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IS 937 (1981): Specification for Washers For Water Fittings
For Fire Fighting Purposes [CED 22: Fire Fighting]



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IS : 937 - 1981

Indian Standard
SPECIFICATION FOR
WASHERS FOR WATER FITTINGS FOR
FIRE FIGHTING PURPOSES
(*Second Revision*)

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Indian Standard

SPECIFICATION FOR WASHERS FOR WATER FITTINGS FOR FIRE FIGHTING PURPOSES

(*Second Revision*)

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(*Continued on page 2*)

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Indian Standard
SPECIFICATION FOR
WASHERS FOR WATER FITTINGS FOR
FIRE FIGHTING PURPOSES
(*Second Revision*)

0. FOREWORD

0.1 This Indian Standard (Second Revision) was adopted by the Indian Standards Institution on 30 July 1981, after the draft finalized by the Fire Fighting Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 This standard was first issued in 1950 and revised in 1965. In this revision, requirements for the water fittings have been incorporated for which Indian Standards are available till 1980. The revision also includes the details of specification of the rubber used for the manufacture of washers.

0.3 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:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard lays down the requirements regarding material, shape, dimensions and finish of washers required for water fittings used for fire fighting purposes.

2. MATERIALS

2.1 Rubber — Where rubber is used for washers, it shall conform to the requirements in respect of hardness, tensile strength and elongation at break before and after ageing as mentioned for II B of IS:5382-1969†.

*Rules for rounding off numerical values (*revised*).

†Specification for rubber sealing rings for gas mains, water mains and sewers.

2.2 Leather — Where leather is used, it shall be buffalo leather and shall conform to IS : 581-1962*.

3. TYPES

3.1 Washers shall be of two types based on shape, namely, Type A and Type B (*see* Fig. 1 and 2).

4. SIZES

4.1 The size and dimensions of Type A washers shall be in accordance with Table 1 read with Fig. 1. The sizes and dimensions of Type B washers shall be in accordance with Table 2 read with Fig. 2.

5. WORKMANSHIP AND FINISH

5.1 Washers shall be free from surface imperfections, blisters, porosity, grittiness and foreign matter. The washers shall have smooth finish.

6. MARKING

6.1 Each washer shall be clearly and permanently marked with the following information:

- a) Manufacturer's name or trade-mark;
- b) Type of washer; and
- c) Year of manufacture.

6.1.1 The washers may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI 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 ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

*Specification for vegetable tanned hydraulic leather (*revised*).

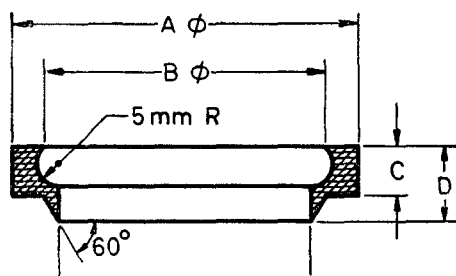


FIG. 1 TYPE A WASHER

TABLE 1 SIZES AND DIMENSIONS OF TYPE A WASHERS

(Clause 4.1 and Fig. 1)

NOMINAL SIZE OF WASHER*	DIMENSIONS				REMARKS
	Dia A (Tolerance +0 -1 mm)	Dia B (Tolerance +1 -0 mm)	C (Tolerance ± 0.5 mm)	D (Tolerance ± 0.5 mm)	
(1)	(2)	(3)	(4)	(5)	(6)
63-mm	78	63	11.0	22.0	Used in female coupling

*Nominal size of washer corresponds to the nominal size of the fitting in which the washer is to be used.

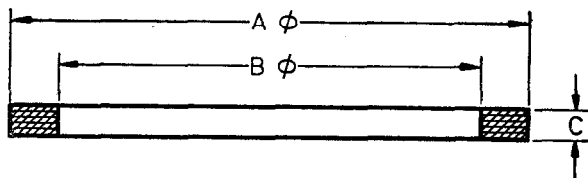


FIG. 2 TYPE B WASHER

TABLE 2 SIZES AND DIMENSIONS OF TYPE B WASHERS

(Clause 4.1 and Fig. 2)

SUB TYPE	NOMINAL SIZE OF WASHER*	DIMENSIONS			REMARKS
		Dia A (Tolerance +0 -1 mm)	Dia B (Tolerance +1 -0 mm)	C (Tolerance ±0.5 mm)	
(1)	(2) mm	(3) mm	(4) mm	(5) mm	(6)
I	63	63.5	52.5	5.0	Used in branch pipe
II	75	91.0	68.0	6.0	Used in suction hose couplings, 2-way and 3-way suction collecting heads and suc- tion strainers, cylindrical type
	100	116.0	93.0		
	125	141.0	118.0		
	140	153.0	133.0		
III	75	92.0	56.0	3.0	Used in suction strainers, shoe type
	100	117.0	81.0		
	125	142.0	106.0		
	140	154.0	118.0		

*Nominal size of washer corresponds to the nominal size of the fitting in which the washer is to be used.

(Continued from page 2)

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<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>	<i>Definition</i>
Force	newton	N	1 N = 1 kg. m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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AMENDMENT NO. 1 MAY 1986

TO

IS:937-1981 SPECIFICATION FOR WASHERS FOR WATER
FITTINGS FOR FIRE FIGHTING PURPOSES

(Second Revision)

(Page 3, clause 2.1, line 3) - Substitute 'Type IA' for 'IIB'.

(Page 4, clause 2.2, line 2) - Substitute 'IS:581-1976' for 'IS:581-1962*'.*

(Page 4, foot-note with '' mark) - Substitute the following for the existing foot-note:*

*'*Specification for vegetable tanned hydraulic leather (second revision).'*

(BDC 22)

Reprography Unit, ISI, New Delhi, India

**AMENDMENT NO. 2 JANUARY 2001
TO
IS 937 : 1981 SPECIFICATION FOR WASHERS FOR
WATER FITTINGS FOR FIRE FIGHTING PURPOSES**

(*Second Revision*)

(*Page 3, clause 2.1*) — Substitute the following for the existing:

‘Rubber — Where rubber is used for washers, it shall conform to requirement of hardness as applicable to Type 3 of IS 5382 : 1985 and also acid and alkali resistant (*see Note*).

NOTE — When a piece of 25 mm cut from any portion is dipped in 20 percent sulphuric acid/5 percent sodium hydroxide solution for 30 minutes, there shall be no sign of corrosion/damage.’

(CED 22)

Reprography Unit, BIS, New Delhi, India