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वस्त्रादि — जूट बुनाई के लिए संपर्क वायर  
हील्ड्स — विशिष्टि  
(दूसरा पुनरीक्षण)

**Textiles — Contact Wire Healds for  
Jute Weaving — Specification**  
( *Second Revision* )

ICS 59.120.30

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## FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Textile Machinery and Accessories Sectional Committee had been approved by the Textiles Division Council.

Contact wire healds are used in jute weaving to lead the warp yarns in a lifting motion, forming a weaving shed for weft yarns to be brought in.

This standard was first published in 1967 and subsequently revised in 1974. The following major modifications have been incorporated in this revision of the standard:

- a) Forward has been incorporated;
- b) Marking clause has been modified;
- c) Sampling clause has been incorporated; and
- d) References to Indian Standards have been updated.

The composition of the Committee responsible for the formulation of this standard is given in [Annex A](#).

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, shall be rounded off in accordance with IS 2 : 2022 '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.

*Indian Standard***TEXTILES — CONTACT WIRE HEALDS FOR JUTE WEAVING — SPECIFICATION***( Second Revision )***1 SCOPE**

This standard prescribes the requirements of contact wire healds used in jute weaving (jute carpet backing, for example).

**2 REFERENCES**

The standards given below contain provisions which, through reference in this text, constitute provisions 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 edition of these standards:

<i>IS No.</i>	<i>Title</i>
IS 193 : 2024/ ISO 9453 : 2020	Soft solder alloys — Chemical compositions and forms — Specification ( <i>sixth revision</i> )
IS 1570 (Part 2) : 1979	Schedules for wrought steels — Part 2: Carbon steels (unalloyed steels)
IS 1608 (Part 1) : 2022/ ISO 6892-1 : 2019	Metallic materials — Tensile testing: Part 1 Method of test at room temperature ( <i>fifth revision</i> )
IS 2500 (Part 1) : 2000/ ISO 2859-1 : 1999	Sampling procedures for inspection by attributes: Part 1 Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection ( <i>third revision</i> )

**3 MATERIALS****3.1 Wire**

Bright, hardened and tempered steel wire with carbon content 0.50 percent to 0.60 percent

[see C55 Mn75 steel in IS 1570 (Part 2)] with the single-wire tensile strength of 110 kgf/mm<sup>2</sup> (1080 MPa), *Min* [as determined in accordance with IS 1608 (Part 1)].

**3.2 Mail**

Hardened and tempered high-carbon, grooved steel wire or strip.

**3.3 Flat Strip**

Flat strip are hardened high-carbon steel sheet.

**3.4 Solder**

Grade Sn 60 or higher of IS 193 shall be used for soldering the flat strips of end-loops and mail to the wire.

**4 SHAPE AND DIMENSIONS**

**4.1** Shape and dimensions of typical contact wire healds for jute weaving shall be as shown in [Fig. 1](#).

**4.2** Tolerance on thickness shall be  $\pm 0.015$  mm.

NOTE — Heald wire of 0.900 mm  $\pm$  0.015 mm diameter may be used at the option of the purchaser.

**5 WORKMANSHIP**

Both the end-loops should be in the same plane. When the wire heald is held vertical with the top end upward the minor axis of the mail shall be in the 'S' direction as shown in [Fig. 2](#).

**5.1** The mail shall be oval in shape (*see Fig. 1*) and grooved at its periphery.

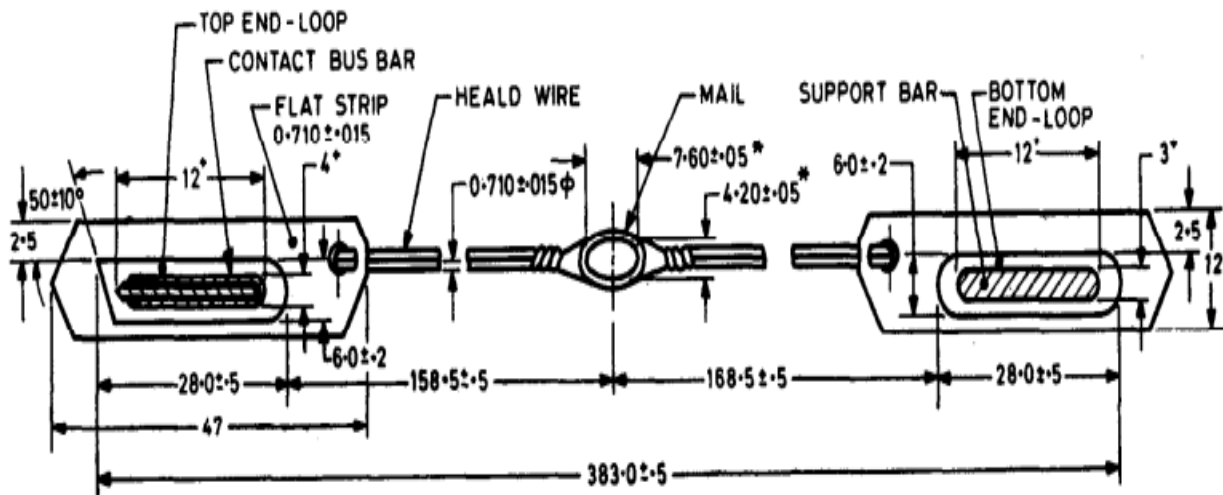
**5.1.1** The mail eye should be perfectly smooth.

**5.2 Plating**

The heald wire shall be plated with commercially pure tin of 95 percent purity and the plated surface should be lustrous, smooth and free from cracks and other such flaws likely to cause yarn breakage. However, the grooves formed by two adjoining wires should be smooth and regular.

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All dimensions in millimetres.

FIG. 1 TYPICAL CONTACT WIRE HEALD FOR JUTE WEAVING

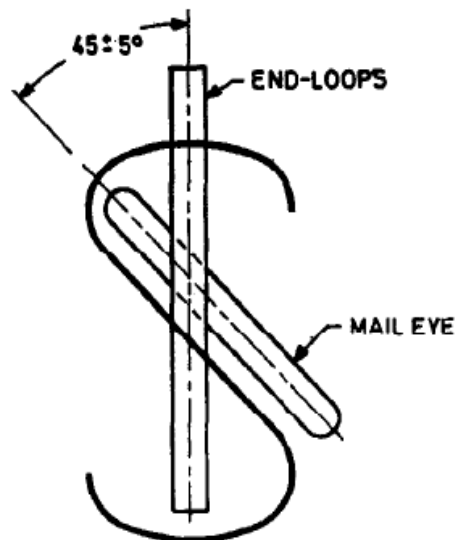


FIG. 2 DIRECTION OF MAIL EYE

**6 BREAKING STRENGTH**

Breaking strength shall be 50 kgf, Min, when all the joints of the contact wire heald are subjected to a stress in a tensile strength tester at the rate of traverse 450 mm/min.

**7 SAMPLING**

**7.1** All the contact wire healds manufactured from the same raw material delivered to a buyer against a despatch note shall constitute a lot.

**7.2** The conformity of the lot to the requirements of this standard shall be determined on the basis of the tests carried out on the samples selected from it.

**7.3** Unless otherwise agreed to between the buyer and the seller, the number of contact wire healds to be selected at random from a lot shall be in accordance with col (2), col (3) and col (5) of [Table 1](#) [see also IS 2500 (Part 1)].

**Table 1 Sample Size and Permissible Number of Non-Conforming Contact Wire Healds**(Clause [7.3](#))

Sl No.	Lot Size	No. of Contact Wire Healds to be Selected for Testing Dimensions	Permissible No. of Non-conforming Contact Wire Healds amongst those Selected in Col (3)	No. of Contact Wire Healds to be Selected for Determining Mass from amongst those Selected in Col (3)
(1)	(2)	(3)	(4)	(5)
i)	Up to 150	8	1	3
ii)	151 to 280	13	1	3
iii)	281 to 500	20	2	3
iv)	501 and above	32	3	5

**7.4** The number of contact wire healds to be tested and criterion for conformity for each of the characteristics shall be as follows:

Sl No.	Characteristic(s)	No. of Contact Wire Healds to be Tested	Criterion for Conformity
(1)	(2)	(3)	(4)
i)	Dimensions	According to col (3) of <a href="#">Table 1</a>	Non-Conforming healds not to exceed the corresponding number given in col (4) of <a href="#">Table 1</a>
ii)	Material and All other requirements	According to col (5) of <a href="#">Table 1</a>	Each observed value satisfies the requirements

## 8 MARKING

**8.1** Each bundle or package or both shall bear the following:

- Number of healds in the bundle or package;
- Manufacturers' name, trade-mark or initials; and
- Date of manufacture.

## 8.2 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 products may be marked with the Standard Mark.

## 9 PACKING

After a suitable rust preventive has been applied on the contact wire healds, the healds shall be threaded through end-loops by a cotton thread of adequate strength, to form a bundle; the bundles then packed into polyethylene bags to form a package.

## ANNEX A

*(Foreword)*

## COMMITTEE COMPOSITION

Textile Machinery and Accessories Sectional Committee, TXD 14

<i>Organization</i>	<i>Representative(s)</i>
Central Manufacturing Technology Institute, Bengaluru	DR NAGAHANUMAIAAN ( <b><i>Chairperson</i></b> )
ATE Enterprises Private Limited, New Delhi	SHRI ABHIJIT KULKARNI SHRI ANIL KUMAR SHARMA ( <i>Alternate</i> )
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ICAR - Central Institute for Research on Cotton Technology, Mumbai	DR N. SHANMUGAM DR T. SENTHIL KUMAR ( <i>Alternate</i> )
India ITME Society, Mumbai	SHRI S. SENTHIL KUMAR SHRIMATI SEEMA SRIVASTAVA ( <i>Alternate</i> )
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<i>Organization</i>	<i>Representative(s)</i>
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*Member Secretary*  
SHRI SWAPNIL  
SCIENTIST 'B'/ ASSISTANT DIRECTOR  
(TEXTILES), BIS







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### Amendments Issued Since Publication

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