IS 6375 (1991): Wood Splitting Wedges [PGD 6: Earth, Metal And Wood Working Hand Tools]

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IS 6375 : 1991
(Reaffirmed 2006)

भारतीय मानक

लकड़ी चीरने की फन्नियाँ — विशिष्टि

(पहला पुनरीक्षण)

Indian Standard

WOOD SPLITTING WEDGES — SPECIFICATION

(First Revision)

UDC 674·053 : 621·968 : 021-436·7

BUREAU OF INDIAN STANDARDS
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Price Group 2

FOREWORD

This Indian Standard 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 standard is intended to serve as a guide in selecting, testing and using the hand tools covered herein. Details of design, testing and use of the tools covered are only specified as they relate to safety. It is not the purpose of this standard to specify the details of manufacturing of the tools.

While revising this standard, dimensions have been modified and many definitions have been included. Striking face test has also been included. The severity of the test is such that a degree of permissible deformation, such as denting of the bit and struck face, can be anticipated. A much less severe test would avoid this, but it would not provide the level of safety assurance desired.

While revising this Standard, considerable assistance has been taken from ANSI B 209.3-1981 'Wood splitting wedges' issued by the American National Standards Institute, U.S.A.

Indian Standard

WOOD SPLITTING WEDGES — SPECIFICATION

(First Revision)

1 SCOPE

This standard covers the dimensions ana other requirements of wood splitting wedges that are intended specifically for use in splitting the wood.

2 REFERENCES

IS 1570 : 1961	Schedules for wrought steels for general engineering purposes
IS 2500 (Part 1) : 1973	Sampling inspection tables: Part 1 Inspection by attributes and by count of defects (*first revision*)

3 DEFINITIONS

Definitions related to wood splitting wedges are given below (*see* also Fig. 1 and 2).

3.1 Bevel

The angular portion of the wedge adjacent to the bit and extending to the taper.

3.2 Bit

The edge formed by the bevel directly opposite the struck face.

3.3 Chamfer

The angled flat surface or rounded portion of the wedge encircling the perimeter of the struck face.

3.4 Guide Grooves

In the square-head types only, the long, narrow impressions located on opposite sides of the taper.

3.5 Struck Face

That portion of the wedge located adjacent to the head directly opposite the bit.

3.6 Taper

That portion of the wedge with a gradually reducing cross-sectional area, located between the head and the bevel.

4 DIMENSIONS

Dimensions of wood splitting wedges shall be as given in Fig. 2.

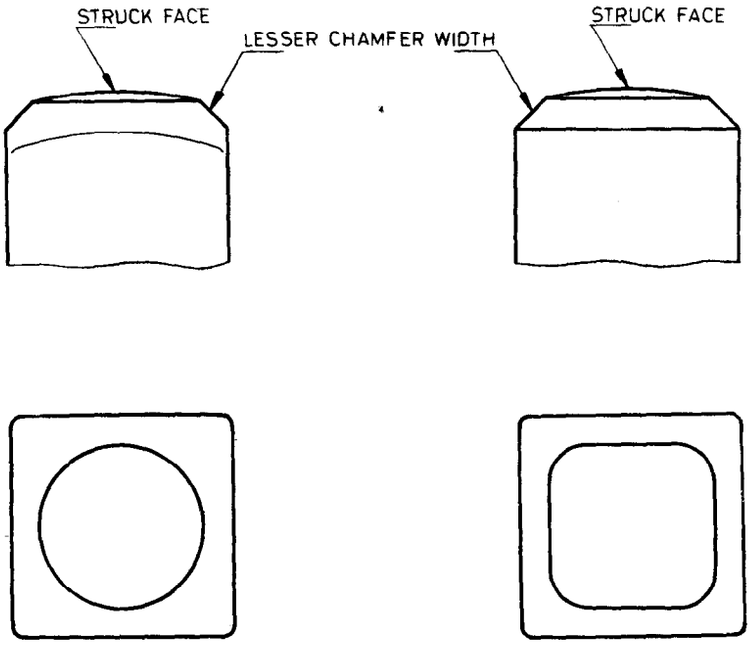
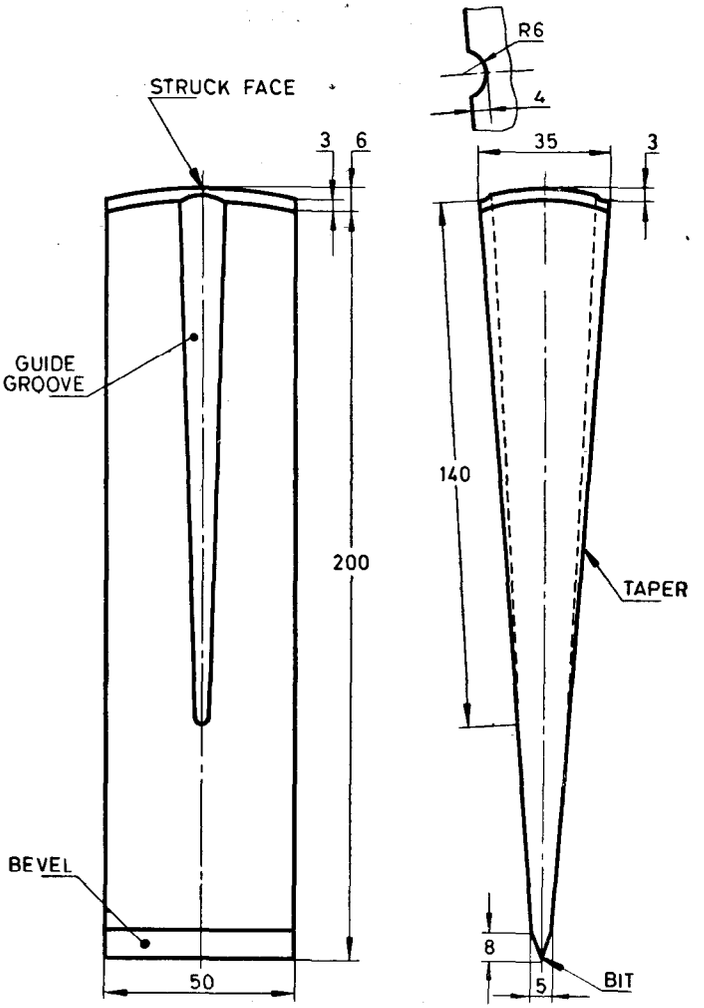


FIG. 1 NOMENCLATURE AND ALTERNATE HEAD DESIGNS FOR SQUARE HEAD WEDGES



All dimensions in millimetres.

FIG. 2 DIMENSIONS FOR SPLITTING WEDGES

5 MATERIALS

5.1 Wood splitting wedges shall be made from special quality, fine-grain, hot-rolled or cold-finished carbon or alloy steel bars having good wear and shock resisting qualities or from an equivalent material meeting the requirements as laid down in **6** and **8**.

One of the suitable steels for the wedges is T 50 or T 55 of Schedule VI of IS 1570 : 1961 'Schedules for wrought steels for general engineering purposes' with a sulphur and phosphorus content of 0·05 percent *Max* each or any other steel having the characteristics equivalent or superior to T 50 or T 55.

6 HARDNESS

The chisel end of the wedge shall have a hardness between 350 to 450 *HV* up to a distance of 50 mm from the cutting edge. The hardness may gradually reduce between 250 to 350 *HV* at the striking end.

7 GENERAL REQUIREMENTS

7.1 The struck face shall have a flat or a convex shape.

7.2 The struck face of all wedges shall have a chamfer of approximately 45 degrees (or equivalent radius) all around the perimeter with the lesser width equal to approximately one-tenth of the minimum head width. For example, if the minimum head width is 50 mm then the lesser chamfer width would be approximately 5 mm.

7.3 All wedges shall be free from non-functional sharp edges, points, and surface roughness that may inflict personal injury to the user.

7.4 Wedges shall be soundly forged to shape and shall be free from cracks, pits, flaws, seams and other manufacturing defects.

8 SAMPLING

8.1 Unless otherwise agreed to between the supplier and the purchaser, the procedure given in IS 2500 (Part 1) : 1973 shall be followed for sampling and inspection. The sampling plan for various characteristics shall be as given in **8.2** and **8.3.**

8.2 For examining dimensions, the sampling plan with inspection level III and acceptable quality level (AQL) 2·5 percent given in Table 1 and 2 of IS 2500 (Part 1) : 1973 shall be followed.

8.3 For hardness and other tests, the sampling plan with inspection level I and acceptable quality level (AQL) 2·5 percent given in IS 2500 (Part 1) : 1973 shall be followed.

9 TESTS

9.1 Struck Face Test

The wedge shall be vertically mounted and supported with the bit resting directly on a mild steel plate of not less than 20 mm thickness. The steel plate shall be rigidly supported on an anvil or other similar device of sufficient mass to resist deflection. Prior to conducting this test, care shall be taken to blunt (*round*) the bit to ensure that the impact energy is not expended in deformation of the bit. A cylindrically shaped weight of 4·5 kg shall be dropped unrestricted from a height of 1·5 m through a piece of seamless tubing or pipe slightly larger than the weight. A minimum of 5 drops shall be made in such a manner that each drop applies the full force of the weight squarely to the struck face.

When tested as specified, the struck face of the wedge shall not crack or chip. Normal deformation of the struck face shall be permitted.

9.2 The wedges shall be practically tried on a suitable hard wood block to split it (e.g. *Sisam* or *Kikar*) and shall be struck with full blows with 2 kg sledge hammer till the complete wedge is inserted in the timber block. No damage or distortion shall occur on completion of the test.

10 SAFETY REQUIREMENTS AND LIMITATIONS OF USE

10.1 Wood splitting wedges are special-purpose tools designed and intended only for the use specified in **1.**

10.2 Wood splitting wedges shall not be struck with an axe.

10.3 A blow from a striking tool shall always be struck squarely with the striking face parallel to the struck face. Glancing blows and over- and under-strikes shall be avoided.

10.4 A wood chopper's maul or an axe shall always be used to make a starting notch in the wood to be split.

10.5 Safety goggles or equivalent eye protection shall be worn by the user and all persons in the immediate area where any wedge is being used, to avoid possible eye injury from the flying objects.

10.6 Wedges shall be inspected at regular intervals and their use discontinued at the first sign of chipping or cracking of any portion of the struck face.

10.7 No part of the wedge shall be ground, welded, reheated or otherwise altered from the original condition as furnished by the manufacturer, except as indicated in **10.8** and **10.9.**

10.8 Dulling of the bit may occur from tool usage; the bit shall be promptly redressed to the original contour by the use of a whetstone or file.

10.9 Any mushrooming of the struck-face from tool usage shall be promptly redressed to the original contour by the use of a whetstone or file.

11 PRESERVATION AND PACKING

The wedges shall be given a suitable rust preventive treatment and shall be packed in accordance with the best prevalent trade practice.

12 MARKING

Each wedge shall be legibly and indelibly stamped with manufacturer's name, initials or recognized trade-mark.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

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