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**Doc No.: PGD 37 (21519)**  
**IS 5373 : 2023**

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*भारतीय मानक मसौदा*

**लकड़ी के बन्धन के लिए वर्गाकार वाशर — विशिष्ट**  
( पहला पुनरीक्षण )

*Draft Indian Standard*

**Square Washers for Wood Fastenings — Specification**  
(*First Revision*)

ICS 21.060.30

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Last date for receipt of comment is  
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**FOREWORD**

*(The formal clauses will be added later)*

This standard was first published in 1969. The first revision has been taken up to keep pace with the latest technological developments and international practices. In this revision following major changes have been made:

- a) Scope of the standard has been revised,
- b) Geometrical tolerance and surface finish requirements have been added,
- b) References have been updated, and
- b) Table on dimensions of washers has been revised.

In the preparation of this standard, assistance has been derived from DIN 436 : 1990 'Square washers for use in timber constructions'.

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 : 2020 '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.

**Square Washers for Wood Fastenings — Specification**  
*(First Revision)*

## **1 SCOPE**

This standard specifies the requirement of washers intended for use in bolt/nut assemblies in wood fastenings.

## **2 REFERENCES**

The following Indian 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>
IS 1367 (Part 11) : 2023/ ISO 4042 : 2022	Technical supply conditions for threaded steel fasteners: Part 11 Electroplated coating systems ( <i>fifth revision</i> )
IS 1367 (Part 12) : 1981	Technical supply conditions for threaded steel fasteners: Part 12 Phosphate coatings on threaded fasteners ( <i>second revision</i> )
IS 1367 (Part 13) : 2020/ ISO 10684 : 2004	Technical supply conditions for threaded steel fasteners: Part 13 Hot dip galvanized coatings on threaded fasteners ( <i>third revision</i> )
IS 1367 (Part 17) : 2022/ ISO 3269 : 2019	Technical supply conditions for threaded steel fasteners: Part 17 Inspections, sampling and acceptance procedure ( <i>fifth revision</i> )
IS 1501 (Part 1) : 2020/ ISO 6507-1 : 2018	Metallic materials — Vickers hardness test: Part 1 Test method ( <i>fifth revision</i> )
IS/ISO 10683 : 2018	Fasteners — Non-electrolytically applied zinc flake coating systems

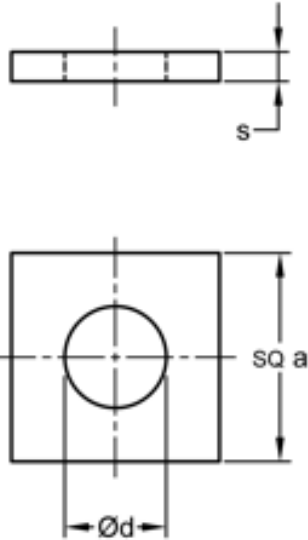
## **3 DIMENSIONS**

**3.1** The dimensions of washers shall be as given in Table 1.

**Table 1 Dimensions of Washers**

(Clause 3)

All dimensions in millimetres.



Sl No.	Nominal Size	For Thread Size	$d$		$a$		$s$		
			Min = Nominal size	Max	Max = Nominal size	Min	Nominal size	Max	Min
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(i)	11	M10	11	11.43	30	28.7	3	3.6	2.4
(ii)	13.5	M12	13.5	139.3	40	38.4	4	4.6	3.4
(iii)	17.5	M16	17.5	18.2	50	48.4	5	6	4
(iv)	22	M20	22	22.84	60	58.1	5	6	4
(v)	24	M22	24	24.84	70	68.1	6	7	5
(vi)	26	M24	26	26.84	80	78.1	6	7	5
(vii)	30	M27	30	30.84	90	87.8	6	7	5
(viii)	33	M30	33	34	95	92.8	6	7	5
(ix)	36	M33	36	37	100	97.8	6	7	5
(x)	39	M36	39	40	110	107.8	8	9.2	6.8
(xi)	42	M39	42	43	125	122.5	8	9.2	6.8
(xii)	45	M42	45	46	135	132.5	8	9.2	6.8
(xiii)	48	M45	48	49	140	137.5	8	9.2	6.8
(xiv)	52	M48	52	53.2	150	147.5	10	11.2	8.8
(xv)	56	M52	56	57.2	160	157.5	10	11.2	8.8

3.2 The permissible deviations on concentricity shall be as given in the table given below:

<i>Sl No.</i>	<i>Nominal Size</i>	<i>Permissible Deviations on Concentricity</i>
1	$11 < d \leq 50$	2 IT16
2	$50 < d \leq 56$	2 IT17

#### **4 MATERIAL**

**4.1** Washer shall be made of steel. The specific grade of steel shall be as agreed between purchaser and manufacturer.

**4.2** The hardness shall be 100 HV10 to 250 HV10. Vickers hardness testing shall be performed as per IS 1501 (Part 1).

#### **5 SURFACE FINISH**

Washers shall be supplied in natural light rust preventive oil unless otherwise specified by the purchaser. At the request of the purchaser, washers may be phosphated (*see* IS 1367 Part 12), hot dip galvanized (*see* IS 1367 Part 13), electroplated (*see* IS 1367 Part 11) or zinc flake coated (*see* IS/ISO 10683).

#### **6 DESIGNATION**

A washer conforming to this standard shall be designated by the IS No. of this standard and nominal size.

*Example:*

A washer of nominal size 22 mm shall be designated as:

Washer IS 5373 – 22

#### **7 SAMPLING AND ACCEPTANCE**

The sampling procedure for the testing and inspection of washers shall be in accordance with IS 1367 (Part 17).

#### **8 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 product(s) may be marked with the Standard Mark.