International Standard ISO 234/1

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Files and rasps — Part 1 : Dimensions

Limes et râpes — Partie 1 : Dimensions

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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 developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

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.

International Standard ISO 234/1 was developed by Technical Committee ISO/TC 29, *Small tools*, and was circulated to the member bodies in November 1982.

It has been approved by the member bodies of the following countries:

Belgium	Germany, F.R.	Romania
Brazil	Hungary	South Africa, Rep. of
Bulgaria	India	Spain
Canada	Israel	Sweden
China	Italy	Switzerland
Czechoslovakia	Mexico	United Kingdom
Egypt, Arab Rep. of	Netherlands	USSR
France	Poland	

The member bodies of the following countries expressed disapproval of the document on technical grounds:

Australia
Austria

This International Standard cancels and replaces International Standard ISO 234-1975.

Printed in Switzerland

Files and rasps — Part 1 : Dimensions

0 Introduction

In contrast to the previous edition of ISO 234, this part of ISO 234 is limited to the most commonly used files and rasps.

Files and rasps with diminishing demand or limited to use in some countries have not been taken into consideration to avoid encouraging development of them.

Files and rasps of special manufacture have been excluded (as well as precision files and files with milled teeth).

Since recutting is no longer common, slim sections are recommended, to achieve savings in material.

Chain saw files are excluded from this part of ISO 234 since their cuts and dimensions are subject to change with chain saw development.

This part of ISO 234 does not cover either the raw material, or dimensions for the tangs.

1 Scope and field of application

This International Standard specifies the lengths and cross-sections of files and rasps including the four following types of tools :

a) engineers' files (double cut);

b) taper saw files (single cut);

c) mill files;

d) rasps.

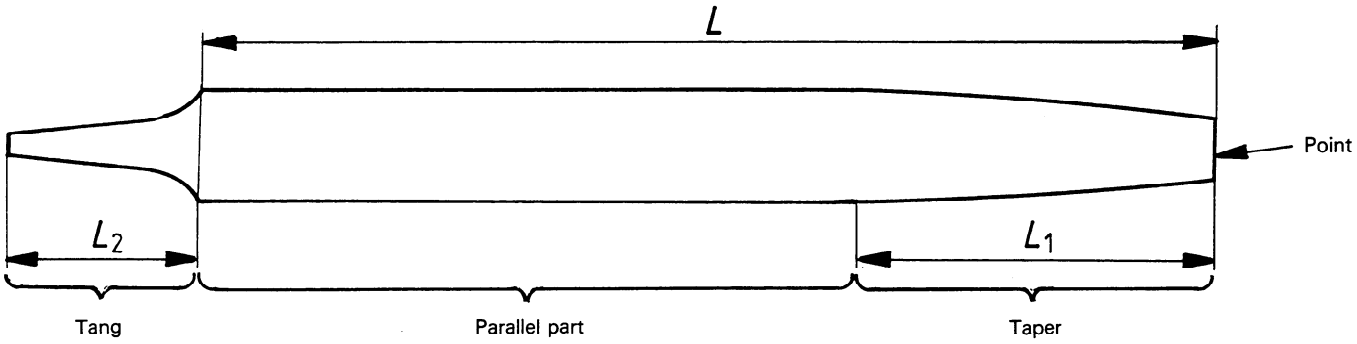
The terms used for types of files and rasps correspond to accepted trade terminology.

Dimensions are given in millimetres: corresponding inch dimensions are given in an annex which will remain valid for five years from the date when this part of ISO 234 is approved by ISO Council.

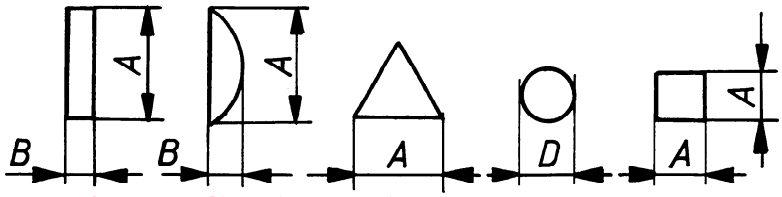
2 Reference

ISO 234/2 *Files and rasps — Part 2: Characteristics of cut.*

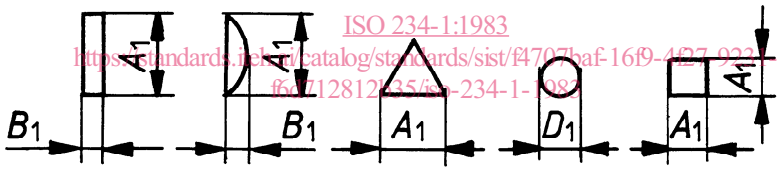
3 Terminology and definitions



Cross-section of the parallel parts



Cross-sections of points



L = length (excluding the tang)

A = width

B = thickness

D = diameter

L_1 = length of taper

A_1 = point width

B_1 = point thickness

D_1 = point diameter

L_2 = length of tang

The dimensions of cross-sections and points given in this part of ISO 234 refer to the finished files and are measured over the teeth.

Files and rasps are usually parallel-sided; however, some types can be tapered.

Files that are parallel-sided are called blunt, for instance: half-round blunt, mill blunt.

A file or rasp is considered tapered when L_1 is between 25 and 50 % of length L and the dimensions of the point A_1 and D_1 do not exceed 80 % of the dimensions of A and D respectively.

On tapered files and rasps the taper length L_1 is measured from the point to the parallel part of the file or rasp.

4 Dimensions

4.1 Engineers' files (double cut)

Dimensions in millimetres

L	Rectangular (hand and flat)	Half-round	Round	Square	Three-square
	$A \times B$		D	A	A
100	12 × 2,5	10,5 × 3	4	4	8
150	16 × 4	16 × 4,5	6	6	11
200	20 × 5	20 × 6	7,5	8	15
250	25 × 6	25 × 7	9,5	10	17,5
300	30 × 6,5	30 × 8,5	12	12	20
350	35 × 7,5	35 × 10	15	15	24

NOTE — Tolerances

on L ± 4 mm for lengths 100 to 150 mm,
± 6 mm for lengths 200 to 300 mm,
± 8 mm for length of 350 mm;

on A ± 1 mm;

on B and D ± 0,5 mm for lengths ≤ 250 mm;
± 1 mm for lengths > 250 mm.

4.2 Taper saw files — Triangular

Dimensions in millimetres

L	Regular	Slim	Extra slim
	A		
100	8,5	6	5
125	10	7	6
150	12	8,5	7
175	14	10	8,5
200	16	12	10
250	18	14	—

NOTE — Tolerances

on L ± 4 mm for lengths 100 to 150 mm,
± 6 mm for lengths 175 to 250 mm,

on A ± 0,5 mm.

4.3 Mill files (single cut)

Dimensions in millimetres

L	Taper or blunt with square and/or round edges
	$A \times B$
150	16 × 3
200	20 × 3,5
250	25 × 4,5
300	30 × 5
350	35 × 6

NOTE — Tolerances

on L ± 4 mm for length of 150 mm,
± 6 mm for lengths 200 to 300 mm,
± 8 mm for length of 350 mm;

on A ± 1 mm;

on B ± 0,5 mm for lengths ≤ 250 mm;
± 1 mm for lengths > 250 mm.

4.4 Rasps

Dimensions in millimetres

L	Wood rasps			Cabinet
	half-round	flat	round	
	$A \times B$		D	$A \times B$
150	16 × 6	—	7,5	18 × 4
200	21 × 7,5	20 × 6,5	9,5	25 × 6
250	25 × 8,5	25 × 7,5	11,5	29 × 7
300	30 × 10	30 × 8,5	13,5	34 × 8

NOTE — Tolerances

on L ± 4 mm for length of 150 mm,

± 6 mm for lengths 200 to 300 mm;

on A, B and D ± 2 mm for all lengths.

Annex

Inch dimensions

Dimensions in inches correspond to those in millimetres for the relevant type and size of file and rasp.

NOTE — The following clause number is that of the corresponding clause within the main body of this part of ISO 234.

4 Dimensions

4.1 Engineers' files (double cut)

L	Rectangular (hand and flat)	Half-round	Round	Square	Three-square
	A × *B*		*D*	*A*	*A*
4	0.47 × 0.10	0.41 × 0.12	0.16	0.16	0.31
6	0.63 × 0.16	0.63 × 0.18	0.24	0.24	0.43
8	0.79 × 0.20	0.79 × 0.24	0.29	0.31	0.59
10	0.98 × 0.24	0.98 × 0.28	0.37	0.39	0.69
12	1.18 × 0.26	1.18 × 0.33	0.47	0.47	0.79
14	1.38 × 0.29	1.38 × 0.39	0.59	0.59	0.94

NOTE — Tolerances

on *L* ± 0.16 in for lengths of 4 to 6 in,
± 0.24 in for lengths 8 to 12 in,
± 0.31 in for length of 14 in;

on *A* ± 0.04 in;

on *B* and *D* ± 0.02 in for lengths < 10 in;
± 0.04 in for lengths > 10 in.

4.2 Taper saw files — Triangular

L	Regular	Slim	Extra slim
	A		
4	0.33	0.24	0.20
5	0.39	0.28	0.24
6	0.47	0.33	0.28
7	0.55	0.39	0.33
8	0.63	0.47	0.39
10	0.71	0.55	—

NOTE — Tolerances

on *L* ± 0.16 in for lengths of 4 to 6 in,
± 0.24 in for lengths of 7 to 10 in,

on *A* ± 0.02 in.

4.3 Mill files (single cut)

L	Taper or blunt with square and/or round edges $A \times B$
6	0.63 × 0.12
8	0.79 × 0.14
10	0.98 × 0.18
12	1.18 × 0.20
14	1.38 × 0.24

NOTE — Tolerances

on L ± 0.16 in for length of 6 in,
± 0.24 in for lengths of 8 to 12 in,
± 0.31 in for length of 14 in;

on A ± 0.04 in;

on B ± 0.02 in for lengths < 10 in;
± 0.04 in for lengths > 10 in.

4.4 Rasps

L	Wood rasps			Cabinet
	half-round	flat	round	
	$A \times B$		D	$A \times B$
6	0.63 × 0.24	—	0.29	0.71 × 0.16
8	0.83 × 0.29	0.79 × 0.26	0.37	0.98 × 0.24
10	0.98 × 0.33	0.98 × 0.29	0.45	1.14 × 0.28
12	1.18 × 0.39	1.18 × 0.33	0.53	1.34 × 0.31

NOTE — Tolerances

on L ± 0.16 in for length of 6 in,
± 0.24 in for lengths of 8 to 12 in;

on A, B and D ± 0.08 in for all lengths.