

भारतीय मानक
Indian Standard

IS 10304 : 2024

घरेलू प्रयोजन की सिलाई मशीनों के लिए
फ़ीड रॉक शाफ्ट — विशिष्टि

(पहला पुनरीक्षण)

**Feed Rock Shaft for Sewing
Machines for Household Purposes —
Specification**

(*First Revision*)

ICS 61.080

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FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Sewing Machine Sectional Committee had been approved by the Mechanical Engineering Division Council.

This standard has been prepared to unify and rationalize the types and sizes of sewing machines components for manufacturing in economic quantities.

This standard was first published in 1982. The present revision has been taken up to incorporate modifications found necessary as a result of experience gained in the use of this standard. Also, in this revision, the standard has been brought into the latest style and format of Indian Standards, and references to Indian Standards, wherever applicable have been updated. BIS certification marking clause has been modified to align with the revised *Bureau of Indian Standards Act, 2016*. Also, pitch, radius, and thread dimensions have been modified.

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

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 : 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***FEED ROCK SHAFT FOR SEWING MACHINES FOR
HOUSEHOLD PURPOSES — SPECIFICATION***(First Revision)***1 SCOPE**

This standard covers the requirements for feed rock shaft for sewing machines for household purposes.

2 REFERENCES

The standards given below 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 edition of these standards:

| <i>IS No.</i> | <i>Title</i> |
|---|---|
| IS 210 : 2009 | Grey iron castings — Specification (<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>) |
| IS 3073 : 1967 | Assessment of surface roughness |
| IS 4905 : 2015/ISO 24153: 2009 | Random sampling and randomization procedures (<i>first revision</i>) |
| IS 18432 (Part 1) : 2024/ISO 21920-1 : 2021 | Geometrical product specifications (GPS) — Surface texture — Profile: Part 1 Indication of surface texture |

3 NOMENCLATURE

The nomenclature shall be as shown in [Fig. 1](#).

4 MATERIAL

The feed rock shaft shall be made from cast iron conforming to grade FG 150 of IS 210.

5 DIMENSIONS

The dimensions shall be as shown in [Fig. 2](#).

6 TOLERANCES

The error in parallelism of the axis of feed rock shaft with the axis of feed bar screw centre holes shall not exceed 0.3 mm per 100 mm.

7 WORKMANSHIP AND FINISH

7.1 The feed rock shaft crank mounting diameter and the centre holes shall be ground to a fine finish.

7.2 The casting shall be free from defects, such as cracks, flaws or blow holes, and shall be suitably plated.

7.3 Surface roughness shall meet R_a 0.8 in accordance with IS 3073 and Table 1 and Table 2 of IS 18432 (Part 1) : 2024/ISO 21920-1.

8 MARKING

The feed rock shafts shall be marked with the manufacturer's name or trademark if required.

8.1 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 may be marked with the Standard Mark.

9 PACKING

Each feed rock shaft shall be either given a suitable antirust coating or wrapped in vapour phase inhibitor paper (commonly known as VPI paper). Wrapped feed rock shafts shall be securely packed in accordance with best prevalent trade practices. Each packing shall bear the manufacturer's name or trademark, the type, and description of the content.

10 SAMPLING

Unless otherwise agreed between the supplier and the purchaser, the sampling plan as given in Annex A shall be followed. For further information, reference may be made to IS 2500 (Part 1)/ISO 2859-1.

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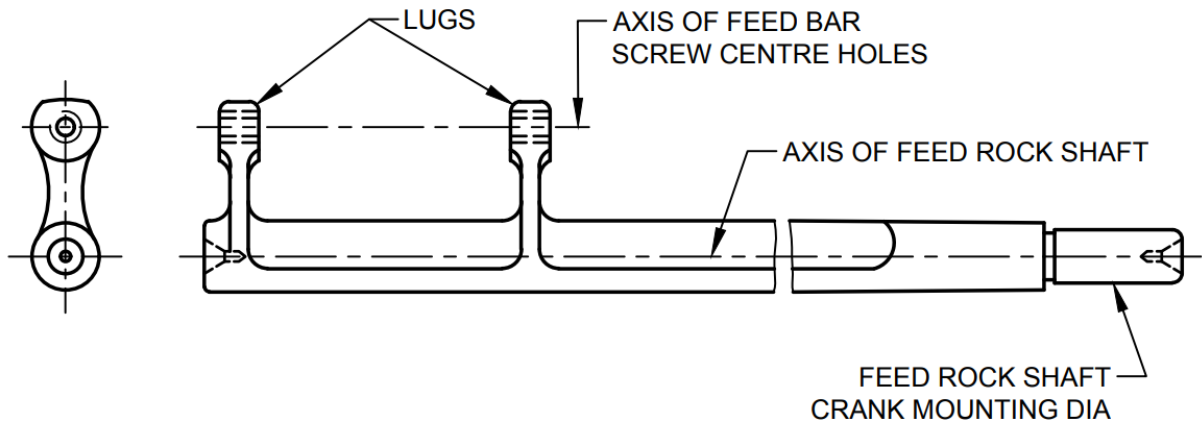
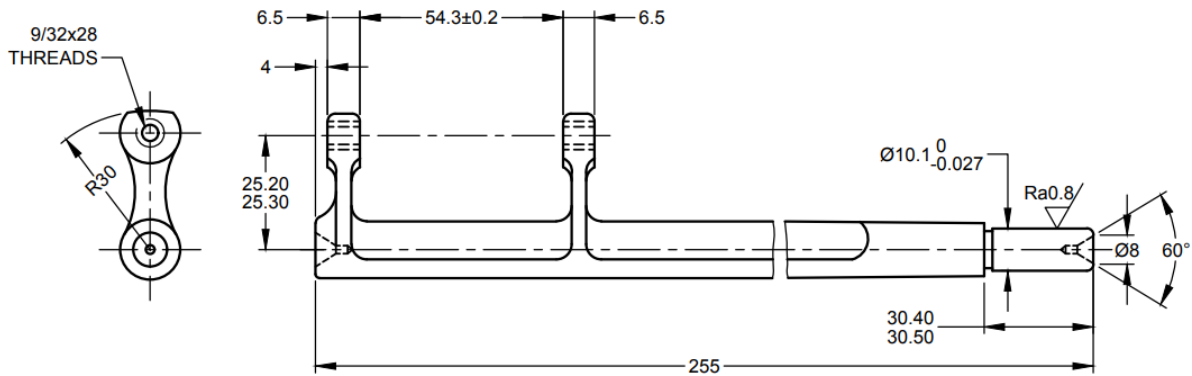


FIG. 1 NOMENCLATURE FOR FEED ROCK SHAFT



All dimensions in millimetres.

FIG. 2 DIMENSIONS FOR FEED ROCK SHAFT

ANNEX A

(Clause 10)

SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

A-1 SCALE OF SAMPLING

A-1.1 Lot

In any consignment, all the feed rock shafts of the same type and manufactured from the same material under essentially similar conditions of manufacture shall be grouped together to constitute a lot.

A-1.2 For ascertaining the conformity of the lot to the requirements of the specification, tests shall be carried-out for each lot separately. The number of feed rock shafts to be selected at random for this purpose shall be in accordance with col (2) and col (3) of [Table 1](#).

A-1.3 If the feed rock shafts are packed individually, in order to ensure the randomness of selection, IS 4905/ISO 24153 shall be used.

A-1.4 If the feed rock shafts are packed in different

cartons, a suitable number of cartons (not less than 20 percent of the total in the lot subject to a minimum of 2) shall be chosen at random. From each of the cartons so chosen, an approximately equal number of feed rock shafts shall be picked up from its different parts so as to obtain the required number of feed rock shafts specified in col (3) of [Table 1](#).

A-2 NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

The feed rock shafts selected according to [A-1.2](#) and [A-1.3](#) or [A-1.4](#) shall be examined for dimensions (*see* [5](#)), tolerances (*see* [6](#)) and workmanship and finish (*see* [7](#)). If number of feed rock shafts failing to meet one or more of the requirements mentioned above is less than or equal to the permissible number of defectives given in col (4) of [Table 1](#), the lot shall be declared as conforming to the requirements of these characteristics.

Table 1 Scale of Sampling and Permissible Number of Defectives

(Clauses [A-1.2](#), [A-1.4](#) and [A-2](#))

| SI No. | Number of Feed Rock Shaft N | For Dimensions, Tolerances and Workmanship and Finish | |
|--------|----------------------------------|---|-----------------------------------|
| | | Sample Size n | Permissible Number of Defectives* |
| (1) | (2) | (3) | (4) |
| i) | Up to 15 | 5 | 0 |
| ii) | 16 to 40 | 8 | 0 |
| iii) | 41 to 110 | 13 | 0 |
| iv) | 111 to 300 | 20 | 1 |
| v) | 301 to 500 | 32 | 1 |
| vi) | 501 to 800 | 50 | 2 |
| vii) | 801 to 1 300 | 80 | 3 |
| viii) | 1 301 and above | 125 | 5 |

*This ensures that lots containing only 1.5 percent or less defectives shall be accepted most of the time.

ANNEX B

(Foreword)

COMMITTEE COMPOSITION

Sewing Machines Sectional Committee, MED 29

| <i>Organization</i> | <i>Representative(s)</i> |
|---|---|
| Research & Development Centre for Bicycle and Sewing Machines, Ludhiana | SHRI SANJEEV KATOCH (Chairperson) |
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| Geminy Industrial Enterprises Private Limited, Ludhiana | SHRI VINAY DUA SHRI B. C. PANDEY (<i>Alternate</i>) |
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| Narindera and Company, Ludhiana | SHRI S. BALDEV SINGH SHRI HARINDER JIT SINGH (<i>Alternate</i>) |
| Navrang Manufacturing Corporation, Ludhiana | SHRI DINESH KAPILA SHRI SUDESH KAPILA (<i>Alternate</i>) |
| Northern India Textile Research Association, Ghaziabad | SHRI VIKAS SHARMA SHRI VIVEK AGARWAL (<i>Alternate</i>) |
| Novel Sewing Machine Technologies, Pune | SHRI BHARAT NARAYENDAS PARMAR SHRI ARJUN BHARAT PARMAR (<i>Alternate</i>) |
| Office of Development Commissioner (MSME), New Delhi | SHRI SUVANKAR SANTRA MS MAITREYEE TALAPATRA (<i>Alternate</i>) |
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| Ranew Engineering (India) Private Limited, Ludhiana | SHRI SANJEEV KUMAR JAIN SHRI ABHILASH JAIN (<i>Alternate</i>) |
| Singer India Limited, New Delhi | SHRI PRASHANT AGGARWAL SHRI ATUL KUMAR SETH (<i>Alternate</i>) |
| Swan Mechanical Works, Ludhiana | SHRI AMARJEET SINGH |
| United Sewing Machines and Parts Manufacturing Association, Ludhiana | SHRI DALBIR SINGH DHIMAN |
| Usha International Limited, New Delhi | SHRI RUP LAL KANGLA SHRI PRANAY SRIWASTAV (<i>Alternate</i>) |
| Uttam Sewing Machine Company (Private) Limited, Jalandhar | SHRI JAGDEEP RAI SHRI MANOHAR LAL (<i>Alternate</i>) |

| <i>Organization</i> | <i>Representative(s)</i> |
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| Virindra Engineering Works, Ludhiana | SHRI AMARPREET SINGH PANESAR SHRI SWARN SINGH (<i>Alternate</i>) |
| Voluntary Organisation in Interest of Consumer Education (VOICE), New Delhi | SHRI M. A. U. KHAN |
| BIS Directorate General | SHRI K. VENKATESWARA RAO, SCIENTIST 'F'/SENIOR DIRECTOR AND HEAD (MECHANICAL) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)] |

Member Secretary
SHRI SHUBHAM TIWARI
SCIENTIST 'D'/JOINT DIRECTOR
(MECHANICAL), BIS

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Amendments Issued Since Publication

| Amend No. | Date of Issue | Text Affected |
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