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IS 3828 (1966): Specification for ventilator chains [CED
15: Builder Hardware]



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IS : 3828 - 1966

Indian Standard
SPECIFICATION FOR
VENTILATOR CHAINS

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INDIAN STANDARDS INSTITUTION
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NEW DELHI 110002

Indian Standard

SPECIFICATION FOR VENTILATOR CHAINS

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SPECIFICATION FOR VENTILATOR CHAINS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 28 October 1966, after the draft finalized by the Builders' Hardware Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Ventilator chain is a hardware item generally used to keep ventilators in partly open position when desired even under excessive wind. These chains can be used in bottom-hung ventilators but cannot be used in top-hung ventilators.

0.3 In the formulation of this standard due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating it to the practices in the field in this country.

0.4 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 for ventilator chains.

2. TERMINOLOGY

2.0 For the purpose of this standard the following definitions shall apply.

2.1 Staple — It is the metal part fixed to the ventilator frame by means of wood screws.

2.2 Eye — It is the metal part fixed to the top rail of the ventilator, on the inside face, by means of wood screws.

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

3. MATERIALS

3.1 Materials used for the manufacture of the chain shall comply with the requirements given in Table 1.

TABLE 1 MATERIALS FOR VENTILATOR CHAINS

Sl No.	COMPONENT	MATERIAL	EXAMPLE OF GRADE
(1)	(2)	(3)	(4)
i)	Staple	{ Mild steel Aluminium alloy	Grade 0 of IS : 1079-1957* SIC 1/2 — H or NS3 — 1/2 H of IS : 737-1955†
ii)	Eye	{ Mild steel Aluminium alloy	Grade 0 of IS : 1079-1957* SIC 1/2 — H or NS3 — 1/2 H of IS : 737-1955†
iii)	Wire	{ Mild steel Aluminium alloy	1/4 hard of IS : 280-1962‡ HG 30 WP of IS : 730-1956§

*Specification for light gauge structural quality hot rolled carbon steel sheet and strip.

†Specification for wrought aluminium and aluminium alloys, sheet and strip for general engineering purposes.

‡Specification for mild steel wire.

§Specification for wrought aluminium and aluminium alloys, wire (for general engineering purposes).

4. MANUFACTURE

4.1 **Eye** — Eye may be formed by forging and folding the plate. The minimum thickness of plates shall be 2.5 mm. It shall have two counter sunk holes for designation No. 7 wood screws (see IS : 451-1961*).

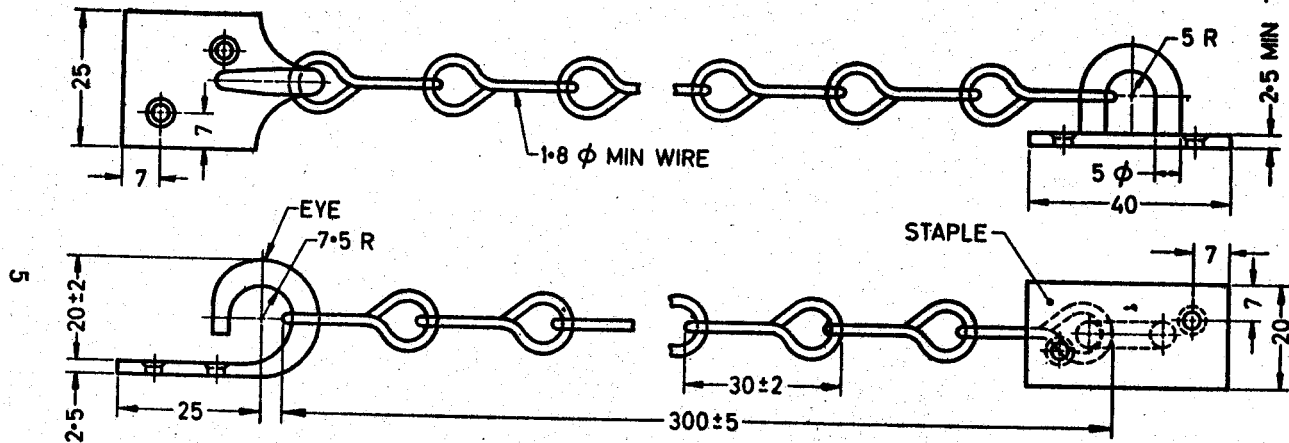
4.2 **Chain** — The chain shall be of twisted construction and shall be 300 mm long made from 1.8 mm *Min* dia wire, with properly jointed ends.

4.3 **Staple** — The staple shall be of 2.5 mm *Min* thick plate, with hook ends firmly fitted. It shall have two counter sunk holes for designation No. 7 wood screws (see IS : 451-1961*).

5. DIMENSIONS AND TOLERANCES

5.1 The dimensions of chain and permissible tolerances on the dimensions shall be as given in Fig. 1. The chain may be manufactured in sizes and dimensions other than those specified in the standard where so agreed to between manufacturer and purchaser.

*Specification for wood screws.



All dimensions in millimetres.

FIG. 1 TYPICAL ILLUSTRATION OF VENTILATOR CHAIN WITH EYE AND STAPLE

6. LOAD TEST

6.1 The assembly of eye, chain and staple shall be strong enough to bear a load of 20 kg without visible deformation.

7. FINISH

7.1 The chain shall be suitably finished to protect against corrosion.

8. MARKING

8.1 Manufacturer's name or trade-mark, if any, shall be legibly and indelibly marked on the staple or on the eye plate.

8.1.1 Each chain may 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. Presence of this 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 during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. 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.

9. SAMPLING

9.1 Lot — In any consignment, all the ventilator chains of the same designation and manufactured from the same material shall be grouped together to constitute a lot.

9.2 Sampling Size — The number of chains to be selected from a lot shall depend upon the size of the lot and shall be in accordance with col 1 and 2 of Table 2.

9.2.1 Chains for the sample shall be selected at random from at least 10 percent of the packages subject to a minimum of three packages, equal number of chains being selected from each such package.

9.3 Tests — All the chains selected as in 9.2 shall be inspected for dimensional requirements (*see* 5.1) and finish (*see* 7.1). Any chain which fails to satisfy any one or more of the requirements for the characteristics shall be considered as defective chains.

9.4 Criterion for Conformity — The lot shall be considered as conforming to the requirements of this standard, if the number of defective chains among those inspected does not exceed the corresponding number given in

TABLE 2 SCALE OF SAMPLING AND PERMISSIBLE NUMBER OF DEFECTIVE CHAINS*(Clauses 9.2 and 9.4)*

LOT SIZE	SAMPLE SIZE	PERMISSIBLE NUMBER OF DEFECTIVE CHAINS
(1)	(2)	(3)
Up to 200	15	0
201 „ 300	20	1
301 „ 500	30	2
501 „ 800	40	2
801 and above	50	3

col 3 of Table 2, otherwise it shall be considered as not conforming to the requirements of this standard.

9.4.1 For conformity to the requirements of the material, the manufacturer shall provide a certificate of compliance to the requirements of the corresponding Indian Standards (*see* Table 1).

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
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

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Conversion
Force	newton	N	1 N = 1 kg.1 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
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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