

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

© BIS 2024



भारतीय मानक ब्यूरो  
BUREAU OF INDIAN STANDARDS  
मानक भवन, 9 बहादुर शाह ज़फर मार्ग, नई दिल्ली -  
110002

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

[www.bis.gov.in](http://www.bis.gov.in) [www.standardsbis.in](http://www.standardsbis.in)

October 2024

Price Group 5

## 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.

To access Indian Standards click on the link below:

[https://www.services.bis.gov.in/php/BIS\\_2.0/bisconnect/knowyourstandards/Indian\\_standards/isdetails/](https://www.services.bis.gov.in/php/BIS_2.0/bisconnect/knowyourstandards/Indian_standards/isdetails/)

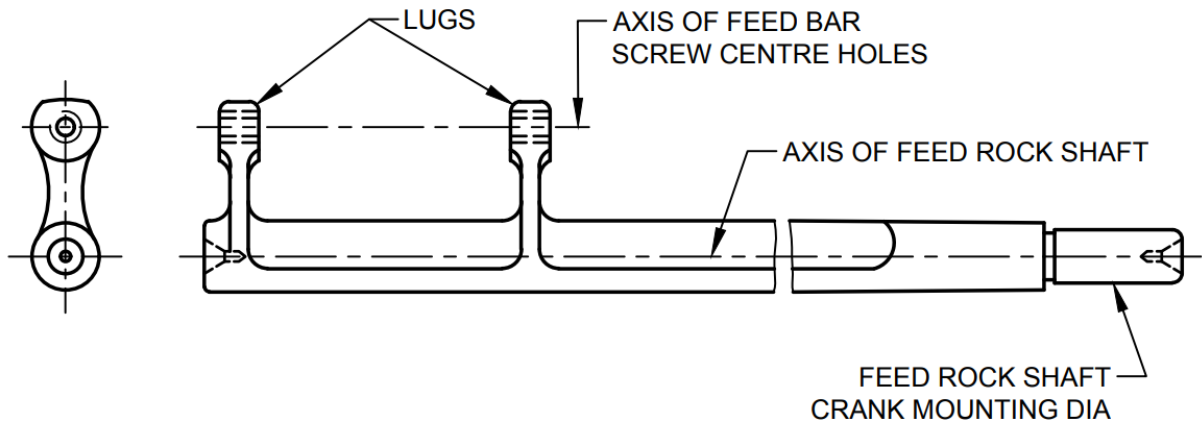
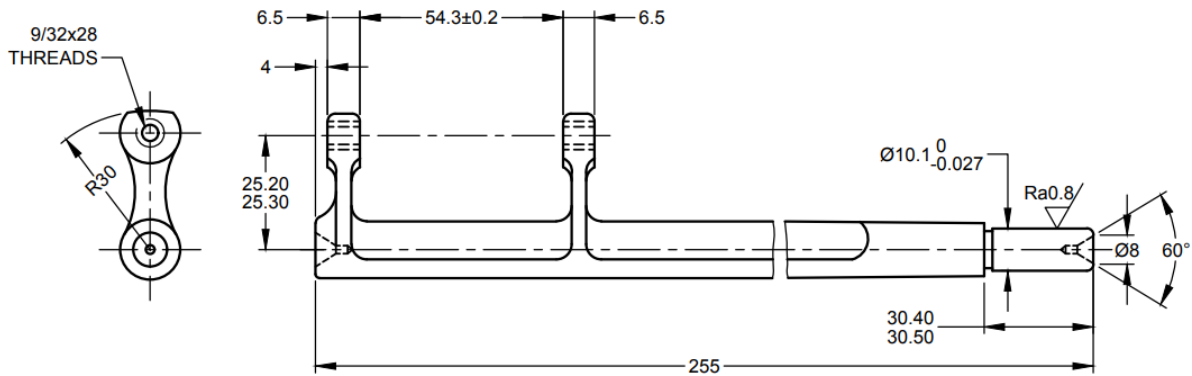


FIG. 1 NOMENCLATURE FOR FEED ROCK SHAFT



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 ( <b>Chairperson</b> ) SHRI PAPINDER SINGH  SHRI VISHWAS MEHTA ( <i>Alternate I</i> ) SHRI MANPREET SINGH ( <i>Alternate II</i> )
Brother International (India) Private Limited, Mumbai	SHRI MATHEW YOHANNAN
C. R. Auluck & Sons Private Limited, Ludhiana	SHRI SUNIL AULUCK SHRI KULJEET SINGH ( <i>Alternate</i> )
Directorate General of Quality Assurance, New Delhi	SHRI R.V. JAIN
G. D. Rupal Industries, Ludhiana	SHRI GURMUKH SINGH
Gee Tech Hooks, Ludhiana	SHRI MANJEET SINGH
Geminy Industrial Enterprises Private Limited, Ludhiana	SHRI VINAY DUA SHRI B. C. PANDEY ( <i>Alternate</i> )
Ludhiana Sewing Machine Association, Ludhiana	SHRI HARDEEP SINGH SHRI RAJVINDER ( <i>Alternate</i> )
Makhan Sewing Machines, Ludhiana	SHRI DALBIR SINGH DHIMAN
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> )
ORAA International, Ludhiana	SHRI ASHISH GUPTA
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>
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





## Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 2016* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

### Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Head (Publication & Sales), BIS.

### Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website-[www.bis.gov.in](http://www.bis.gov.in) or [www.standardsbis.in](http://www.standardsbis.in).

This Indian Standard has been developed from Doc No.: MED 29 (19257).

### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

## BUREAU OF INDIAN STANDARDS

### Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002

Telephones: 2323 0131, 2323 3375, 2323 9402

Website: [www.bis.gov.in](http://www.bis.gov.in)

### Regional Offices:

Central : 601/A, Konnectus Tower -1, 6<sup>th</sup> Floor,  
DMRC Building, Bhavbhuti Marg, New  
Delhi 110002

Telephones

{ 2323 7617

Eastern : 8<sup>th</sup> Floor, Plot No 7/7 & 7/8, CP Block, Sector V,  
Salt Lake, Kolkata, West Bengal 700091

{ 2367 0012  
{ 2320 9474

Northern : Plot No. 4-A, Sector 27-B, Madhya Marg,  
Chandigarh 160019

{ 265 9930

Southern : C.I.T. Campus, IV Cross Road, Taramani, Chennai 600113

{ 2254 1442  
{ 2254 1216

Western : 5<sup>th</sup> Floor/MTNL CETTM, Technology Street, Hiranandani Gardens,  
Powai, Mumbai 400076

{ 2570 0030  
{ 2570 2715

**Branches** : AHMEDABAD, BENGALURU, BHOPAL, BHUBANESHWAR, CHANDIGARH, CHENNAI, COIMBATORE, DEHRADUN, DELHI, FARIDABAD, GHAZIABAD, GUWAHATI, HARYANA (CHANDIGARH), HUBLI, HYDERABAD, JAIPUR, JAMMU, JAMSHEDPUR, KOCHI, KOLKATA, LUCKNOW, MADURAI, MUMBAI, NAGPUR, NOIDA, PARWANOO, PATNA, PUNE, RAIPUR, RAJKOT, SURAT, VIJAYAWADA.