

Specification for

Rasps and engineers' files

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The preparation of this British Standard was entrusted by the Machine, Engineers' and Hand Tools Standards Policy Committee (MTE/-) to Technical Committee MTE/15, upon which the following bodies were represented:

- British Coal Corporation
- British Telecommunications plc
- Consumer Policy Committee of BSI
- Department of Trade and Industry, Mechanical Engineering and Manufacturing Technology Division (Mmt)
- Electricity Supply Industry in England and Wales
- Engineering Equipment and Materials Users' Association
- Federation of British Engineers' Tool Manufacturers
- Federation of British Hand Tool Manufacturers
- Handle Manufacturers' Association
- Institute of Carpenters
- Institution of Production Engineers
- Ministry of Defence

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- File Manufacturers' Association
- Institution of Mechanical Engineers

This British Standard, having been prepared under the direction of the Machine Engineers' and Hand Tools Standards Policy Committee, was published under the authority of the Board of BSI and comes into effect on 31 May 1990

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The following BSI references relate to the work on this standard:
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Contents

	Page
Committees responsible	Inside front cover
Foreword	iii
1 Scope	1
2 Definitions	1
3 Materials	2
4 Types and dimensions	3
5 Tolerances	4
6 Performance	4
7 Finish	4
8 Packaging	4
9 Marking	4
Appendix A Performance tests	20
Figure 1 — Nomenclature for files and rasps	3
Figure 2 — Flat file	5
Figure 3 — Hand file	6
Figure 4 — Halfround file	7
Figure 5 — Round file	8
Figure 6 — Square file	8
Figure 7 — Threesquare file	9
Figure 8 — Warding file	10
Figure 9 — Knife file	11
Figure 10 — Blunt heavy mill saw file	12
Figure 11 — Mill file	13
Figure 12 — Taper saw file	14
Figure 13 — Double ended saw file	15
Figure 14 — Bandsaw taper file	15
Figure 15 — Blunt saw file	16
Figure 16 — Reaper file	16
Figure 17 — Cabinet rasp	17
Figure 18 — Halfround wood rasp	17
Figure 19 — Flat wood rasp	18
Figure 20 — Round wood rasp	18
Figure 21 — Horse rasp	19
Table 1 — Dimensions and tolerances of flat files	5
Table 2 — Dimensions and tolerances of hand files	6
Table 3 — Dimensions and tolerances of halfround files	7
Table 4 — Dimensions and tolerances of round files	8
Table 5 — Dimensions and tolerances of square files	8
Table 6 — Dimensions and tolerances of threesquare files	9
Table 7 — Dimensions and tolerances of warding files	10
Table 8 — Dimensions and tolerances of knife files	11
Table 9 — Dimensions and tolerances of blunt heavy mill saw files	12
Table 10 — Dimensions and tolerances of mill files	13
Table 11 — Dimensions and tolerances of taper saw files	14
Table 12 — Dimensions and tolerances of double ended saw files	15
Table 13 — Dimensions and tolerances of bandsaw taper files	15
Table 14 — Dimensions and tolerances of blunt saw files	16
Table 15 — Dimensions and tolerances of reaper files	16

	Page
Table 16 — Dimensions and tolerances of cabinet rasps	17
Table 17 — Dimensions and tolerances of halfround wood rasps	17
Table 18 — Dimensions and tolerances of flat wood rasps	18
Table 19 — Dimensions and tolerances of round wood rasps	18
Table 20 — Dimensions and tolerances of horse rasps	19
Publications referred to	Inside back cover

Foreword

This British Standard, having been prepared under the direction of the Machine, Engineers' and Hand Tools Standards Policy Committee, supersedes BS 498:1960, which is withdrawn.

In preparing this revision, account has been taken of ISO 234-1 and ISO 234-2, published by the International Organization for Standardization (ISO), but because of constraints on UK manufacturers, it has not proved possible to align the revision with the International Standard.

The opportunity has, however, been taken to rationalize the number of files and rasps in the revision, in line with current demand in the UK.

For the first time, dimensions and tolerances are expressed in metric units, in addition to imperial units, which are still in common use.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 20, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard specifies requirements for materials, testing, marking and packaging for rasps and engineers' files of the following types.

a) Engineers' files as follows:

- flat files;
- hand files;
- halfround files;
- round files;
- square files;
- threesquare files;
- warding files;
- knife files.

b) Mill files as follows:

- blunt heavy mill saw files;
- mill files.

c) Saw files as follows:

- taper saw files;
- double ended saw files;
- bandsaw taper files;
- blunt saw files;
- reaper files.

d) Wood rasps as follows:

- cabinet rasps;
- halfround wood rasps;
- flat wood rasps;
- round wood rasps;
- horse rasps.

This specification does not cover steel files of high alloy content normally described as "high speed steel" files.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this British Standard, the following definitions apply.

NOTE Nomenclature for files and rasps is shown in Figure 1.

2.1

flat file

a file of rectangular cross section, parallel for approximately two-thirds of the body length and then tapering towards the point in width. Sides are double cut and edges are single cut

2.2

hand file

a file of rectangular cross section, parallel in width and thickness throughout, with double cut sides and one single cut edge and one uncut edge

NOTE Hand files formerly were tapered in width and thickness.

2.3

halfround file

a file having one flat and one convex side, parallel for approximately two-thirds of the body length and then tapering towards the point both in width and thickness. The flat side is double cut in all grades; the convex side is double cut in bastard grades and single cut in second cut and smooth grades

2.4

round file

a file of round cross section, parallel for approximately two-thirds of the body length and then tapering towards the point. Second-cut and smooth grades and bastard grade round files of nominal length less than 150 mm (6 in) are single cut; other nominal lengths of bastard grades are double cut

2.5

square file

a file of square cross section, parallel for approximately two-thirds of the body length and then tapering towards the point. All sides are double cut

2.6

threesquare file

a file of equilateral triangular cross section, parallel for approximately two-thirds of the body length and then tapering towards the point. The sides are double cut; the edges are uncut

2.7

warding file

a file with rectangular cross section, parallel in thickness throughout, tapering towards the point in width. The sides are double cut; the edges are single cut

2.8

knife file

a file of uniform wedge cross section, the thinner edge being straight and the thicker edge being parallel to the thinner edge for approximately two-thirds of the body length, and then tapering towards the point. The sides and the thicker edge is double cut; the thin edge is single cut

2.9

blunt heavy mill saw file

a file uniform in width and thickness throughout and of rectangular cross section, with either two square edges, one round and one square edge, or two round edges. The sides and edges are single cut; the point is left uncut

2.10**mill file**

a file of rectangular cross section, parallel for approximately two-thirds of the body length and then tapering towards the point in width, having either two square edges, one round and one square edge, or two round edges. The sides and edges are single cut

2.11**taper saw file**

a file of equilateral triangular cross section, parallel for approximately two-thirds of the body length, and then tapering towards the point. The sides and edges are single cut; point is left uncut

2.12**double ended saw file**

a file of equilateral triangular cross section, having no tang, parallel in the centre and tapering towards both ends for approximately one-sixth of the body length; reversible and measured from end to end. The sides and edges are single cut, the points are left uncut

2.13**band saw taper file**

a file of equilateral triangular cross section, parallel for approximately two-thirds of the body length, then tapering towards the point. Corners are rounded for sharpening saws with rounded gullets. The sides and edges are single cut; the point is left uncut

2.14**blunt saw file**

a file of equilateral triangular cross section, parallel in width and thickness throughout. The sides and edges are single cut; the point is left uncut

2.15**reaper file**

a self-handled file of rectangular cross section, parallel in width and thickness throughout. The sides are single cut; the edges are uncut

2.16**cabinet rasps**

a rasp having one flat and one convex side, parallel for approximately two-thirds of the body length and then tapering towards the point in width and thickness. Both sides are rasp punched and second cut; the edges are file cut, either single cut, second cut or smooth cut

2.17**halfround wood rasp**

a rasp having one flat and one convex side, parallel for approximately two-thirds of the body length and then tapering towards the point in width and thickness. The flat and convex sides are rasp punched; the edges are file cut (single cut)

NOTE Halfround wood rasps are made in three cuts: bastard, second cut and smooth cut.

2.18**flat wood rasp**

a rasp of rectangular cross section, parallel for approximately two-thirds of the body length and then tapering towards the point in width. The sides are rasp punched; the edges are file cut (single cut)

NOTE Flat wood rasps are made in two cuts; bastard cut and smooth cut.

2.19**round wood rasp**

a rasp of round cross section and rasp punched, parallel for approximately two-thirds of the body length, then tapering towards the point

NOTE Round wood rasps are made in three cuts: bastard, second and smooth cuts.

2.20**horse rasp**

a horse rasp is of rectangular cross section and is a combination of rasp and file. Horse rasps may be cut as half file and half rasp; quarter file and three-quarters rasp; or half file reverse and may be tanged or untanged, reversible. The sides are rasp punched; the edges are file cut (single cut)

3 Materials**3.1 Files**

If case hardening methods are not used, files shall be made of steel containing the following:

Carbon	not less than 1.10 %;
Manganese	0.30 % to 0.40 %;
Silicon	0.10 % to 0.20 %;
Phosphorus	not more than 0.030 %;
Sulphur	not more than 0.030 %;

NOTE If case hardening methods are introduced, the percentage of carbon and/or manganese may be varied by agreement between the manufacturer and the purchaser.

3.2 Rasps

Rasps shall be made of steel containing the following:

Carbon	0.15 % to 0.45 %;
Manganese	0.45 % to 0.75 %;
Silicon	not more than 0.40 %;
Phosphorus	not more than 0.06 %;
Sulphur	not more than 0.06 %;

In the case of horse rasps, the carbon content shall be not less than 0.30 %

4 Types and dimensions

Files and rasps shall be of the types defined in clause 2 and their dimensions shall be as specified in Table 1 to Table 21.

The dimensions of files and rasps shall be measured as follows:

- nominal length, measured between the point and the shoulder (see Figure 1) or, for files and rasps without a tang, the overall length;
- cross-sectional dimensions, measured across the uncut portion of the file or rasp, adjacent to the tang or, in the case of double ended files and rasps, across the centre of the overall length;
- linear density of cuts, measured along the centreline of the file or rasp.

Files and rasps shall be as shown in Figure 2 to Figure 22. The teeth of files and rasps shall be uniform over the whole of the cut surface and the files and rasps shall ring true when struck. Tolerances shall be as specified in clause 5.

All files and rasps shall be of uniform quality and shall be straight and true to shape.

Half round files shall not be hollow from shoulder to point on the flat side.

NOTE The type of cut and the length of the file or rasp should be specified by the purchaser.

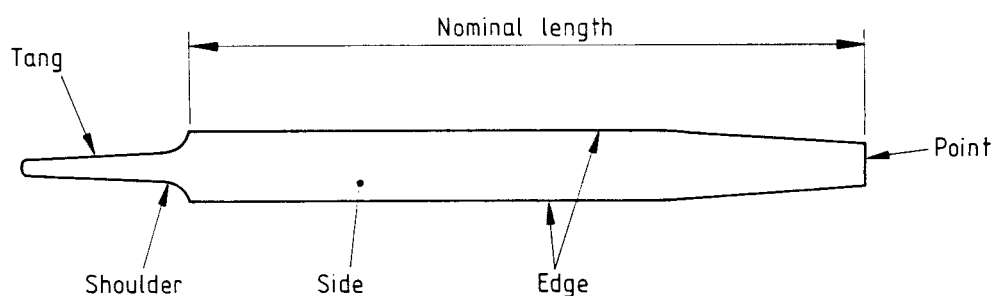


Figure 1 — Nomenclature for files and rasps