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(*पहला पुनरीक्षण* )

 *Indian Standard*

**Household Sewing Machine Needles — Feed Rock Shaft Crank — Specification**

( *First Revision* )

ICS 61.080

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**भारतीय मानक ब्यूरो**

**BUREAU OF INDIAN STANDARDS**

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**October 2024 Price Group X**

Sewing Machines Sectional Committee, MED 29

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*.*

The major changes in the standard are given below:

1. Diameter of feed rock shaft crank has been modified;
2. Requirement of threads have been revised; and
3. Thread hole distance of feed rock shaft crank has been changed from 11 mm from 12 mm.

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*

HOUSEHOLD SEWING MACHINE NEEDLES — FEED ROCK SHAFT CRANK — SPECIFICATION

( *First Revision* )

**1 SCOPE**

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

**2 REFERENCES**

The standards listed below contains 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 subjected to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below:

|  |  |
| --- | --- |
| *IS No.* | *Title* |
| IS 210 : 2009 | Grey iron castings ― Specification (*fifth revision*) |
| 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 (*third revision*) |
| IS 3073 : 1967 | Assessment of surface roughness |
| IS 4905 : 2015/ ISO 24153: 2009 | Random sampling and randomization procedures (*first revision*) |
| 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.



Fig. 1 Nomenclature For Feed Rock Shaft Crank

**4 MATERIAL**

The feed rock shaft crank 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.



All dimensions are in millimeters.

Fig. 2 Dimensions For Feed Rock Shaft Crank

**6 TOLERANCES**

 **6.1** The error in parallelism of the axis of the main holes of the feed rock shaft crank shall be within 0.3 mm per 100 mm.

**6.2** The error in the squareness of the bearing faces with respect to the main holes shall not exceed 0.3 mm per 100 mm.

**7 WORKMANSHIP AND FINISH**

**7.1** The main holes of the feed rock shaft crank shall be finished to a good finish.

**7.2** The bearing faces of the bosses of the feed rock shaft crank shall be machined to a fine finish without any line mark.

**7.3** The casting shall be free from defects, such as cracks, flaws or blow holes, and shall be chemically coloured or suitably plated.

**7.4** Surface roughness shall meet Ra 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 shaft cranks shall be marked with manufacturer’s name or trademark if required.

**8.1 BIS Certification Mark**

The product may also be marked with Standard Mark.

**8.1.1** 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(s) may be marked with the Standard Mark.

**9 PACKING**

Each feed rock shaft crank shall be given suitable anti rust coating or wrapped in vapour phase inhibitor paper (commonly known as VPI paper). The wrapped feed rock shaft cranks shall be securely packed in accordance with the best prevalent trade practice. Each packing shall bear the manufacturer’s name or trade-mark, the type, and description of contents.

**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.

**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 shaft cranks 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 shaft cranks 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 shaft cranks 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 shaft cranks 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 shaft cranks shall be picked up from its different parts so as to obtain the required number of feed rock shaft cranks specified in col (3) of Table 1.

**A-2 NUMBER OF TESTS AND CRITERIA FOR CONFORMITY**

 **A-2.1** The feed rock shaft crank selected according to **A-1.2** and **A-1.3** or **A-l.4** shall be examined for dimensions (*see* **5**), tolerances (*see* **6**), and workmanship and finish (*see* **7**). If the number of feed rock shaft cranks 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-l.4, *and* A-2.1)

|  |  |  |
| --- | --- | --- |
| **Sl No.** | **Number of Feed Rock Shaft Cranks*****N*** | **For Dimensions, Tolerances, Workmanship and Finish** |
| Sample Sizen | Permissible Number of Defectives\* |
| (1) | (2) | (3) | (4) |
|  | Up to 15 | 5 | 0 |
|  | 16 to 40 | 8 | 0 |
|  | 41 to 110 | 13 | 0 |
|  | 111 to 300 | 20 | 1 |
|  | 301 to 500 | 32 | 1 |
|  | 501 to 800 | 50 | 2 |
|  | 801 to 1 300 | 80 | 3 |
|  | 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

| *Organization* | *Representative (s)* |
| --- | --- |
| R and D Centre for Bicycle and Sewing Machines, Ludhiana | Dr Sanjeev Katoch **(*Chairperson*)**   |
| Brother International (India) Private Limited, Mumbai | Shri Mathew Yohannan |
| C. R. Auluck and Sons Private Limited, Ludhiana | Shri Sunil AuluckShri Kuljeet Singh (*Alternate*) |
| 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 Corporation, Ludhiana | Shri Vinay DuaShri B. C. Pandey (*Alternate*) |
| Ludhiana Sewing Machines Industries Association, Ludhiana | Shri Hardeep Singh Shri Rajvinder |
| Makhan Sewing Machines, Ludhiana | Shri Dalbir Singh Dhiman |
| Narindera and Company, Ludhiana | Shri S. Baldev Singh Shri Harinder Jit Singh (*Alternate*) |
| Navrang Manufacturing Corporation, Ludhiana  | Shri Dinesh KapilaShri Sudesh Kapila (*Alternate*) |
| Northern India Textile Research Association, Ghaziabad | Shri Vikas SharmaShri Vivek Agarwal (*Alternate*) |
| Novel Sewing Machine Technologies, Pune | Shri Bharat Narayendas Parma Shri Arjun Bharat Parmar (*Alternate*) |
| Office of Development Commissioner (MSME), Ministry of MSME, New Delhi | Shri Suvankar SantraMs Maitreyee Talapatra (*Alternate*) |
| ORAA International, Ludhiana  | Shri Ashish Gupta |
| Ranew Engg (India) Private Limited, Ludhiana | Shri Sanjeev Kumar JainShri Abhilash Jain (*Alternate*) |
| Research & Development Centre For Bicycle and Sewing Machines, Ludhiana | Shri Papinder Singh Shri Vishwas Mehta (*Alternate-I*)  Shri Manpreet Singh (*Alternate-II*) |
| Singer India Limited, New Delhi | Shri Prashant AggarwalShri Atul Kumar Seth (*Alternate*) |
| Swan Mechanical Works, Ludhiana | Shri Amarjeet Singh |
| United Sewing Machines & Parts manufacturers Association, Ludhiana | Shri Dalbir Singh Dhiman |
| Usha International Limited, Ludhiana | Shri Rup Lal KanglaShri Pranay Sriwastav (*Alternate*) |
| Uttam Sewing Machine Company private Limited, Jalandhar  | Shri Jagdeep RaiShri Manohar Lal (*Alternate*) |
| Virindra Engineering Works, Ludhiana | Shri Amarpreet Singh PanesarShri Swarn Singh (*Alternate*) |
| 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 (*Ex-officio*)] |

*Member Secretary*

Shri Shubham Tiwari

Scientist ‘D’/Joint Director

(Mechanical), BIS