

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

घरेलू प्रयोजनों के लिए जिग-जैग सिलाई मशीन/हेड

भाग 3 सिलाई की अपेक्षाएँ

[आई एस 15449 (भाग 3) का पहला पुनरीक्षण]

Draft Indian Standard

HOUSEHOLD ZIG-ZAG SEWING MACHINE/HEAD

PART 3 SEWING REQUIREMENTS

[First Revision of IS 15449 (Part 3)]

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 3) was first published in 2004. This standard is being revised again 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; and
- c) Table 1 has been amended and another note has been added.

This standard has been formulated to facilitate standardization and with a view to establish quality and 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 7492 : 1989 ‘Sewing machine, household — Sewing 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 4 Durability 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 3 SEWING REQUIREMENTS

1 SCOPE

This standard (Part 3) covers the sewing test conditions and sewing requirements for household zig-zag sewing machine/head, which includes machines with mechanical/electronically operated zig-zag operations.

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 1720 : 1978	Specification for cotton sewing threads (<i>first revision</i>)
IS 2181 : 1973	Specification for sewing machine needles for household purposes (<i>first revision</i>)

3 TEST CONDITIONS

The test shall be carried out in forward stitching under the conditions given in Table 1.

4 SEWING REQUIREMENTS

The tests given in Table 1 shall meet the following requirements:

- a) There shall be no breakage of threads;
- b) There shall be no skip stitches;
- c) There shall be -not more than one loop formation;
- d) Squeezing of cloth shall not be more than 1.5 mm over 100 mm length in forward stitching;
- e) At 6 SPI stitches obtained shall not be more than 7;
- f) At 20 SPI stitches obtained shall not be less than 16 and not more than 24;
- g) Machine shall be able to perform back tack and chain off at straight stitch;
- h) Thread tensions, both upper and lower shall be satisfactory; and
- j) Feed of cloth shall be satisfactory and there shall be no damage to the cloth and the thread.

Table 1 Test Conditions
(Clause 3)

Sl No.	Item	Sewing Material	Conditions	Thread Type	Needle Size	Stitch Length Approximately (in mm)	Sewing Speed Approximately Stitch Per Minute	Sewing Length Approximately (in mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	Straight stitching	Medium weight (Linen)	Straight stitch 2 layers, 6 SPI, 12 SPI and 20 SPI	50 s/3 Cotton count, Mercerized	14	4 and 1.25	200 to <i>Max</i>	300
ii)	Hurdle stitching (sewing test on steps)	Heavy weight (Denim)	From 2 to 6 layers 6 SPI and 8 SPI, 2 layers, straight stitch	50 s/3 Cotton count, Mercerized	16	4 and 3	400 to 600	300
iii)	Straight stitching	Light weight (Organza)	12 SPI and 20 SPI, 2 layers, straight stitch	50 s/3 Cotton count, Mercerized	11	2 and 1.25	200 to <i>Max</i>	300
iv)	Sewing test for straightness of stitch	Medium weight (Linen)	Straight stitch 8 SPI, 2 layers	50 s/3 Cotton count, Mercerized	14	3	400 to <i>Max</i>	Stitching shall not deviate by more than 6.25 mm in 75 mm length
v)	Zig-zag stitching	Medium weight (Linen)	Zig-zag bight maximum 6 SPI and 12 SPI, 2 layers	50 s/3 Cotton count, Mercerized	14	4 and 2	200 to <i>Max</i>	225
vi)	Zig-zag stitching	Medium weight (Linen)	Zig-Zag width maximum, SPI maximum	50 s/3 Cotton	14	Satin	200 to <i>Max</i>	225

	(Satin stitch)		possible (cloth should not be visible through stitches) 2 layers	count, Mercerized				
vii)	Twin needle stitching	Medium weight (Linen)	Zig-zag width maximum 12 SPI and Satin stitch, 2 layers	50 s/3 Cotton count, Mercerized	14 (Twin)	3 and Satin	200 to <i>Max</i>	225
viii)	Zig-zag stitching of different patterns	Medium weight (Linen)	Zig-zag width maximum, 12 SPI and Satin stitch 2 layers	50 s/3 Cotton count, Mercerized	14	2 and Satin	200 to <i>Max</i>	225

NOTES

1 Thread type shall conform to IS 1720.

2 Needle size shall conform to IS 2181.

3 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 sewing tests.

