भारतीय मानक **IS 3299 : 2025**

Indian Standard

घरेलू उद्देश्यों की सिलाई मशीनों के लिए दोलन रॉक शाफ्ट — विशिष्टि

(दूसरा पुनरीक्षण)

Oscillating Rock Shafts for Sewing Machines for Household Purposes — Specification

(Second Revision)

ICS 61.080

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
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February 2025 **Price Group 5**

Sewing Machines Sectional Committee, MED 29

FOREWORD

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

This standard was first published in 1965 and subsequently revised in 1969. This revision has been taken up with a view to incorporating the modifications found necessary as a result of experience gained on the use of this standard. Also, in this revision, the standard has been brought into the latest style and format of Indian Standard, and references to Indian Standards, wherever applicable have been updated. The BIS certification marking clause has been modified to align with the revised *Bureau of Indian Standards Act*, 2016. In this revision, all the amendments have been incorporated.

This standard covers the requirements for oscillating rock shafts for sewing machines, and is intended to assist in regulating the quality of indigenous oscillating rock shafts.

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

OSCILLATING ROCK SHAFTS FOR SEWING MACHINES FOR HOUSEHOLD PURPOSES — SPECIFICATION

(Second Revision)

1 SCOPE

1.1 This standard lays down the requirements for oscillating rock shafts for sewing machines for household purposes.

1.2 This standard does not deal with the oscillating rock shafts for industrial or special purpose sewing machines.

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:

IS No.	*Title*
IS 210 : 2009	Grey iron castings — Specification (*fifth revision*)
IS 1501 (Part 1) : 2020/ISO 6507-1 : 2018	Metallic materials — Vickers hardness test: Part 1 Test method (*fifth revision*)
IS 1570 (Part 1) : 1978	Schedules for wrought steels: Part 1 Steels specified by tensile and/or yield properties (*first revision*)
IS 2062 : 2011	Hot rolled medium and high tensile structural steel — Specification (*seventh 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 4905 : 2015/ISO 24153 : 2009	Random sampling and randomization procedures (*first revision*)

3 NOMENCLATURE

For the purpose of this standard, the nomenclature as given in Fig. 1 shall apply.

4 MATERIAL

The oscillating rock shaft shall be made either from cast iron conforming to IS 210 or any suitable steel, conforming to IS 1570 (Part 1) or IS 2062 with a maximum sulphur and phosphorus content of 0.05 percent each.

5 HARDNESS

The sliding faces, cam and centre holes of oscillating rock shafts manufactured from steel shall be hardened to a minimum depth of 0.8 mm to attain a hardness value within the range of 550 HV 5 [*see* IS 1501 (Part 1)/ISO 6507-1] or steel conforming to IS 2062.

6 DIMENSIONS

The main dimensions of oscillating rock shaft for sewing machines shall be as given in Table 1 and Table 2.

7 TOLERANCES

7.1 The error in parallelism of the axis of oscillating rock shaft with respect to its sliding face shall not exceed 0.15 mm per 100 mm.

7.2 The error in parallelism of the axis of oscillating rock shaft with the centre line of connecting rod hinge screw hole shall not exceed 0.3 mm per 100 mm.

7.3 The error in parallelism of the sliding faces shall be within 0.007 mm over the width of the sliding faces.

7.4 The dimension variation on the cam shall not be more than 0.010 mm from its specified value at any point of the cam.

7.5 The errors in squareness of the contact face for the connecting rod with respect to the axis of oscillating rock shaft shall be within 0.15 mm per 100 mm.

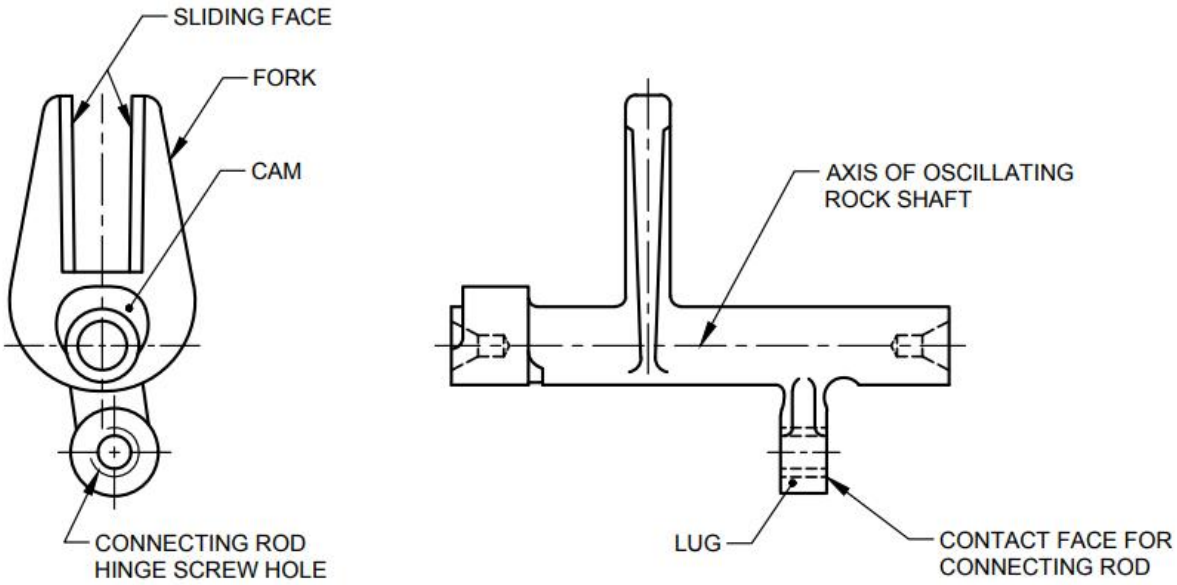
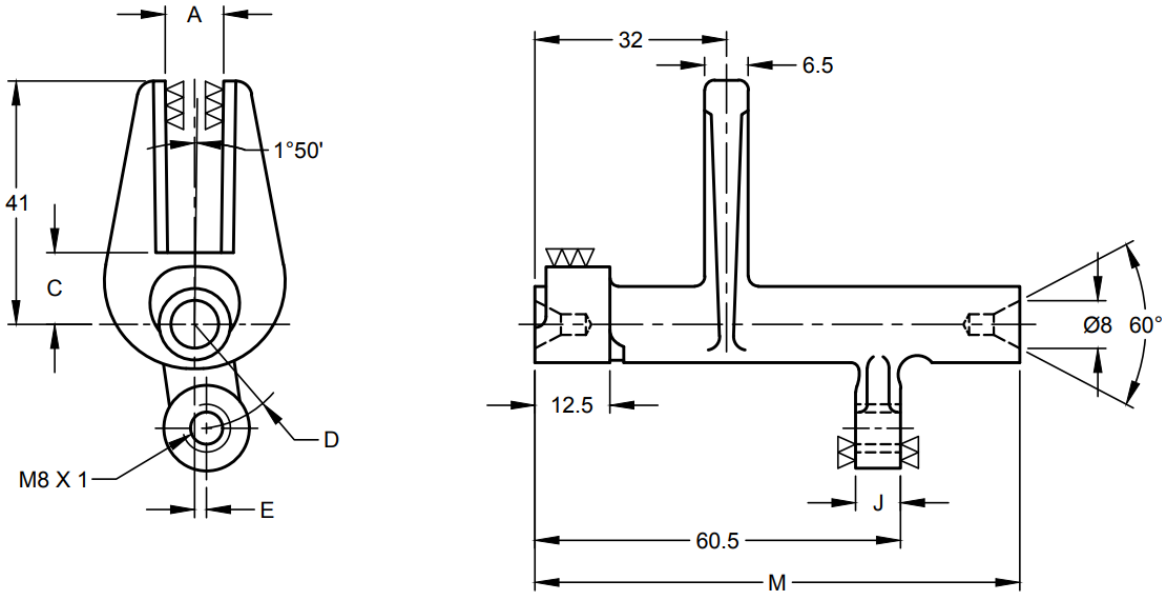


FIG. 1 NOMENCLATURE OF OSCILLATING ROCK SHAFT

Table 1 Dimensions for Oscillating Rock Shaft, Type A

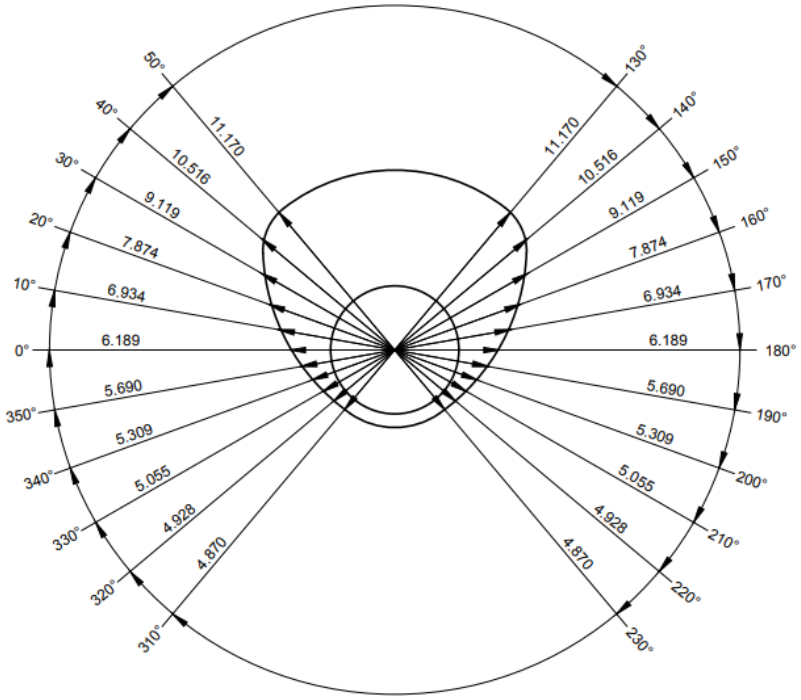
(*Clause* 6)

All dimensions in millimetres.



	A	*C*	*D*	*E*	*J*	*M*
Max	9.830	12.13	16.88	2.16	7.39	81.05
Min	9.817	11.87	16.83	2.11	7.34	80.95

NOTE — *See* Fig. 2 for cam profile.



All dimensions in millimetres.

FIG. 2 CAM PROFILE FOR OSCILLATING ROCK SHAFT, TYPE A

8 WORKMANSHIP AND FINISH

8.1 The sliding faces of oscillating rock shaft shall be ground to a fine finish (with a minimum surface finish value of 0.4 µm *Ra*).

8.2 The casting shall be free from defects, such as crack, flaw or blowhole and shall be chemically coloured or suitably plated.

8.3 The centre holes and the cam surfaces shall be ground to a good finish.

8.4 The oscillating rock shafts made from steel shall be chemically coloured or suitably plated and shall be free from rust, cracks, unevenness or any flaw.

9 PACKING

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

10 MARKING

The oscillating rock shafts may be marked with manufacturer's name or trademark.

10.1 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(s) may be marked with the Standard Mark.

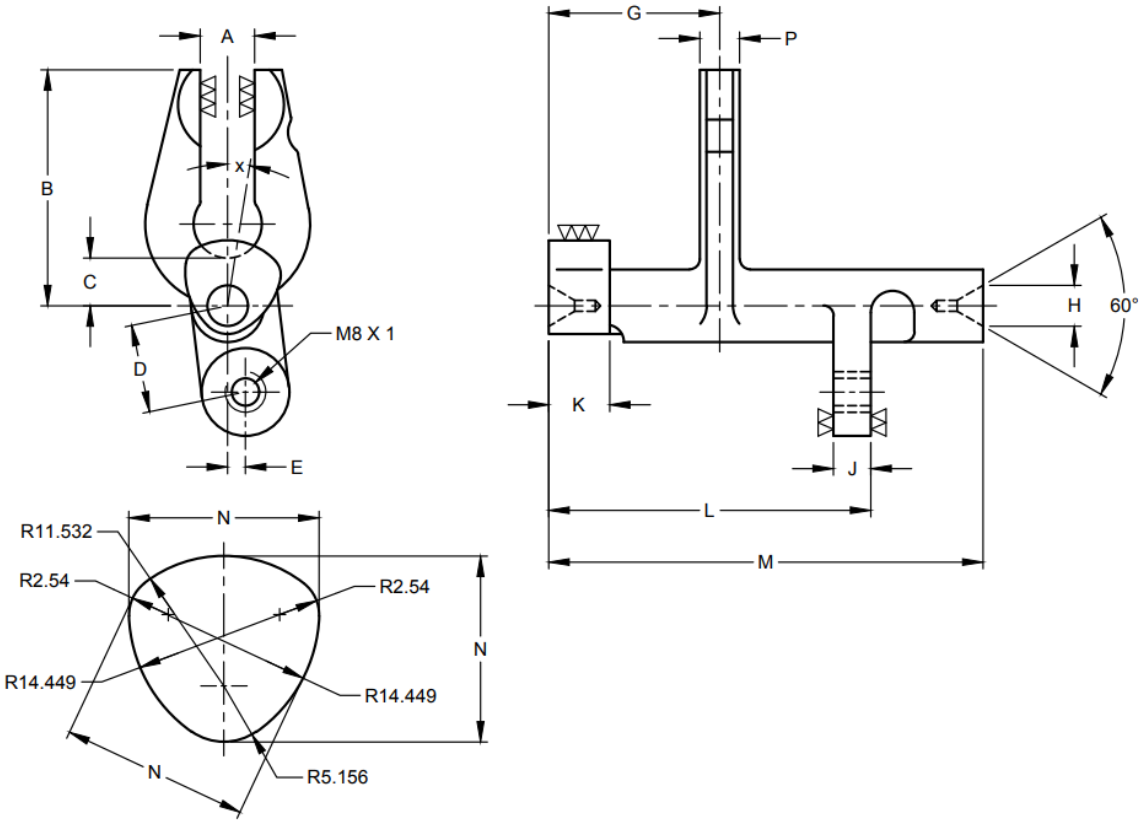
11 SAMPLING

Unless otherwise agreed upon 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.

Table 2 Dimensions for Oscillating Rock Shaft, Type B

(*Clause* 6)

All dimensions in millimetres.



	Maximum	*Minimum*
A	9.855	9.840
B	42.92	42.42
C	8.95	8.45
D	16.54	16.49
E	3.04	2.88
G	31.37	30.87
H	8.00	7.75
J	6.72	6.48
K	10.92	10.42
L	58.54	58.30
M	78.86	78.62
N	15.989	15.977
P	6.60	6.10
x	9°15′	8°45′

ANNEX A

(*Clause* 11)

SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

A-l SCALE OF SAMPLING

A-1.1 Lot

In any consignment, all the oscillating 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 oscillating rock shafts to be selected at random for this purpose shall be in accordance with col (2) and col (3) of Table 3.

A-1.3 If the oscillating 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 oscillating 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 oscillating rock shafts shall be picked up from its different parts so as to obtain the required number of oscillating rock shafts specified in col (3) of Table 3.

A-2 NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

A-2.1 The oscillating rock shafts selected according to **A-1.2** and **A-1.3** or **A-l.4** shall be examined for dimensions (*see* **6**), tolerances (*see* **7**) and workmanship and finish (*see* **8**). If the number of oscillating rock shaft 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 the Table 3, the lot shall be declared as conforming to the requirements of these characteristics.

A-2.2 In case of those lots which have been found satisfactory according to **A-2.1**, a number of oscillating rock shafts equal to the sample size indicated in col (5) of Table 3, shall be subjected to hardness test (*see* **5**). Any oscillating rock shaft failing to meet the requirement for hardness shall be considered to be defective.

A-2.2.1 If no defectives are found among the oscillating rock shafts subjected to the hardness test (*see* **A-2.2**), the lot shall be declared as conforming to the requirements of the specification, otherwise not.

Table 3 Scale of Sampling and Permissible Number of Defectives

(*Clauses* A-1.2, A-1.4, A-2.1 *and* A-2.2)

Sl No.	No. of oscillating rock Shafts in the Lot	For Dimensions, Tolerances and Workmanship and Finish		Sample Size for Hardness and Tests
		Sample Size	Permissible No. of Defectives[1)]	
	N	*n*		
(1)	(2)	(3)	(4)	(5)
i)	Upto 15	5	0	2
ii)	16 to 40	8	0	3
iii)	41 to 110	13	0	3
iv)	111 to 300	20	1	5
v)	301 to 500	32	1	6
vi)	501 to 800	50	2	8
vii)	801 to 1 300	80	3	10
viii)	1 301 and above	125	5	15

[1)] This ensures that lots containing one and half percent or less defective will be accepted most of the time

ANNEX B

(*Foreword*)

COMMITTEE COMPOSITION

Sewing Machines Sectional Committee, MED 29

Organization	*Representative*(*s*)
Research & Development Centre for Bicycle and Sewing Machines, Ludhiana	SHRI VINAY KUMAR SRIVASTAVA **(*Chairperson*)**
Brother International (India) Private Limited, Mumbai	SHRI MATHEW YOHANNAN
C. R. Auluck & Sons Private Limited, Ludhiana	SHRI SUNIL AULUCK SHRI 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 Enterprises Private Limited, Ludhiana	SHRI VINAY DUA SHRI B. C. PANDEY (*Alternate*)
Ludhiana Sewing Machine Association, Ludhiana	SHRI HARDEEP SINGH SHRI RAJVINDER (*Alternate*)
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 KAPILA SHRI SUDESH KAPILA (*Alternate*)
Northern India Textile Research Association, Ghaziabad	SHRI VIKAS SHARMA SHRI VIVEK AGARWAL (*Alternate*)
Novel Sewing Machine Technologies, Pune	SHRI BHARAT NARAYENDAS PARMAR SHRI ARJUN BHARAT PARMAR (*Alternate*)
Office of Development Commissioner (MSME), New Delhi	SHRI SUVANKAR SANTRA MS MAITREYEE TALAPATRA (*Alternate*)
ORAA International, Ludhiana	SHRI ASHISH GUPTA
Ranew Engineering (India) Private Limited, Ludhiana	SHRI SANJEEV KUMAR JAIN SHRI 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 AGGARWAL SHRI ATUL KUMAR SETH (*Alternate*)
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 (*Alternate*)

Uttam Sewing Machine Company (Private) Limited, Jalandhar	SHRI JAGDEEP RAI SHRI MANOHAR LAL (*Alternate*)
Virindra Engineering Works, Ludhiana	SHRI AMARPREET SINGH PANESAR SHRI 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

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.

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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 or www.standardsbis.in.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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