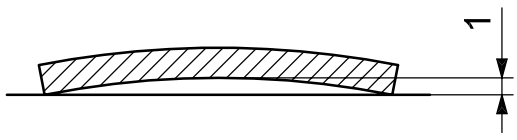
4.4 Tooth set

The overall set is left to the manufacturer's discretion.

The set at each side of the blade shall be equal, and shall be given within the limits of ± 0,05 mm.

4.5 Flatness

The maximum value shall be 2 µm/mm. The permissible departure from flatness is shown by Figure 1.



Key
1 departure from flatness

Figure 1

5 Specifications

5.1 Carbon steel band saw blades

The minimum hardness, measured according to ISO 6508-1, at the tooth point shall be 62 HRC (720 HV 10); the minimum hardness, measured according to ISO 6507-1, of the body shall be 280 HV 10 (27 HRC).

5.2 Bimetal band saw blades

The high speed steel teeth shall have a minimum hardness, measured according to ISO 6508-1, at the tooth point of 62 HRC (720 HV 10); the steel low alloyed body shall have a minimum hardness, measured according to ISO 6507-1, after heat treatment of 450 HV 10 (45 HRC).

5.3 Friction band saw blades

The primary functions of the teeth are to generate the heat needed, and to scoop in the air needed to support combustion. Friction saws are usually run at speeds in excess of 40 m/s on machines with adequate guarding.

6 Designation

Band saw blades in accordance with this part of ISO 4875 shall be designated as follows:

— type of band saw blade;

— reference to this part of ISO 4875, i.e. “ISO 4875-2”;

— section;

— tooth shape;

— teeth per 25,4 mm length.

EXAMPLE A bimetal band saw blade in accordance with this part of ISO 4875, of section of 41 × 1,3, with skip tooth and 3 teeth, is designated as follows:

Bimetal band saw blade ISO 4875-2 - 41 × 1,3 - Skip tooth - 3