

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा  
फुटवियर उद्योग के लिए  
हाथ के उपकरण — विशिष्टि  
भाग 4 आधा गोल चाकू  
(IS 6053(Part 4) का पहला पुनरीक्षण)

*Draft Indian Standard*

**HAND TOOLS FOR FOOTWEAR  
INDUSTRY – SPECIFICATION**  
Part 4 – Half Round Knife

*(First Revision of IS 6053(Part 4))*

(ICS 61.060, 25.140)

Footwear Sectional Committee, CHD 19

Last Date for Comments: 26 June 2024

Footwear Sectional Committee, CHD 19

**FOREWORD**

*(Formal clause shall be added later)*

This standard was originally published in 1972. This revision has been taken up in order to bring out the standard in latest style and format of the Indian Standards. The relevant clauses and test methods have been added and the references have been updated.

This Indian Standard is published in several parts. The other parts in this series are:

Part 1 Upper clicking knife

Part 2 Bottom cutting knife (Rampi)

Part 3 Designers' knife

Part 5 Straight hacking knife

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: 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Draft Indian Standard*

**HAND TOOLS FOR FOOTWEAR  
INDUSTRY — SPECIFICATION  
PART 4 HALF ROUND KNIFE**

*(First Revision)*

**1 SCOPE**

This standard prescribes the requirements, methods of sampling and tests for half round knife, used for cutting of leather.

**2 REFERENCES**

The Indian standards given below contain provisions which through reference in this text, constitute provisions 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 Indian standard are encouraged to investigate the possibility of applying the most recent editions of the standards.

<i>IS No.</i>	<i>Title</i>
IS 620 : 1985	Specification for wooden tool handles general requirements
IS 1501 (Part 1) : 2020	Metallic Materials — Vickers Hardness Test Part 1 Test Method ( <i>fifth revision</i> )
IS 2050 : 1991	Glossary of terms & relating to footwear ( <i>first revision</i> )
IS 4905 : 2015	Random sampling and randomization procedures ( <i>first revision</i> )

**3 TERMINOLOGY**

For the purpose of this standard, the definition given in IS 2050 shall apply.

**4 REQUIREMENTS**

**4.1 Materials**

**4.1.1 Blades**

The knife blade shall be made from steel conforming to the performance test given in **4.5.1**, **4.5.2** and **4.5.3**

**4.1.2 Ferrule**

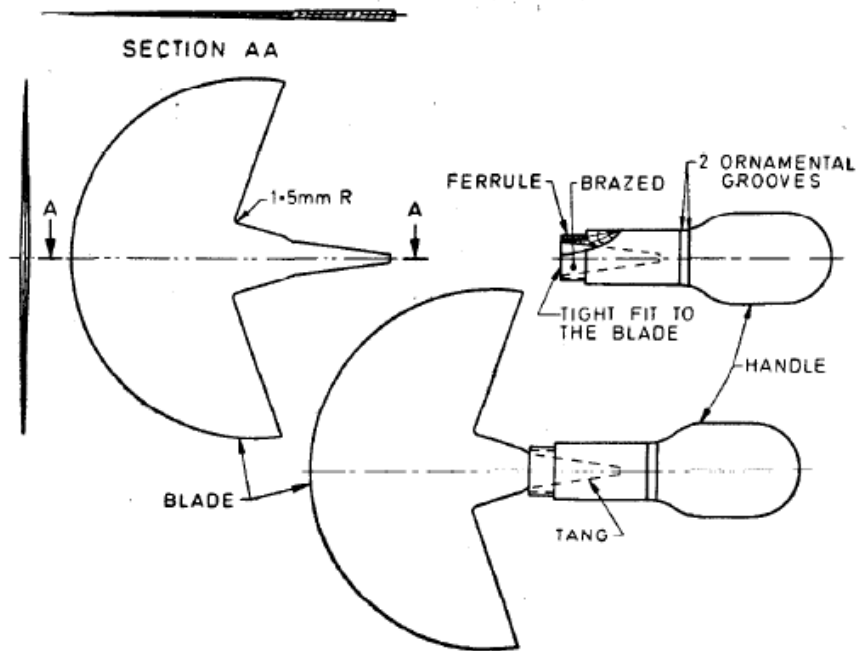
The ferrule shall be manufactured from mild steel tube 0.8 mm wall thickness or brass sheet of 0.8 mm thickness, with rust preventing coating.

**4.1.3 Handle**

Handle of the knife shall be made from wood, conforming generally to the requirements of Class V of IS 620.

**4.2 Design and Dimensions**

A typical design with recommendatory dimensions is given in Fig. 1.



Materials for Ferrule = 0.6 mm to 0.7 mm Brass Sheet

FIG. 1 HALF ROUND KNIFE

### 4.3 Hardness

The hardness of the finished steel blades of the knife, measured as near to the cutting edge as possible, shall be within 625 HV to 725 HV when tested according to IS 1501.

### 4.4 General Requirements and Finish

#### 4.4.1 Blades

The blades shall be forged to the shape, design as shown in Fig. 1 and suitably hardened and tempered. The blades shall be free from cracks, seams, pits and other visible flaws. The cutting edge of the knife shall be smoothly and evenly ground, capable of being sharpened on an oil stone ready for use within about 20 minutes. The tang shall be well drawn and securely fitted to the handle.

4.4.2 The hole for the tang shall be neatly made and shall be along the grain of the wood. The handle shall be smoothly finished and shall be coated with two coats of shellac varnish.

4.4.3 The ferrules shall be finished smooth and polished bright all over. If made of brass sheet, the ends of the ferrule shall be butt jointed and securely brazed or welded. They shall be securely fitted to the handle.

### 4.5 Performance Requirements

4.5.1 The knife when suitably sharpened and subjected to a practical cutting test on butt portion of vegetable tanned sole leather, approximately 5 mm thick, shall cut easily and shall give a clean cut edge. The cutting edge shall fully retain its keenness and shall show no sign of distortion or any other defects on completion of the test.

4.5.2 The blade of the knife shall not show any sign of blunting, cracking, permanent set or loosening or tendency to fold from the handle on being struck sharp blows on one of the hard timbers given in Annex A from a height of 250 mm with the cutting edge facing downwards.

4.5.3 The blades of the knife shall be struck four hard blows across the edge on any of the hard timbers given in Annex A along its flat surface. The blades shall show no sign of damage or distortion during or after the test.

## 5 MARKING

5.1 Each handle of the knife or the package or both shall be marked legibly with the following particulars:

a) Name of the manufacturer or trade-mark, if any; and

b) Date and year of manufacture.

#### 5.1.1 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the standard mark.

### 6 PACKING

The blades of the knife shall be wrapped in greased paper and securely tied. The wrapped knives shall then be packed as agreed to between the purchaser and the supplier.

### 7 SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

The scale of sampling and criteria for conformity shall be as prescribed in Annex B.

#### ANNEX A

(Clauses 4.5.2 and 4.5.3)

#### HARD TIMBERS

A-1 The following timbers may be used for testing the performance of the knives:

Sl. No	Trade name	Botanical Name
(1)	(2)	(3)
i.	Kusum	<i>Schleichera cleosa</i> Merr.
ii.	Babul	<i>Acacia nilotica</i> (Linn.) Del., Syn. <i>Acacia arabica</i> Linn. fam. Leguminosae
iii.	Sissoo	<i>Dalbergia sissoo</i> Roxb.
iv.	Sal	<i>Shorea robusta</i> Gaertn. f.
v.	Anjan	<i>Harawickia binata</i> Roxb.
vi.	Hopea	<i>Hopea</i> sp
vii.	Mesua	<i>Mesua ferrea</i>

#### ANNEX B

(Clause 7)

#### SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

##### B-1 SCALE OF SAMPLING

###### B-1.1 Lot

In a consignment all the knives of the same shape and dimensions shall be grouped together to constitute a lot.

B-1.2 Each lot shall be tested separately for determining its conformity to the requirements of this specification.

B-1.3 The number of knives to be selected in the sample depends on the size of the lot and shall be in accordance with col 2 and 3 of Table 1.

#### TABLE 1 SCALE OF SAMPLING AND PERMISSIBLE NUMBER OF DEFECTIVES

Sl. No	Lot size	Sample size	Permissible No. of Defectives
(1)	(2)	(3)	(4)
i.	Up to 25	5	0
ii.	26 to 50	6	0
iii.	51 and above	13	1

**B-1.4** These sample knives shall be selected at random from the lot. For random selection procedures, IS 4905 may be referred.

## **B-2 CRITERIA FOR CONFORMITY**

**B-2.1** All the selected knives shall be examined for material, construction, dimensions and finish and shall also be tested for performance requirements given in **4.5**. A knife failing in any one of the above requirements shall be taken as a defective. The number of defectives shall not exceed the permissible number given in col 4 of Table 1 if the lot is to be accepted as satisfactory.

**B-2.2** Two knives, if the lot size is 100 and below, shall be tested for hardness of steel blade. There shall be no failure if the lot is to be accepted under this clause.