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# मानक

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IS 1837 (1966): Specification for fanlight pivots [CED 15: Builder Hardware]



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18 : 1837 - 1966

REAFFIRMED  
2010

*Indian Standard*  
**SPECIFICATION FOR  
FANLIGHT PIVOTS**  
*( First Revision )*

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BUREAU OF INDIAN STANDARDS  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

# Indian Standard

## SPECIFICATION FOR FANLIGHT PIVOTS

### ( First Revision )

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**Deputy Director ( Civ Engg ), ISI**

\*He is also alternate member to Shri J. P. Jain.

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002**

**IS : 1837 - 1966**

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# Indian Standard

## SPECIFICATION FOR FANLIGHT PIVOTS

### ( First Revision )

## 0. FOREWORD

**0.1** This Indian Standard ( First Revision ) 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** This standard was first published in 1961. After reviewing the standard in the light of the comments received from users and manufacturers, the Sectional Committee has in this revision incorporated some changes to bring it in line with the current manufacturing practices and also to assist the small scale industrial units in implementing the standard. Besides, the non-ferrous metals specified for the manufacture of pivots, mild steel has now been allowed to be used for the same in the revision. The provisions on materials and dimension and manufacture have been reviewed and certain modifications have been made.

**0.2.1** While issuing this revision, the Sectional Committee took note of the acute scarcity of non-ferrous materials like copper, zinc and their alloys in the country and the need for conserving the use of the same in the national interest. However, in view of the demand for hardware items made of these materials in overseas markets, the Sectional Committee has retained them specifically to meet the requirements of export trade. For all indigenous use, it has strongly recommended that hardware items made of these materials should not be used.

**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.

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

**IS : 1837 - 1966**

## **1. SCOPE**

**1.1** This standard lays down the requirements for fanlight pivots also known as ventilator hinges.

## **2. TYPES**

**2.1** The pivots shall be of the following three types:

Type 1 Mild steel pivots,

Type 2 Aluminium pivots, and

Type 3 Brass pivots.

## **3. MATERIALS**

**3.1** The materials used for the manufacture of pivot shall comply with the requirements given in Table 1.

## **4. DIMENSIONS**

**4.1** The dimensions of fanlight pivots shall conform to those given in Tables 2 and 3 read with Fig. 1.

**4.1.1** Fanlight pivots of the sizes other than those specified in Tables 2 and 3 may be supplied by mutual agreement between the purchaser and the supplier.

## **5. WORKMANSHIP AND FINISH**

**5.1** Fanlight pivot shall be free from all defects. Sharp edges shall be removed.

**5.2** Unless otherwise ordered for, the finish shall be as follows:

Type 1 Bright finished with smooth surfaces.

Type 2 Natural or anodized finish; in case of anodized finish, it shall not be less than grade AC 10 of IS: 1868-1968\*.

Type 3 Bright or satin finish.

## **6. MARKING**

**6.1** Each fanlight pivot shall have clearly and permanently marked on it the manufacturer's name or trade-mark.

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\*Specification for anodic coatings on aluminium (first revision).



TABLE 1 REQUIREMENTS FOR MATERIALS FOR FANLIGHT PIVOTS

( Clause 3.1 )

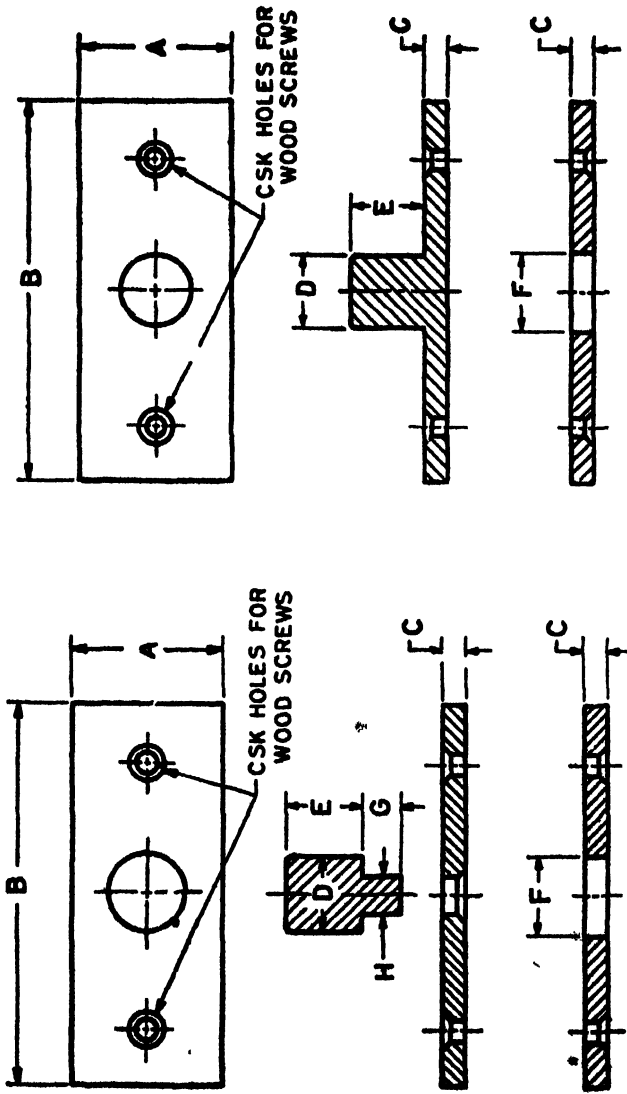
| Sr. No. | MATERIAL                           | REQUIREMENT  | EXAMPLE OF GRADE          |
|---------|------------------------------------|--|---------------------------|
| (1)     | (2)                                | (3)  | (4)                       |
| i)      | Mild steel sheet for plate and pin | Bend test— Suitable test pieces shall not break or develop cracks if doubled over, when cold, either by pressure or blows from a hammer until the internal radius is equal to thickness or diameter of the test piece and the sides are parallel | St-42-S of IS : 226-1962* |
| ii)     | Aluminium alloy:                   |  |                           |
|         | a) Casting                         | A-5-M or A-6-M of IS : 617-1959†   |                           |
|         | b) Sheets                          | HS 20 WP or NS 4-3/4 H or NS-5-1/2 H of IS : 737-1955‡   |                           |
| iii)    | Brass sheets:                      |  |                           |
|         | a) Rolled                          | 1) Composition:<br>Cu 58 to 60%<br>Pb 0.30%, <i>Max</i><br>Others : Remainder<br>2) Tensile strength 28 kg/mm <sup>2</sup> , <i>Min</i><br>3) Elongation 30 %, <i>Min</i><br>4) Hardness 75, <i>Max</i> ( Pyramid Hardness )                     | BS 60 of IS : 410-1959§   |
|         | b) Cast                            | 1) Composition:<br>Cu 64 to 70%<br>Pb 1 to 3%<br>Others : Remainder<br>2) Tensile strength 19 kg/mm <sup>2</sup> , <i>Min</i><br>3) Elongation 12%, <i>Min</i>   | Grade 3 of IS : 292-1961  |

\*Specification for structural steel ( standard quality ) ( *third revision* ).

†Specification for aluminium and aluminium alloy ingots and castings for general engineering purposes.

‡Specification for wrought aluminium and aluminium alloy sheets and strips.

§Specification for rolled brass plate, sheet, strip and foil ( *revised* ).||Specification for brass ingots and castings ( *revised* ).



Pin Cast Integral with the Plate

Pin Riveted to the Plate

FIG. 1 TYPICAL ILLUSTRATION OF FANLIGHT PIVOT

TABLE 2 DIMENSIONS OF FANLIGHT PIVOTS OF TYPE 1

(Claue 4.1)

(All dimensions in millimetres)

| Designation No. | Dimensions |          |           |          |          |          |         | For Thickness of Ventilator of Shutter |
|-----------------|------------|----------|-----------|----------|----------|----------|---------|--|
|                 | A          | B        | C         | D Dia    | E        | F Dia    | G       | H Dia                                  |
| (1)             | (2)        | (3)      | (4)       | (5)      | (6)      | (7)      | (8)     | (9)                                    |
| 1               | 20.0±0.5   | 50.0±0.5 | 3.15±0.10 | 10.0±0.2 | 19.0±0.2 | 11.0±0.2 | 5.0±0.2 | 5.0±0.2                                |
| 2               | 25.0±0.5   | 50.0±0.5 | 3.15±0.10 | 12.5±0.2 | 12.5±0.2 | 13.0±0.2 | 5.0±0.2 | 5.0±0.2                                |
| 3               | 25.0±0.5   | 65.0±0.5 | 3.15±0.10 | 12.0±0.2 | 12.5±0.2 | 13.0±0.2 | 5.0±0.2 | 5.0±0.2                                |
| 4               | 25.0±0.5   | 65.0±0.5 | 4.00±0.1  | 16.0±0.2 | 15.0±0.2 | 17.0±0.2 | 6.5±0.2 | 6.5±0.2                                |
| 5               | 25.0±0.5   | 75.0±0.5 | 4.00±0.1  | 16.0±0.2 | 15.0±0.2 | 17.0±0.2 | 6.5±0.2 | 6.5±0.2                                |

TABLE 3 DIMENSIONS OF FANLIGHT PIVOTS OF TYPE 2 AND TYPE 3

(Claue 4.1)

(All dimensions in millimetres)

| Designation No. | Dimensions |          |         |          |          |          |         | For Thickness of Ventilator of Shutter |
|-----------------|------------|----------|---------|----------|----------|----------|---------|--|
|                 | A          | B        | C       | D Dia    | E        | F Dia    | G       | H Dia                                  |
| (1)             | (2)        | (3)      | (4)     | (5)      | (6)      | (7)      | (8)     | (9)                                    |
| 1               | 20.0±0.5   | 50.0±0.5 | 3.0±0.1 | 9.5±0.2  | 10.0±0.2 | 10.5±0.2 | 5.0±0.2 | 5.0±0.2                                |
| 2               | 25.0±0.5   | 50.0±0.5 | 3.0±0.1 | 12.5±0.2 | 12.5±0.2 | 13.5±0.2 | 5.0±0.2 | 5.0±0.2                                |
| 3               | 25.0±0.5   | 65.0±0.5 | 3.0±0.1 | 12.5±0.2 | 12.5±0.2 | 13.5±0.2 | 5.0±0.2 | 5.0±0.2                                |
| 4               | 25.0±0.5   | 65.0±0.5 | 4.0±0.1 | 15.0±0.2 | 15.0±0.2 | 16.0±0.2 | 6.5±0.2 | 6.5±0.2                                |
| 5               | 25.0±0.5   | 75.0±0.5 | 4.0±0.1 | 15.0±0.2 | 15.0±0.2 | 16.0±0.2 | 6.5±0.2 | 6.5±0.2                                |

**6.2 The fanlight pivot 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. 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.

**7. PACKING**

**7.1** Type 1 and 3 fanlight pivots shall be wrapped in paper and type 2 pivots in either tissue paper or polythene film and packed according to trade practice.

**8. SAMPLING**

**8.1 Let** — In any consignment, all the fanlight pivots of the same type, designation and manufactured from the same material shall be grouped together to constitute a lot.

**8.2 Sample Size** — The number of pivots 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 4.

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**TABLE 4 SCALE OF SAMPLING AND PERMISSIBLE NUMBER OF DEFECTIVE PIVOTS**

| <b>LOT SIZE</b> | <b>SAMPLE SIZE</b> | <b>PERMISSIBLE NUMBER OF DEFECTIVE PIVOTS</b> |
|-----------------|--------------------|---|
| (1)             | (2)                | (3)   |
| Up to 200       | 15                 | 0   |
| 201 to 300      | 20                 | 1   |
| 301 „ 500       | 30                 | 2   |
| 501 „ 800       | 40                 | 2   |
| 801 and above   | 55                 | 3   |

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**8.2.1** Pivots 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 pivots being selected from each such package.

**8.3 Tests** — All the pivots selected as in 8.2 shall be inspected for dimensional requirements ( *see* 4 ) and workmanship and finish ( *see* 5 ). Any pivot which fails to satisfy any one or more of the requirements for the characteristics shall be considered as defective pivot.

**8.4 Criterion for Conformity** — The lot shall be considered as conforming to the requirements of this standard, if the number of defective pivots among those inspected does not exceed the corresponding number given in col 3 of Table 4, otherwise it shall be considered as not conforming to the requirements of this standard.

**8.4.1** 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* 3 ).

# BUREAU OF INDIAN STANDARDS

## Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones: 331 01 31, 331 13 75

Telegrams: Manakbhan  
(Common to all Offices)

## Regional Offices:

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg,  
NEW DELHI 110002

\*Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road,  
Maniktola, CALCUTTA 700054

Northern : SCO 445-446, Sector 35-C,  
CHANDIGARH 160036

Southern : C. I. T. Campus, MADRAS 600113

†Western : Manakalaya, E9 MIDC, Marol, Andheri ( East ),  
BOMBAY 400093

## Branch Offices:

\*Pushpak, Nurmohamed Shaikh Marg, Khanpur,  
AHMADABAD 380001

‡Peenya Industrial Area 1st Stage, Bangalore Tumkur Road  
BANGALORE 560058

Gangotri Complex, 5th Floor, Bhadbhada Road, T. T. Nagar,  
BHOPAL 462003

Plot No. 82/83, Lewis Road, BHUBANESHWAR 751002

53/5, Ward No. 29, R.G. Barua Road, 5th Byelane,  
GUWAHATI 781003

5-8-56C L, N. Gupta Marg ( Nampally Station Road ),  
HYDERABAD 500001

R14 Yudhister Marg, C Scheme, JAIPUR 302005

117/418 B Sarvodaya Nagar, KANPUR 208005

Patliputra Industrial Estate, PATNA 800013

T.C. No. 14/1421, University P.O., Palayam  
TRIVANDRUM 695035

## Inspection Offices ( With Sale Point ):

Pushpanjali, First Floor, 205-A West High Court Road,  
Shankar Nagar Square, NAGPUR 440010

Institution of Engineers ( India ) Building, 1332 Shivaji Nagar,  
PUNE 411005

\*Sales Office in Calcutta is at 5 Chowringhee Approach, P. O. Princep 27 00 00  
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