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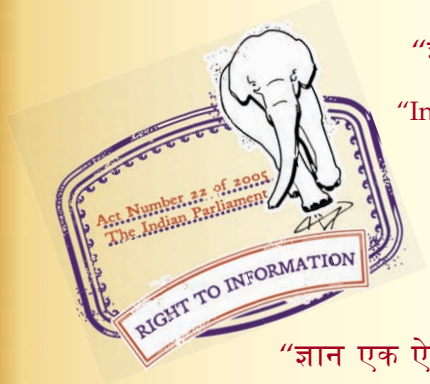

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"Knowledge is such a treasure which cannot be stolen"

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IS 8202 : 1999
(Superseding IS 8203 : 1976, IS 8204 : 1976, IS 8205 : 1976, IS 8206 : 1976, IS 8209 : 1976 and IS 8210 : 1976)

भारतीय मानक

बढ़ई के लकड़ी के रंदे — विशिष्टि

(पहला पुनरीक्षण)

Indian Standard

CARPENTERS' WOODEN BODIED PLANES — SPECIFICATION

(First Revision)

ICS 79.120.20

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

February 1999

Price Group 3

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Woodworking Hand Tools Sectional Committee had been approved by the Production Engineering Division Council.

This Indian Standard was first issued in 1976.

Requirements of various types of carpenters' wooden bodied planes and cut iron and cap iron for planes were earlier covered in following Indian Standards:

IS No.	*Title*
8202 : 1976	Carpenters' wooden bodied nose planes without ramshorn handle
8203 : 1976	Carpenters' wooden bodied nose planes
8204 : 1976	Carpenters' wooden bodied jack planes
8205 : 1976	Carpenters' wooden bodied try planes
8206 : 1976	Carpenters' wooden bodied smoothing planes
8209 : 1976	Cut irons and cap irons for carpenters' wooden bodied bench planes
8210 : 1976	Technical supply conditions for carpenters' wooden bodied bench planes

While considering revision of the above Indian Standards, it was decided by the Committee to merge these Indian Standards into a single, coherent and consumer friendly Indian Standard. Accordingly the above standards have been amalgamated into the revised IS 8202.

In this revision, considerable assistance has been derived from the following ISO standards issued by International Organization for Standardization (ISO):

a) ISO 2728:1982 'Woodworking Tools — Plane irons', and

b) ISO 2730:1973 'Woodworking Tools — Wooden bodied planes'.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

CARPENTERS' WOODEN BODIED PLANES — SPECIFICATION

(First Revision)

1 SCOPE

This standard covers the requirements of the carpenters' wooden bodied planes, and cut iron and cap iron for planes.

2 REFERENCES

The following standards contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
1570 : 1961	Schedules for wrought steels for general engineering purposes
2500 (Part 1) : 1992	Sampling inspection procedures : Part 1 Attribute sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection (*second revision*)

3 NOMENCLATURE

For the purpose of this standard, the nomenclature given in the Fig. 1 shall apply.

4 TYPES

The carpenters' wooden bodied planes shall be of the following types:

a) Try plane,

b) Jack plane,

c) Nose plane,

d) Nose plane without handle, and

e) Smoothing plane.

5 MATERIAL

5.1 Body

The body of the plane shall be manufactured from an even textured wood capable of sliding easily on the surface to be planed, and with a hardness sufficient to avoid rapid deterioration of the sole in operation. Beach (*Fagus* spp.), kala-siris (*Albixia odoratissima* Benth.), Babul (*Acecia arabica*) Wild, and sissoo (*Dalbergia sisoo* Roxb) are some of the suitable species of wood for the manufacturing of body.

The body may also be made of two different timbers, well glued together, with a very hard quality for the sole to reduce wear during use.

5.1.1 The wood shall be well seasoned to avoid warping in normal use. It shall be without defects, such as knots, splinters or splits. The moisture content shall be between 10 and 12 percent.

5.2 Cut Iron (Plane)

The cut iron shall be manufactured from high carbon steel conforming to C75, C80, C98, and C113 of schedule II of IS 1570 or alloy steel conforming to 105Cr1 of schedule IV of IS 1570.

5.2.1 A composite cutter shall consist of a high carbon or alloy steel cutting tip with remainder of the cutter manufactured from low carbon steel in which case the cutting tool shall be manufactured from the material mentioned above.

5.3 Cap iron shall be manufactured from steel conforming to St 55 of schedule I of IS 1570.

5.4 Hardness

The hardness of cut iron from the cutting edge to the hole (*see* Table 1) shall be 700 HV, Min (≈ 60 HRC).

6 DIMENSIONS

6.1 The dimensions of cut iron and cap iron for planes are as given in Table 1.

6.2 The dimensions of the various types of planes are as given in Table 2 to Table 6.

7 MANUFACTURE

7.1 Sole

The sole shall be smooth and flat. The nose shall not have the sharp corners which can dig into the surface to be planed.

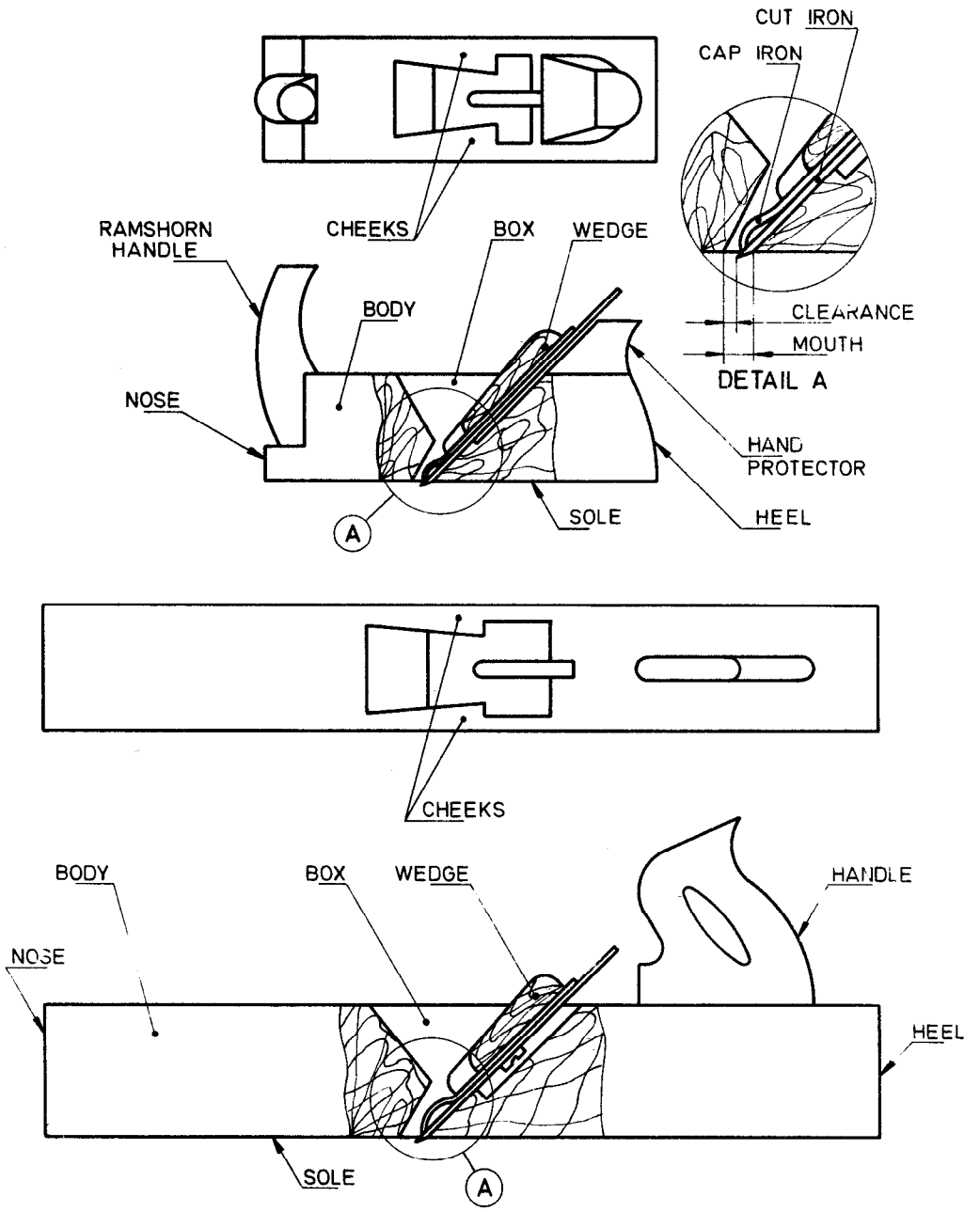


FIG. 1 NOMENCLATURE OF WOODEN BODIED PLANES

7.2 Clearance

After wedging the cut iron and cap iron in place, the clearance at the mouth shall be between 0.5 and 2 mm.

7.3 Box

The inside of the box shall be smoothly finished to prevent shavings catching and collecting in this part during use.

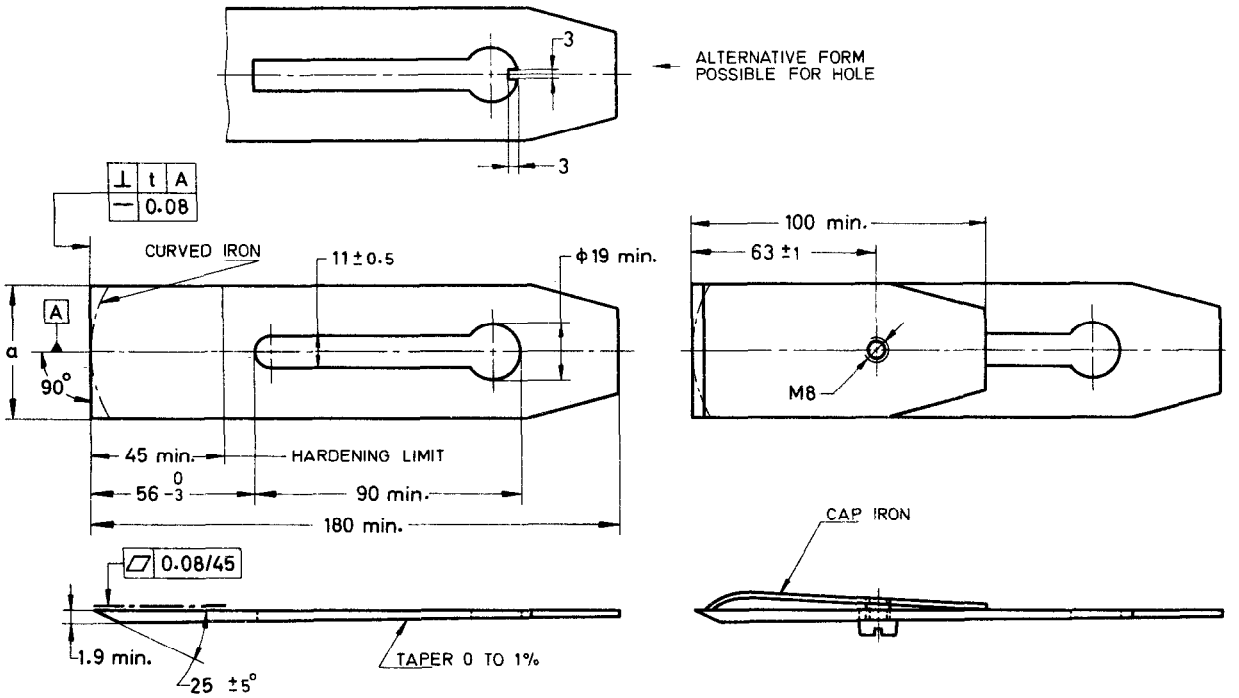
7.4 Wedge

The shape of the front part of the wedge in particular shall be such that the shavings flow easily.

7.5 The tightening of the screw of the cap iron shall cause no deflections that might adversely affect use. The locating edge shall be square relative to centre line of the cap iron with clearance of ±1°. When the

Table 1 Dimensions of Cut Iron and Cap Iron for Planes

(*Clauses* 5.4 *and* 6.1)



All dimensions in millimetres.

Sl No.	*a* js 14	*t*
(1)	(2)	(3)
i)	33	0.30
ii)	38[1)]	0.35
iii)	42	0.35
iv)	45	0.40
v)	48	0.40
vi)	51	0.45
vii)	54	0.45
viii)	57	0.50

[1)]Non-preferred.

screw is tightened, the cap iron and the cutter shall close together absolutely tightly at the extreme edge of the cap iron (line *AB* of Fig. 2 given below) in order to avoid any intrusion of a shaving. The cutter and cap iron assembly shall be wedge-shaped with edges of equal thickness, such as *CC'=DD'*, with a maximum difference of 0.3 mm.

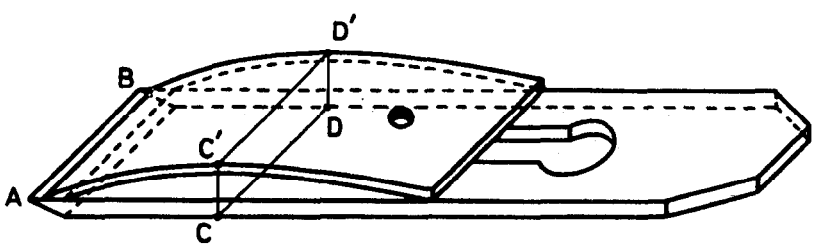
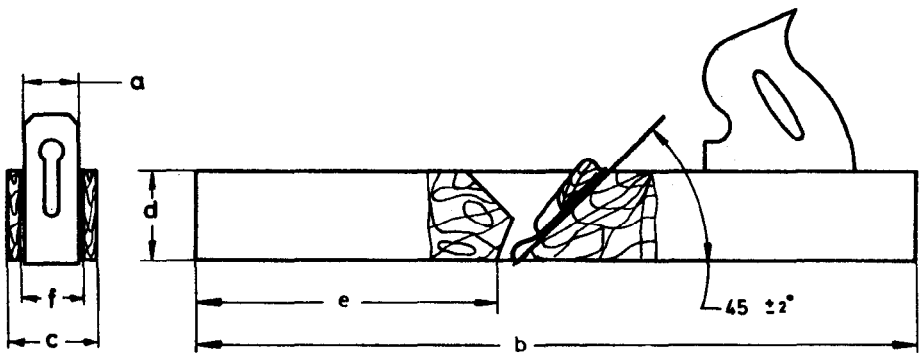


FIG. 2

Table 2 Dimensions of Try Plane

(*Clause* 6.2)

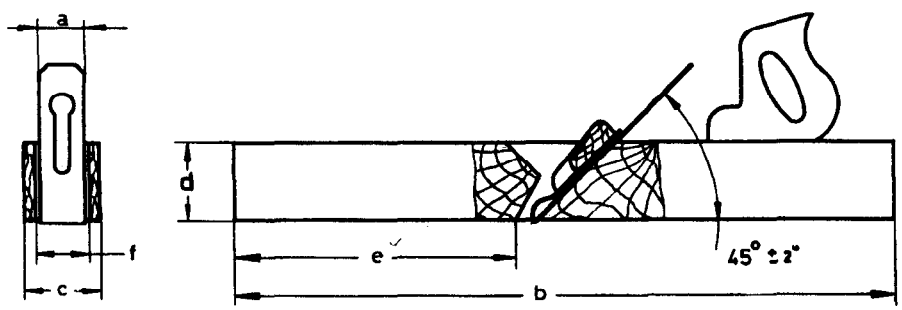


All dimensions in millimetres.

Sl No.	Nominal Size *a*	*b* ± 5	*c* ± 2	*d* ± 3	*e* ± 3	*f* + 1.5 − 0
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	51	600	72	75	250	52.5
ii)	54	600	75	75	250	55.5
iii)	57	600	78	75	250	58.5

Table 3 Dimensions of Jack Plane

(*Clause* 6.2)



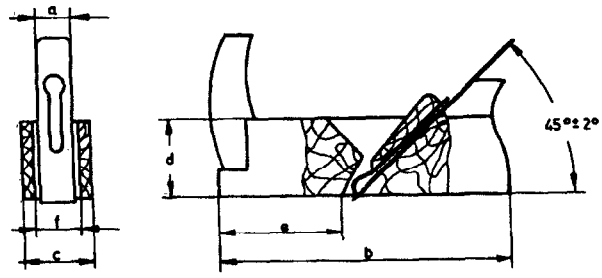
All dimensions in millimetres.

Sl No.	Nominal Size *a*	*b* ± 5	*c* ± 2	*d* ± 3	*e* ± 3	*f* + 1.5 − 0
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	42	530	61	63	224	43.5
ii)	45[1)]	530	64	63	224	46.5
iii)	51	530, 380[1)]	70	63	224	52.5
iv)	57	530	76	63	224	58.5

[1)]Non-preferred.

Table 4 Dimensions of Nose Plane

(*Clause* 6.2)



All dimensions in millimetres.

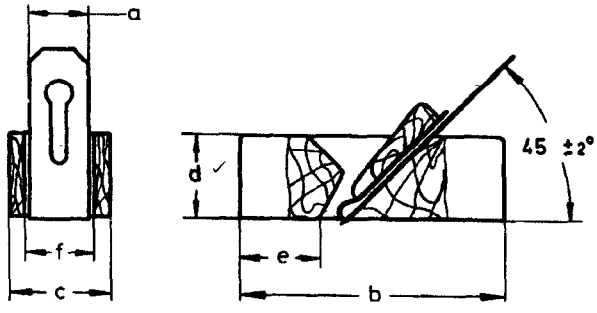
Sl No.	Nominal Size *a*	*b* ± 5	*c* ± 2	*d* ± 3	*e* ± 3	*f* + 1.5 − 0
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	33	236	52	63	100	34.5
ii)	38[1)]	236	57	63	100	39.5
iii)	45	236	63	63	100	46.5
iv)	48	236	66	63	100	49.5
v)	51[1)]	236	70	63	100	52.5

NOTE — The dimensions of ramshorn handle shall be subject to agreement between the manufacturer and the purchaser.

[1)]Non-preferred size.

Table 5 Dimensions of Nose Plane Without Handle

(*Clause* 6.2)



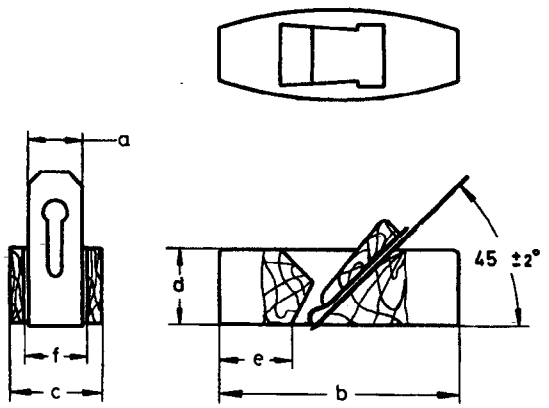
All dimensions in millimetres.

Sl No.	Nominal Size *a*	*b* ± 5	*c* ± 2	*d* ± 3	*e* ± 3	*f* + 1.5 − 0
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	38[1)]	236	57	63	100	39.5
ii)	42	236	61	63	100	43.5
iii)	45	236	63	63	100	46.5
iv)	51[1)]	236	70	63	100	52.5

[1)]Non-preferred size.

Table 6 Dimensions of Smoothing Plane

(*Clause* 6.2)



All dimensions in millimetres.

Sl No.	Nominal Size *a*	*b* ± 5	*c* ± 2	*d* ± 3	*e* ± 3	*f* + 1.5 − 0
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	45[1)]	200	75	63	60	46.5
ii)	51	200	75	63	60	52.5

[1)]Non-preferred size.

8 FINISHING

The body shall be impregnated with a product (for example, linseed oil) or coated with colourless varnish to ensure that it remains dry under all conditions.

8.1 The cutting edge shall be ground sharp and ready for final honing.

8.2 Front back and edge shall be ground or have an equivalent finish. After finishing, a suitable protection shall be applied to prevent rusting.

9 SAMPLING

9.1 Lot

All the planes of the same type and size in a consignment grouped together constitute a lot.

9.2 For ascertaining the conformity of the lot, the procedure for sampling and inspection as given in IS 2500 (Part 1) shall be followed.

9.3 To determine the conformity for the requirements of this standard a single sampling plan with inspection level IV and AQL of 2.5 percent as given in Tables I and IIA of IS 2500 (Part 1) shall be followed.

10 DESIGNATION

10.1 The planes shall be designated by its commonly used name, nominal size, and number of this standard.

Example:

A nose plane with ramshorn handle of nominal size 48 mm shall be designated as:

Nose plane Ramshorn 48, IS 8202

11 MARKING

11.1 Each plane shall be marked with nominal size, manufacturer's name, and initials and/or recognized trade-mark.

11.2 BIS Certification Marking

Each plane may also be marked with the Standard Mark.

11.2.1 The use of the Standard Mark is governed by the provision of *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standards

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Review of Indian Standards

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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