

JIS

JAPANESE INDUSTRIAL STANDARD

Mill Saw Files

JIS B 4706—1966

Translated and Published

by

Japanese Standards Association

In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

JAPANESE INDUSTRIAL STANDARD

J I S

Mill Saw Files

B 4706-1966
(Reaffirmed: 1987)1. Scope

This Japanese Industrial Standard specifies mill saw files.

2. Classification

The mill saw files shall be classified in two classes of flat type and triangle type according to the form and further, the triangle type shall be divided in three of slim type, ordinary type and large type.

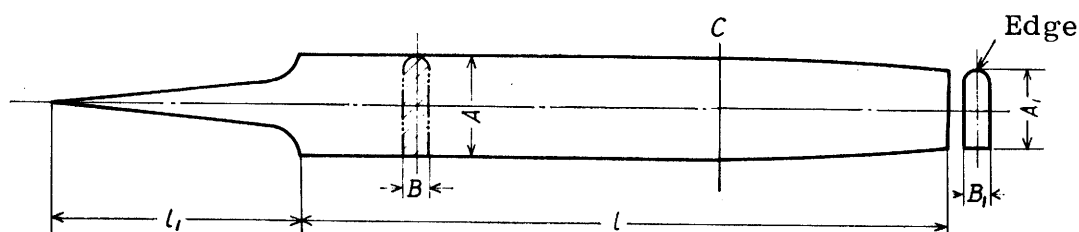
3. Material

The material shall be SKS of JIS J 4404 or those equal or superior to this in quality.

4. Form and Dimensions

The form and dimensions shall be in accordance with Table 1 and Table 2 as a rule.

Table 1. Flat type



Unit: mm

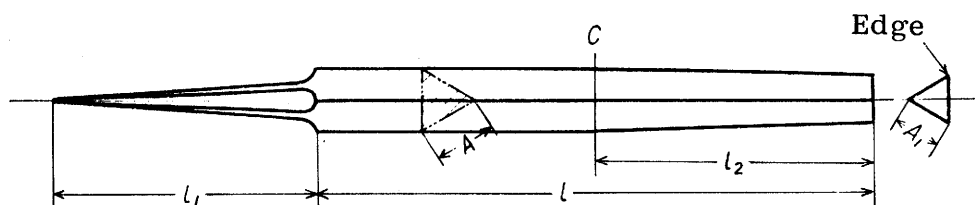
Nominal size	A	A ₁	B	B ₁	l	l ₁
150	16	10	3	3	150	45
200	21	13	3.5	3.5	200	55
250	25	16	4	4	250	65
300	28	18	5	4.8	300	75

Remark: The length of the part from C to the tip shall be about 45 % of l.

Reference Standard:

JIS G 4404-Alloy Tool Steels

Table 2. Triangle type



Unit: mm

Nominal size	Triangle slim type					Triangle ordinary type					Triangle large type				
	A	A ₁	l	l ₁	l ₂	A	A ₁	l	l ₁	l ₂	A	A ₁	l	l ₁	l ₂
75	4	2.5	75	30	38	5.5	3	75	30	35	7	3.2	75	30	30
90	4.7	2.8	90	35	45	7	3.2	90	35	40	8.5	3.8	90	35	35
100	5.5	3	100	35	50	8.5	4	100	35	45	9.5	4.2	100	35	40
115	6.5	3.2	115	38	55	9.5	4.5	115	38	50	10.5	5	115	38	45
125	7	3.5	125	40	65	10.5	5	125	40	55	11	5.2	125	40	50
140	8	3.8	140	42	75	11	5.2	140	42	65	12	5.8	140	42	55
150	8.5	4	150	45	80	12	5.8	150	45	70	13.5	6	150	45	60
175	10.5	4.5	175	50	90	13.5	6	175	50	80	15	6.8	175	50	70
200	12	6	200	55	100	15	6.8	200	55	90	16.5	7.5	200	55	80
225	13.5	6.5	225	58	115	16.5	7.5	225	58	100	18	8.2	225	58	90
250	15	7	250	60	125	18	8.2	250	60	110	20	9	250	60	100
300	18	8	300	65	150	20	9	300	65	130	—	—	—	—	—

Remarks 1. The part from point C to the tip shall be made slender toward the tip.

2. The triangle ordinary type and triangle large type shall not be used as far as possible.

5. Class of Teeth and Number of Teeth

5.1 Class of Teeth The class of teeth shall be single cut and the flat type shall be medium teeth and fine teeth.

5.2 Number of Teeth The number of teeth shall be in accordance with Table 3 and Table 4 per the length of 25 mm.

Table 3. Flat type

Nominal size mm		150	200	250	300
Number of teeth	Medium teeth	52	47	40	36
	Slim teeth	60	54	48	42

- Remarks 1. The tolerance on number of teeth shall be $\pm 10\%$.
2. The number of teeth of edge shall be equal to the number of teeth of plane plus its 10 to 20 %.
- Furthermore, it can be made equal with the number of teeth of plane.

Table 4. Triangle type

Nominal size		75	90	100	115	125	140	150	175	200	225	250	300
Number of teeth	Triangle-slim type	58	57	55	54	52	51	48	46	45	41	42	38
	Triangle ordinary type	55	54	52	51	49	48	45	44	42	41	39	35
	Triangle large type	54	53	50	49	46	45	43	42	41	40	38	—

- Remarks 1. The tolerance of number of teeth shall be $\pm 10\%$.
2. The number of edges shall be the number of teeth of plane plus its 10 to 20 %.

6. Quality

6.1 Appearance The form shall be free from deflection, flaws, cracks, burrs and other defects and the teeth shall be regular, and the finishing shall be excellent.

6.2 Hardness The hardness of cross-cutting part shall be H_RC 63 and over.

6.3 Cutting Quality and Durability The cutting quality shall be uniform over the whole face and excellent. The durability shall be as follow: the favorable cutting property shall be maintained for many hours even when used for considerable hours and its lowering shall be gradual.

Reference: It is desirable to confirm the condition of cutting quality and durability numerically.

7. Inspection

7.1 appearance The inspection of appearance shall be carried out by the visual observation usually and the specifications of 6.1 shall be satisfied.

7.2 Class of Teeth and Number of Teeth The inspection of class of teeth and number of teeth shall be carried out by the visual observation and by using the measuring apparatus well-adapted to the visual observation and required number of teeth usually and the specifications of 5.1 and 5.2 shall be satisfied.

7.3 Hardness The inspection of hardness of cross cutting part shall be carried out by using the hardness testing machine or the test bar, and the specifications of 6.2 shall be satisfied. Where the hardness is measured by using the test bar, the test bar shall be at least H_RC57 to 59 in hardness and every part on every surface of the cross cutting part shall be looked evenly and slip shall not be caused.

8. Designation of Product

The mill saw files shall be designated according to number of standard or name of standard, class, nominal size and class of teeth.

Example: JIS B 4706	Flat type 250 mm medium teeth
Mill saw file	Flat type 250 mm medium teeth
Mill saw file	Triangle slim type 150 mm

9. Marking

Each saw file shall be marked at an appropriate place with manufacturers' name or mark.

B 4706-1966
Edition 1

Japanese Text

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