

Transformed.

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

**ISO RECOMMENDATION
R 234**

**FILES AND RASPS
LENGTHS AND CROSS SECTIONS**

1st EDITION

December 1961

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BRIEF HISTORY

The ISO Recommendation R 234, *Files and Rasps – Lengths and Cross Sections*, was drawn up by Technical Committee ISO/TC 29, *Small Tools*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question by the Technical Committee began in 1950 and led, in 1958, to the adoption of a Draft ISO Recommendation.

In September 1959, this Draft ISO Recommendation (No. 296) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Austria	Italy	Sweden
Belgium	Mexico	Switzerland
Burma	Netherlands	United Kingdom
Czechoslovakia	Pakistan	U.S.A.
France	Portugal	U.S.S.R.
Greece	Romania	

Three Member Bodies opposed the approval of the Draft:
Germany, Hungary, Poland.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in December 1961, to accept it as an ISO RECOMMENDATION.

FILES AND RASPS LENGTHS AND CROSS SECTIONS

INTRODUCTION

I. SCOPE

This ISO Recommendation relates to lengths and cross sections of files and rasps and deals with the four following types of tools:

- | | |
|---|---------------------|
| 1. Engineers' files | Tables 1.1 and 1.2, |
| 2. Saw files (second cut single). | Tables 2.1 and 2.2, |
| 3. Mill files and miscellaneous files | Tables 3.1 and 3.2, |
| 4. Rasps | Tables 4.1 and 4.2. |

For each type mentioned above, the ISO Recommendation comprises two tables, giving respectively

- the dimensions in millimetres and
- the corresponding dimensions in inches.

II. INTERCHANGEABILITY

The dimensions adopted in the present ISO Recommendation have been determined in such a way as to ensure the practical interchangeability, for commercial purposes, of files and rasps, whichever system of units of measurement is used; the dimensions expressed in either of the two systems, millimetres or inches, correspond approximately to those expressed in the other.

1. ENGINEERS' FILES

1.1 Dimensions in millimetres

De- scrip- tion	Flat		Half- round	Feather- edge	Three- square	Round	Square	Warding	Knife
	pointed	hand							
Length	Section $a \times b$ (or a)								
100	12×3	12×3	11×4	12.5×3.25	8	4	4	12×1.5	13×3
125	—	—	—	—	10	5	5	14×1.75	—
150	16×4	16×4	16×4.5	19×5	11	6	6	16×2	18×4
200	21×5	21×5	21×6	25×6.5	15	8	8	20×2.5	22×5
250	25×6.5	25×6.5	25×7	32×8	18	10	10	—	27×6.5
300	30×7	30×7	30×8.5	—	21	12	12	—	33×7.5
350	35×7.5	35×7.5	35×10	—	24	15	15	—	—
400	39×9	39×9	40×11	—	27	18	18	—	—
450	44×9	44×9	45×13	—	—	—	—	—	—

NOTES

- Lengths measured excluding the tang.
- Sections measured on the uncut portion adjacent to the tang:
 a = width b = thickness.
- Tolerances
 - all files, except warding files:
 on a : ± 1.6 mm, on b : ± 0.8 mm for lengths ≤ 150 mm,
 ± 1.6 mm for lengths > 150 mm;
 - warding files:
 on a : ± 0.8 mm, on b : ± 0.4 mm.

1.2 Dimensions in inches

De- scrip- tion	Flat		Half- round	Feather- edge	Three- square	Round	Square	Warding	Knife
	pointed	hand							
Length	Section $a \times b$ (or a)								
4	$15/32 \times 7/64$	$15/32 \times 7/64$	$7/16 \times 5/32$	$1/2 \times 1/8$	$11/32$	$5/32$	$5/32$	$15/32 \times 3/64$	$1/2 \times 1/8$
5	—	—	—	—	$25/64$	$3/16$	$3/16$	$17/32 \times 1/16$	—
6	$5/8 \times 5/32$	$5/8 \times 5/32$	$5/8 \times 3/16$	$3/4 \times 3/16$	$15/32$	$15/64$	$15/64$	$5/8 \times 5/64$	$11/16 \times 11/64$
8	$13/16 \times 13/64$	$13/16 \times 13/64$	$25/32 \times 15/64$	$1 \times 1/4$	$19/32$	$19/64$	$19/64$	$51/64 \times 7/64$	$7/8 \times 7/32$
10	$1 \times 1/4$	$1 \times 1/4$	$31/32 \times 9/32$	$1 1/4 \times 5/16$	$23/32$	$11/32$	$11/32$	—	$1 1/16 \times 1/4$
12	$1 3/16 \times 17/64$	$1 3/16 \times 17/64$	$1 5/32 \times 11/32$	—	$27/32$	$15/32$	$15/32$	—	$1 9/32 \times 19/64$
14	$1 3/8 \times 5/16$	$1 3/8 \times 5/16$	$1 11/32 \times 13/32$	—	$31/32$	$19/32$	$19/32$	—	—
16	$1 9/16 \times 11/32$	$1 9/16 \times 11/32$	$1 1/2 \times 29/64$	—	$1 1/16$	$23/32$	$23/32$	—	—
18	$1 23/32 \times 23/64$	$1 23/32 \times 23/64$	$1 3/4 \times 1/2$	—	—	—	—	—	—

NOTES

- Lengths measured excluding the tang.
- Sections measured on the uncut portion adjacent to the tang:
 a = width b = thickness.
- Tolerances
 - all files, except warding files:
 on a : $\pm 1/16$ in, on b : $\pm 1/32$ in for lengths ≤ 6 in,
 $\pm 1/16$ in for lengths > 6 in;
 - warding files:
 on a : $\pm 1/32$ in, on b : $\pm 1/64$ in.

2. SAW FILES (SECOND CUT SINGLE)

2.1 Dimensions in millimetres

De- scrip- tion	Taper saw					Pit saw	Round gullet- ing	Cant saw	Cross cut	Double- ended
	regular	slim	extra slim	bandsaw taper regular	handsaw blunt					
Length	Section $a \times b$ (or a)									
75	7	—	—	—	—	—	—	—	—	—
90	7.5	—	—	—	—	—	—	—	—	—
100	9	6	5	—	—	8×4	—	10×3.25	—	—
110	10	7	6	—	10	9×4.5	—	—	—	—
125	11	7.5	6	11	11	10×5	7	—	—	—
150	13	9	7.5	13	13	11×5.5	7.5	14×5.5	14×5	5.5
175	14	11	9	14	14	13×6.5	—	—	—	7
200	16	12.5	11	16	16	14×7	10	18×6.5	18×6.5	7
225	18	14	—	—	—	—	—	—	—	9
250	20	16	—	—	—	—	—	22×7	22×8	9.5

NOTES

1. *Lengths* measured excluding the tang.
2. *Sections* measured on the uncut portion adjacent to the tang:
 a = width b = thickness.
3. *Tolerances*
on a : ± 1.6 mm, on b : ± 0.8 mm for lengths ≤ 150 mm,
 ± 1.6 mm for lengths > 150 mm.

2.2 Dimensions in inches

De- scrip- tion	Taper saw					Pit saw	Round gullet- ing	Cant saw	Cross cut	Double- ended
	regular	slim	extra slim	bandsaw taper regular	handsaw blunt					
Length	Section $a \times b$ (or a)									
3	$\frac{1}{4}$	—	—	—	—	—	—	—	—	—
$3\frac{1}{2}$	$\frac{5}{16}$	—	—	—	—	—	—	—	—	—
4	$\frac{11}{32}$	$\frac{7}{32}$	$\frac{3}{16}$	—	—	$\frac{5}{16} \times \frac{11}{64}$	—	$\frac{13}{32} \times \frac{11}{64}$	—	—
$4\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{7}{32}$	—	$\frac{13}{32}$	$\frac{11}{32} \times \frac{3}{16}$	—	—	—	—
5	$\frac{13}{32}$	$\frac{9}{32}$	$\frac{7}{32}$	$\frac{23}{64}$	$\frac{7}{16}$	$\frac{3}{8} \times \frac{13}{64}$	$\frac{1}{4}$	—	—	—
6	$\frac{15}{32}$	$\frac{11}{32}$	$\frac{9}{32}$	$\frac{15}{32}$	$\frac{15}{32}$	$\frac{7}{16} \times \frac{7}{32}$	$\frac{5}{16}$	$\frac{17}{32} \times \frac{7}{32}$	$\frac{9}{16} \times \frac{3}{16}$	$\frac{7}{32}$
7	$\frac{17}{32}$	$\frac{13}{32}$	$\frac{11}{32}$	$\frac{17}{32}$	$\frac{17}{32}$	$\frac{1}{2} \times \frac{1}{4}$	—	—	—	$\frac{1}{4}$
8	$\frac{19}{32}$	$\frac{15}{32}$	$\frac{13}{32}$	$\frac{19}{32}$	$\frac{19}{32}$	$\frac{9}{16} \times \frac{9}{32}$	$\frac{3}{8}$	$\frac{11}{16} \times \frac{17}{64}$	$\frac{11}{16} \times \frac{1}{4}$	$\frac{9}{32}$
9	$\frac{21}{32}$	$\frac{17}{32}$	—	—	—	—	—	—	—	$\frac{11}{32}$
10	$\frac{23}{32}$	$\frac{19}{32}$	—	—	—	—	—	$\frac{13}{16} \times \frac{5}{16}$	$\frac{13}{16} \times \frac{11}{32}$	$\frac{3}{8}$

NOTES

1. *Lengths* measured excluding the tang.
2. *Sections* measured on the uncut portion adjacent to the tang:
 a = width b = thickness.
3. *Tolerances*
on a : $\pm \frac{1}{16}$ in, on b : $\pm \frac{1}{32}$ in for lengths ≤ 6 in,
 $\pm \frac{1}{16}$ in for lengths > 6 in.

3. MILL FILES AND MISCELLANEOUS FILES

3.1 Dimensions in millimetres

Description	Mill Files		Hand Finishing	Cabinet	Reapers (F. O.)
	Taper or parallel	blunt heavy			
					
Length	Section $a \times b$ (or a)				
150	16×3	21×4	—	—	21×4
175	18×3.5	—	—	—	—
200	21×4	25×5	—	23×4.5	23×4.5
225	23×4.5	—	—	—	—
250	25×5	27×6	25×6	28×5.5	30×5.5
300	30×5.5	32×6	30×7	34×6.5	—
350	35×6.5	—	35×7.5	—	—

NOTES

1. *Lengths* measured excluding the tang.
2. *Sections* measured on the uncut portion adjacent to the tang:
 a = width b = thickness.
3. *Tolerances*
on a : ± 1.6 mm, on b : ± 0.8 mm for length ≤ 150 mm,
 ± 1.6 mm for lengths > 150 mm.

3.2 Dimensions in inches

Description	Mill Files		Hand Finishing	Cabinet	Reapers (F. O.)
	Taper or parallel	blunt heavy			
					
Length	Section $a \times b$ (or a)				
6	$\frac{5}{8} \times \frac{1}{8}$	$\frac{3}{4} \times \frac{5}{32}$	—	—	$\frac{13}{16} \times \frac{5}{32}$
7	$\frac{11}{16} \times \frac{1}{8}$	—	—	—	—
8	$\frac{13}{16} \times \frac{5}{32}$	$\frac{15}{16} \times \frac{3}{16}$	—	$\frac{29}{32} \times \frac{11}{64}$	$\frac{31}{32} \times \frac{11}{64}$
9	$\frac{29}{32} \times \frac{11}{64}$	—	—	—	—
10	$1 \times \frac{3}{16}$	$\frac{11}{16} \times \frac{7}{32}$	$1 \times \frac{1}{4}$	$\frac{11}{8} \times \frac{7}{32}$	$\frac{111}{64} \times \frac{7}{32}$
12	$\frac{111}{64} \times \frac{7}{32}$	$\frac{13}{16} \times \frac{1}{4}$	$\frac{13}{16} \times \frac{9}{32}$	$\frac{111}{32} \times \frac{1}{4}$	—
14	$\frac{111}{32} \times \frac{1}{4}$	—	$\frac{13}{8} \times \frac{5}{16}$	—	—

NOTES

1. *Lengths* measured excluding the tang.
2. *Sections* measured on the uncut portion adjacent to the tang:
 a = width b = thickness.
3. *Tolerances*
on a : $\pm \frac{1}{16}$ in, on b : $\pm \frac{1}{32}$ in for length ≤ 6 in,
 $\pm \frac{1}{16}$ in for lengths > 6 in.