

INTERNATIONAL  
STANDARD

**ISO**  
**2726**

Second edition  
1995-12-01

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**Woodworking tools — Metal-bodied bench  
planes, plane cutters and cap irons**

*Outils pour le travail du bois — Rabots métalliques, fers de rabots et  
contrefers*



Reference number  
ISO 2726:1995(E)

## Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 2726 was prepared by Technical Committee ISO/TC 29, *Small tools*.

This second edition cancels and replaces the first edition (ISO 2726:1973) as well as ISO 2728:1982, which have been technically revised.

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International Organization for Standardization  
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

# Woodworking tools — Metal-bodied bench planes, plane cutters and cap irons

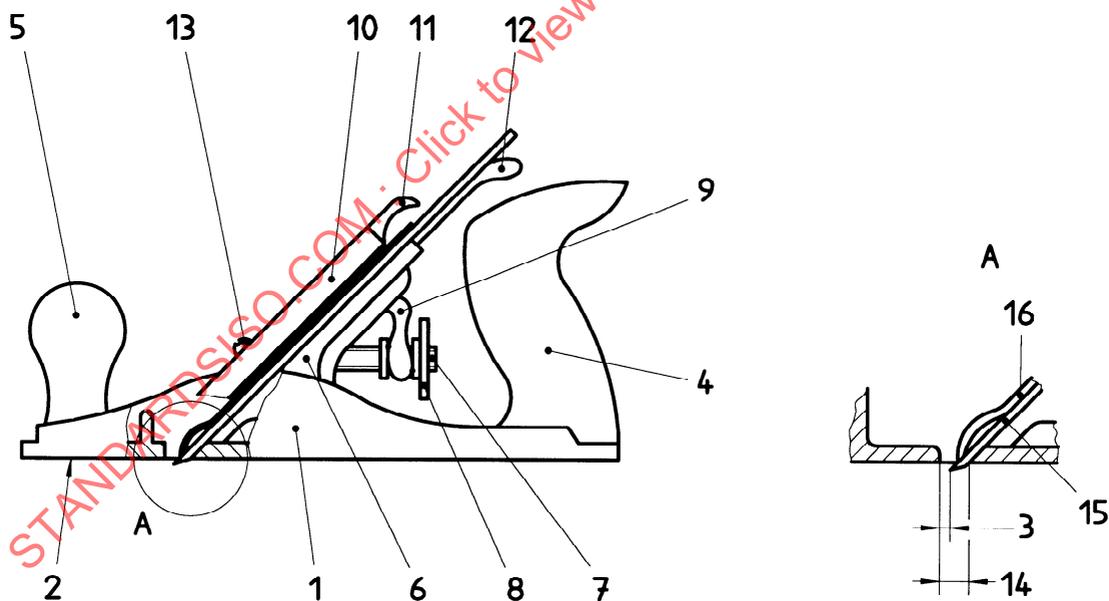
## 1 Scope

This International Standard specifies the characteristics of metal-bodied bench planes, plane cutters and cap irons.

## 2 Metal-bodied bench planes

### 2.1 Nomenclature

See figure 1.



#### Key

1	Plane body	7	Adjusting screw	13	Lever cap screw
2	Sole	8	Adjusting nut	14	Mouth
3	Clearance	9	Depth adjusting lever	15	Plane cutter
4	Handle	10	Lever cap assembly	16	Cap iron
5	Knob	11	Lever cap lock		
6	Frog	12	Lateral adjusting lever		

Figure 1 — Nomenclature

## 2.2 Dimensions

See figure 2 and table 1.

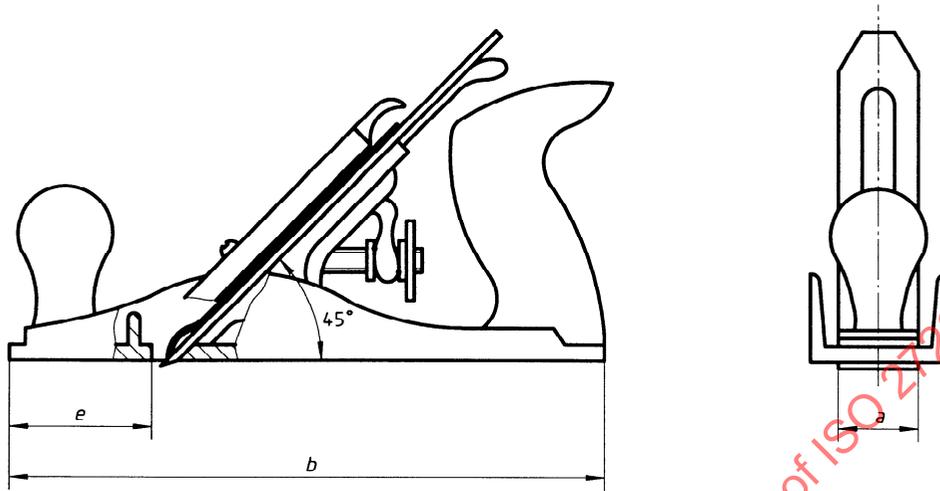


Figure 2 — Metal-bodied bench planes

Table 1

Dimensions in millimetres,  
between parentheses in inches

<i>a</i> nom.	<i>b</i> $\pm 10$	<i>e</i> $\pm 10$
45 (1 3/8)	236	63
51 (2)	250	63
	355	100
60 (2 3/8)	450	125
	560	180

## 2.3 Technical specifications

### 2.3.1 Shape

Metal-bodied bench planes shall have dimensions which conform to those shown in figure 2 and table 1, and be of a shape adapted to facilitate a firm grip during operation.

### 2.3.2 Material

Materials to be used for this purpose shall have at least the qualities of the materials which have been most commonly used up to now.

#### 2.3.2.1 Cast iron or steel for body, frog and lever cap.

**2.3.2.2** Steel for lever cap screw and for adjusting screw for plane cutter. Steel, brass or suitable plastic material for adjusting nut.

**2.3.2.3** Hardwood timber, straight-grained, free from defects and with a moisture content between 10 % and 15 % for knob and handle. Suitable plastic material may also be used for the knob and handle. Where plastics are used, they shall have similar mechanical properties and be smoothly finished.

### **2.3.3 Sole**

The working face shall be finished smooth and be flat within the specified tolerance including planes with corrugated faces.

The flatness tolerance shall be 0,08 mm.

The side faces shall be finished smooth. They shall be parallel and have an angle of  $90^\circ \pm 0^\circ 30'$  to the face of the sole.

The mouth shall have parallel edges, at  $90^\circ \pm 1^\circ$  to the sides of the sole, and have sufficient side clearance to allow maximum lateral adjustment as given in 2.3.5.

### **2.3.4 Frog**

The frog shall be firmly fixed on the sole (suitable means shall be provided) to enable correct adjustment of the mouth aperture.

### **2.3.5 Lateral adjusting lever**

The lateral adjusting lever shall be capable of positioning the cutting edge at an angle of  $\pm 1^\circ 30'$  relative to the face of the sole.

### **2.3.6 Adjusting nut**

The adjusting nut shall be capable of being easily operated (knurled or special shape), and of imparting a minimum of 3 mm longitudinal movement to the cutter.

### **2.3.7 Knob and handle**

The knob and handle shall be smoothly finished.

They shall be firmly fixed to the body of the plane.

## **2.4 Protection**

Any exposed bright metal parts shall be given suitable anti-corrosion treatment.

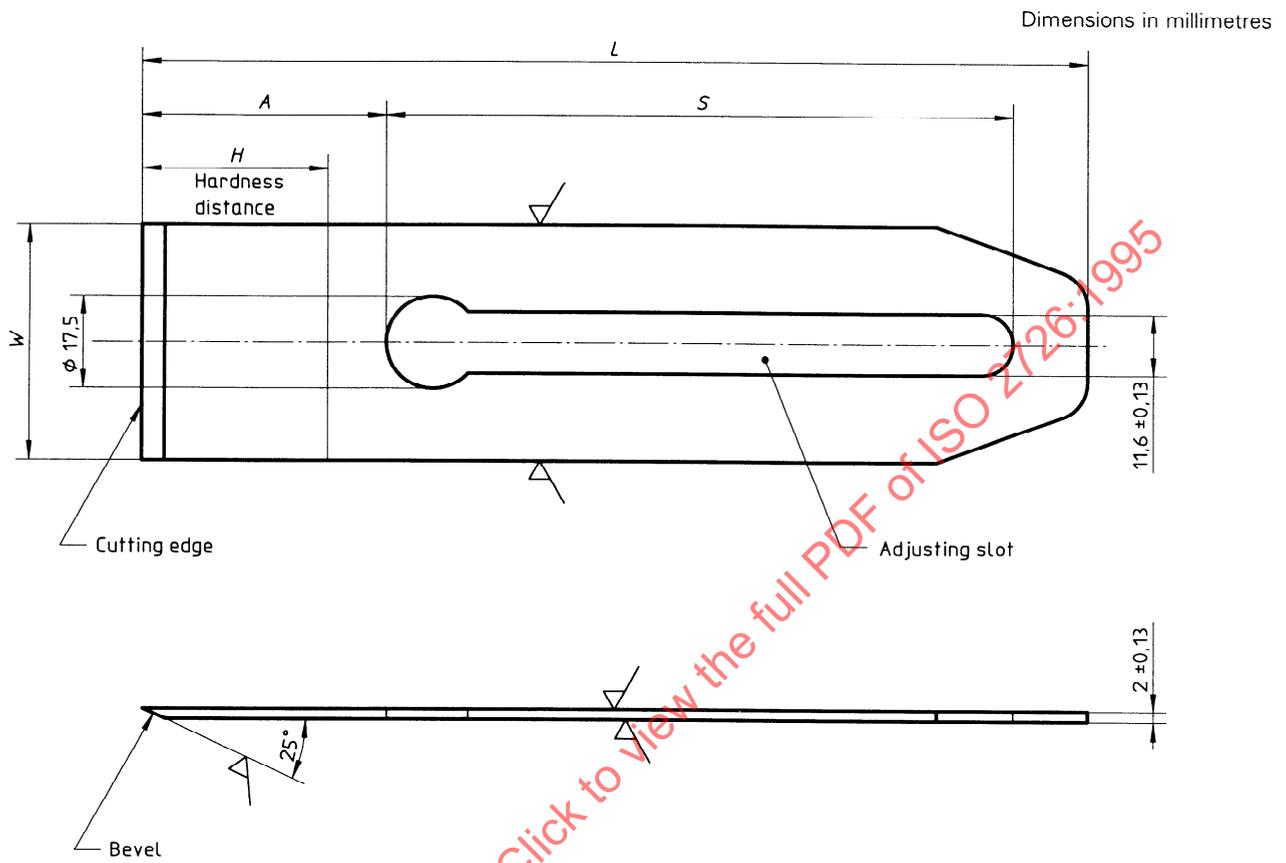
## **2.5 Finish**

All components of each plane shall be smoothly finished and be free from burrs, scale, flaws and other defects. With the exclusion of the plane cutter and cap iron, the unmachined surfaces of metal parts shall be painted, lacquered, black-japaned, powder epoxy coated, nickel or nickel chrome plated.

# **3 Plane cutter and cap irons**

## **3.1 Dimensions**

See figures 3 and 4 and tables 2 and 3.



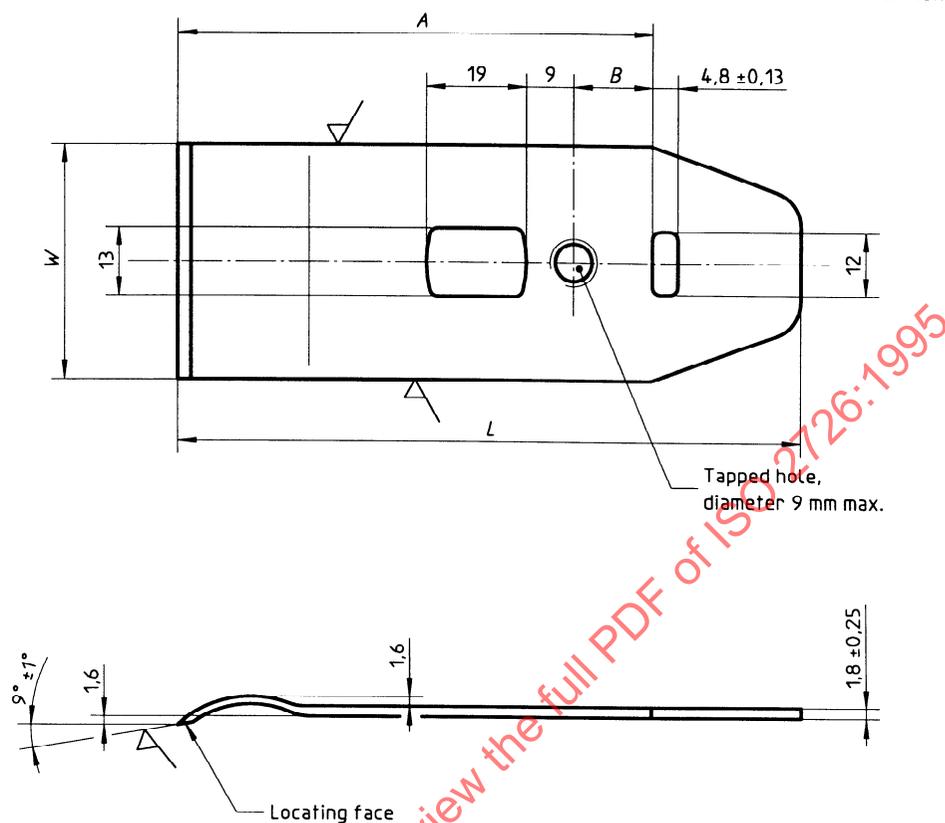
**Figure 3 — Plane cutters for metal-bodied bench planes**

**Table 2**

Dimensions in millimetres

$W$	$L$	$A$	$H$	$S$
$\pm 1,3$	min.	$\pm 1,5$	$\pm 3$	$\pm 1,5$
44,5	178	46	35	118
50,8	187	54	46	118
60,3	197	56	48	118

Dimensions in millimetres



NOTE — Cap irons are normally supplied with screw.

Figure 4 — Cap irons for metal-bodied bench planes

Table 3

Dimensions in millimetres

$W$ 0 -0,4	$L$ min.	$A$ $\pm 0,8$	$B$ $\pm 0,8$
44,5	118	90	15
50,8	123	92	15
60,3	132	96	15

### 3.2 Technical specifications

Plane cutters and cap irons of metal-bodied bench planes have dimensions which conform to those given in figures 3 and 4 and tables 2 and 3. Their manufacture shall be such that they can withstand the loads to which they are subjected during normal use.

### 3.2.1 Plane cutters

#### 3.2.1.1 Material

The plane cutter specified in this International Standard shall be manufactured from a material which, taking into account the hardness given below, gives a cutting edge quality the same as, or higher than, that of a tool steel of the analysis given for guidance in table 4.

After heat treatment, the hardened zone shall be as shown in figure 3 and shall have a minimum value of 60 HRC.

**Table 4**

Element	C	Si	Mn	P	S
Content % — min.	0,90	0,15	0,30	—	—
Content % — max.	1,25	0,35	0,70	0,050	0,050

#### 3.2.1.2 Cutting edge

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

#### 3.2.1.3 Finish

Front and back shall be finely ground or have an equivalent finish.

After finishing, a suitable protection shall be applied to prevent rusting.

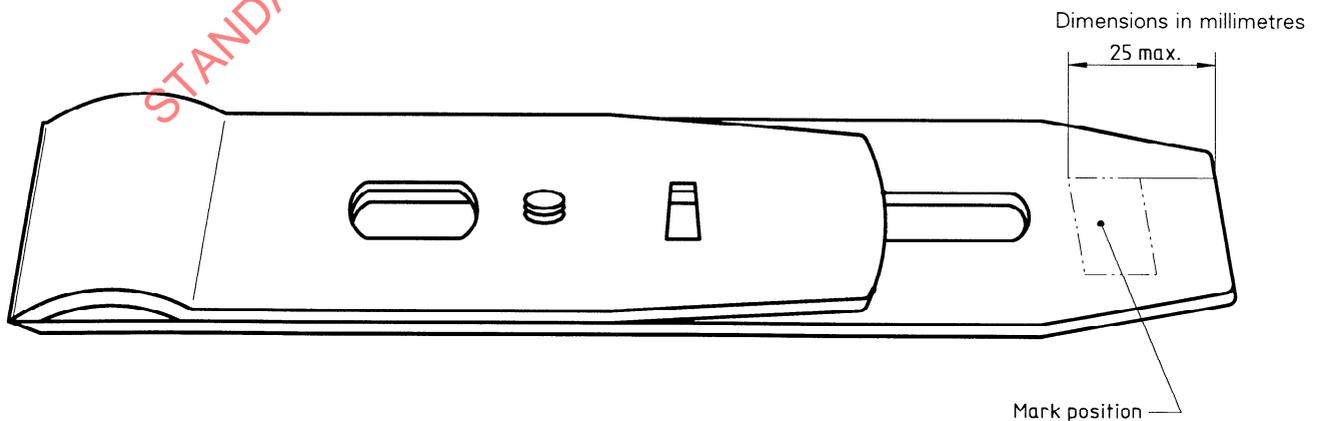
### 3.2.2 Cap iron

The cap iron shall be manufactured from a material which has sufficient strength for satisfactory use. Any exposed bright metal parts shall be given suitable anti-corrosion treatment.

The tightening of the screw shall cause no deflections that might adversely affect use.

The locating edge shall be square relative to the centre line of the cap iron, with a tolerance of  $\pm 1^\circ$ .

When the screw is tightened, the cap iron and the plane cutter shall close together absolutely flush at the extreme edge of the cap iron, in order to avoid any intrusion of shavings (see figure 5).



**Figure 5 — Assembly of plane cutter and cap iron**

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