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IS 451 (1999): Technical Supply Conditions for Wood Screws  
[PGD 31: Bolts, Nuts and Fasteners Accessories]



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भारतीय मानक  
लकड़ी के पेचों के लिए तकनीकी आपूर्ति शर्तें  
( तीसरा पुनरीक्षण )

*Indian Standard*  
TECHNICAL SUPPLY CONDITIONS FOR  
WOOD SCREWS  
( *Third Revision* )

ICS 21.060.10

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**BUREAU OF INDIAN STANDARDS**  
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NEW DELHI 110002

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Price Group 1

## FOREWORD

This Indian Standard (Third Revision) was originally published in 1961 covering wood screws with different head shapes. In its first revision in 1972, the scope of the standard was restricted to cover only technical supply conditions while the specifications for wood screws with different head shapes were covered in the following additional standards:

IS 6736 : 1972 Slotted raised countersunk head wood screws

IS 6739 : 1972 Slotted round head wood screws

IS 6760 : 1972 Slotted countersunk head wood screws

In this revision, the standard has been modified editorially and reference to other standards updated. Also stipulations relating to concentricity of head with shank and positions of slot with respect to head have been deleted since the same are covered in the individual product standards on wood screws.

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 of 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

## TECHNICAL SUPPLY CONDITIONS FOR WOOD SCREWS

( Third Revision )

### 1 SCOPE

This standard covers the technical supply conditions for wood screws.

### 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:

<i>IS No.</i>	<i>Title</i>
1812 : 1982	Carbon steel wire for manufacture of wood screws ( <i>second revision</i> )
4170 : 1967	Brass rods for general engineering purposes
4413 : 1981	Brass wires for general engineering purposes ( <i>first revision</i> )

### 3 DIMENSIONS AND TOLERANCES

**3.1** The dimensions of the wood screw shall conform to those given in the respective product standards.

**3.2** The depth of threads measured at a distance of 1.5 to 2 times the nominal diameter from the point, shall not be less than the values specified in Table 1.

**3.3** The tolerance on nominal length of the wood screws shall be js17.

### 4 MATERIAL

**4.1** Wood screws shall be manufactured from material conforming to IS 1812.

**4.2** In case of wood screws made of brass, the material shall conform to grade CuZn37 of IS 4413 or grade CuZn 40 of IS 4170.

### 5 FINISH

**5.1** The wood screws shall be supplied with bright self colour finish unless otherwise specified by the purchaser.

**Table 1 Depth of Threads**

( Clause 3.2 )

<b>Screw Number (Screw Designation)</b>	<b>Minimum Depth of Thread (mm)</b>
0	0.20
1	0.23
2	0.25
3	0.30
4	0.33
5	0.41
6	0.46
7	0.51
8	0.56
9	0.61
10	0.66
12	0.76
14	0.86
16	0.96
18	1.04
20	1.14
24	1.35
28	1.55
32	1.75

**5.2** The wood screws shall be cleanly finished and free from burrs.

### 6 GENERAL REQUIREMENTS

**6.1** The threaded portion of the screws shall be formed by progressive reduction of the root diameter to obtain a uniform taper.

**6.2** The screws shall be gimlet pointed and the included angle of the gimlet point shall be between 28 to 44 degrees. The thread form throughout the length of the screws shall be such that it will give the maximum bite into the wood when the screw is rotated and strong enough to prevent distortion of threads.

**6.3** Threads shall be clear and well defined. At the end of the threaded portion nearest to the head, the root of the threads shall runout to be nominal diameter within a distance not exceeding one-quarter of the length of the threaded portion.

## 7 INSPECTION AND ACCEPTANCE

### 7.1 Lot

In any consignment, all wood screws of the same screw number and manufactured at the same time shall be grouped together to constitute a lot.

### 7.2 Selection of Wood Screws

7.2.1 The number of wood screws to be selected from a lot shall depend upon its size and shall be in accordance with col 1 and 2 of Table 2.

7.2.2 These wood screws shall be selected at random from at least 10 percent of the boxes subject to a minimum of three, equal number of screws being selected from each box.

**Table 2 Sample Size and Criterion for Conformity**  
(Clauses 7.2.1 and 7.4)

Lot Size	Sample Size	Permissible Number of Defective Wood Screws
(1)	(2)	(3)
Up to 150	13	1
151 to 300	20	2
301 to 500	22	3
501 to 1 000	50	5
1 001 to 3 000	80	7
3 001 to 10 000	125	10
10 001 and above	200	14

NOTE — The sampling plan given here is such that lots with 4 percent or less defectives would be accepted most of the times.

### 7.3 Number of Test

All wood screws selected as per 7.2 shall be checked for conformity to all requirements of the standard. Any wood screw which fails to satisfy the requirements of

any one or more of the characteristics shall be considered as a defective wood screw.

### 7.4 Criterion for Conformity

The lot shall be considered as conforming to the requirements of this standard if the number of defective wood screws among those tested does not exceed the corresponding number given in col 3 of Table 2 otherwise it shall be considered as not conforming to the requirements of this standard.

## 8 PACKING

Wood screws shall be coated with a suitable rust preventive and shall be packed in cardboard boxes. Wood screws of 25 mm length and below shall be packed in number of 200 per box and all wood screws of length above 25 mm shall be packed in numbers of 100 per box.

## 9 MARKING

9.1 The label of individual boxes containing the wood screws shall be marked with the following information:

- Manufacturer's name or trade-mark;
- Type, screw number and length of wood screws; and
- Quantity contained in the box.

### 9.2 BIS Certification Mark

The product conforming to this standard may also be marked with the Standard Mark. Wherever it is not possible to put the Standard Mark on the product, it may be marked on the packaging.

9.2.1 The use of the Standard Mark is governed by the provisions 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.

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### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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