Doc: MED 29(25850)WC
June 2024

BUREAU OF INDIAN STANDARDS

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भारतीय मानक **मसौदा**

घरेलू प्रयोजनों के लिए जिग-जैग सिलाई मशीन/हैड

भाग 4 टिकाऊपन की अपेक्षाएँ

[आई एस 15449 (भाग 4) का *पहला पुनरीक्षण*]

Draft *Indian Standard*

HOUSEHOLD ZIG-ZAG SEWING MACHINE/HEAD

PART 4 DURABILITY REQUIREMENTS

[*First Revision* of IS 15449 (Part 4)]

ICS 61.080

Sewing Machines Sectional Committee, MED 29	Last date or receipt of comments is **12 July 2024**

FOREWORD
(*Formal clause will be added later*)

This standard (Part 4) was first published in 2004. This standard is being revised to keep pace with the latest technological developments and international practices. Also, in this revision, the standard has been brought into the latest style and format of Indian Standards, and references of Indian Standards, wherever applicable have been updated. The following major modifications have been incorporated in this revision of the standard:

a) Title has been changed;
b) Scope has been amended to include electronically controlled zig-zag operation;
c) ON-Off test updated in **3.1**; and
d) **4** has been amended to include durability requirements for rotary hook mechanism; and a note has been added for durability requirements of electric/electronic parts of the sewing machines.

This standard has been formulated to facilitate standardization and with a view to establish quality and durability requirements of household zig-zag sewing machine/head, which includes machines with mechanical/electronically operated zig-zag operations.

In the preparation of this standard, assistance has been derived from IS 7493 : 1989 'Sewing machine, Household — Durability requirements (*first revision*)'.

The standard on household zig-zag sewing machine, which includes machines with mechanical/electronically operated zig-zag operations, is being brought in four parts, the other parts in the series are:

Part 1 General requirements
Part 2 Accuracy requirements
Part 3 Sewing requirements

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.

Draft *Indian Standard*

HOUSEHOLD ZIG-ZAG SEWING MACHINE/HEAD

PART 4 DURABILITY REQUIREMENTS

1 SCOPE

This standard (Part 4) covers the durability requirements for household zig-zag sewing machine/head, which includes machines with mechanical/electronically operated zig-zag operations.

2 REFERENCES

The standard given below contains 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 this standard:

IS No.	*Title*
IS 15449 (Part 2) : 2004	Household zig-zag sewing machine head: Part 2 Accuracy requirements

3 TEST CONDITIONS

3.1 ON–OFF Test

The sewing machine shall be run on 7 s to 8 s ‘ON’ and 2 s to 3 s ‘OFF’ at the maximum speed limit of the product not exceeding 900 rev/min for 6 h at no load with maximum stitch length and forward feed.

3.2 All moving parts if applicable, shall be lubricated with oil at the beginning and after every 2 h during the test.

4 DURABILITY REQUIREMENTS

The assembly clearances shall be measured before and after the test as per IS 15449 (Part 2), the change in clearance shall not exceed the values given below:

Sl No.	*Item*	*Measuring Condition*	*Measuring Direction*	*Indicator Position*	*Maximum Change in Assembly Clearance* (in mm)
(1)	(2)	(3)	(4)	(5)	(6)

i)	Needle bar	Needle bar at lower most position	a) In the direction of motion	a) Top of needle bar	0.10
			b) At right angle to the direction of motion	b) Near the bottom of needle bar	0.06
ii)	Thread take-up lever	Thread take-up lever at top, intermediate and bottom position	a) In the direction of motion	a) Around thread hole	0.20
			b) At right angle to the direction of motion	b) Around thread hole	0.20
iii)	Shuttle for oscillation mechanism	a) Tip of shuttle pin at top most/bottom most position of needle bar	a) Along the axis of shuttle pin	a) Tip of shuttle pin	0.03
		b) Difference between two indicator readings when needle bar is at its highest and lowest position	b) Along the axis of shuttle pin	b) Tip of shuttle pin	0.03
	For rotary hook mechanism	With bobbin-case removed, play of bobbin case holder	a) In and out	a) On the center pin	0.02
			b) Up and down	b) Top of the holder	0.03
iv)	Arm shaft	At different wheel position (turn wheel by hand). Axial push/pull to be given	Axial direction	Face of rim of wheel	0.03
v)	Feed section	At the highest position of feed dog above needle plate	In the direction of motion	Front edge of the feed dog	0.15

NOTE — The electric motor (whether built-in or attached externally to the sewing machine) and all electric/electronic parts of the sewing machines being tested should be able to withstand all the above listed durability tests.