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**Test methods for snag of woven fabrics
and knitted fabrics**

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Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Textile Evaluation Technology Council (JTETC)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS L 1058** : 2011), which has been technically revised.

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Test methods for snag of woven fabrics and knitted fabrics

1 Scope

This Standard specifies test methods for snag of woven fabrics and knitted fabrics.

2 Normative references

Part or all of the provisions of the following standards, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 4751-1 *Hacksaw blades — Part 1 : Dimensions for hand blades*

JIS C 2336 *Pressure-sensitive polyvinyl chloride tapes for electrical purposes*

JIS G 3141 *Cold-reduced carbon steel sheet and strip*

JIS G 3506 *High carbon steel wire rods*

JIS L 0105 *General principles of physical testing methods for textiles*

JIS L 0208 *Glossary of terms used in textile industry — Testing*

JIS L 1076 *Testing methods for pilling of woven fabrics and knitted fabrics*

JIS R 6251 *Abrasive cloths*

JIS Z 8401 *Rounding of numbers*

3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in **JIS L 0105** and **JIS L 0208** apply.

4 Classification of test

The classification of test shall be as follows.

- a) **Method A (Method of ICI type mace testing machine)**, being applicable mainly to the woven fabrics and knitted fabrics except thin cloth and cloth of coarse density.
- b) **Method C (Method of card clothing roller type testing machine)**, being applicable mainly to the woven fabrics and knitted fabrics except flexible cloth.
- c) **Method D (Method of ICI type pilling testing machine)**
 - 1) **Method D-1 (Method of damage rod attached to rotating box)**, being applicable mainly to the woven fabrics and knitted fabrics.
 - 2) **Method D-2 (Method of pin attached to each surface of rotating box)**, being applicable mainly to the woven fabric using bulky finished yarn.
 - 3) **Method D-3 (Method of hacksaw attached to two surfaces of rotating box)**, being

applicable mainly to the woven fabrics and knitted fabrics used under severe wearing conditions.

- 4) **Method D-4 (Method of abrasive cloth attached to two surfaces of rotating box)**, being applicable mainly to the knitted fabric using bulky finished yarn.

5 Test condition

The test site shall be in accordance with 5.1 of JIS L 0105.

6 Sampling and preparation of sample and test specimen

The sampling and preparation of sample and test specimen shall be in accordance with 6.3 of JIS L 0105. The test specimen shall be prepared leaving as it is in a laboratory under the standard condition for 4 h or longer prior to test.

7 Test methods

7.1 Method A (Method of ICI type mace testing machine)

7.1.1 Equipment and materials

The ICI type mace testing machine shall be composed of the mace in which nails of tungsten carbide attached to a chain with one end fixed are embedded to a phosphor bronze sphere at equal intervals, a guide rod, and the rotating cylinder wound with felt, as shown in Figure 1, and provided with the following conditions. Prior to test, nails of mace shall be examined for abrasion or damage using a magnifying glass and replaced whenever any abnormality is found. The use limit of felt shall be 200 h and felt shall be replaced if it develops holes or if the surface becomes extremely rough and uneven.

- a) **Mace** 31.8 mm $\pm$ 0.3 mm in diameter, 0.127 mm $\pm$ 0.03 mm in radius of nail tip, 9.5 mm $\pm$ 0.5 mm in length of nail at projecting part, 160 g $\pm$ 5 g in mass (including nails), 11 nails
- b) **Rotating cylinder** 82 mm $\pm$ 2 mm in outside diameter, 210 mm $\pm$ 10 mm in width, 3 mm $\pm$ 0.5 mm in thickness of cover rubber, 60 min⁻¹ $\pm$ 2 min⁻¹ in revolution speed
- c) **Felt** 3 mm $\pm$ 0.3 mm in thickness, approximately 165 mm in width
- d) **Guide rod** 10 mm $\pm$ 1 mm in outside diameter, 122 mm $\pm$ 5 mm in width
- e) **Dimension from the upper part of cylinder to the centre of guide rod** 60 mm $\pm$ 5 mm

Unit: mm

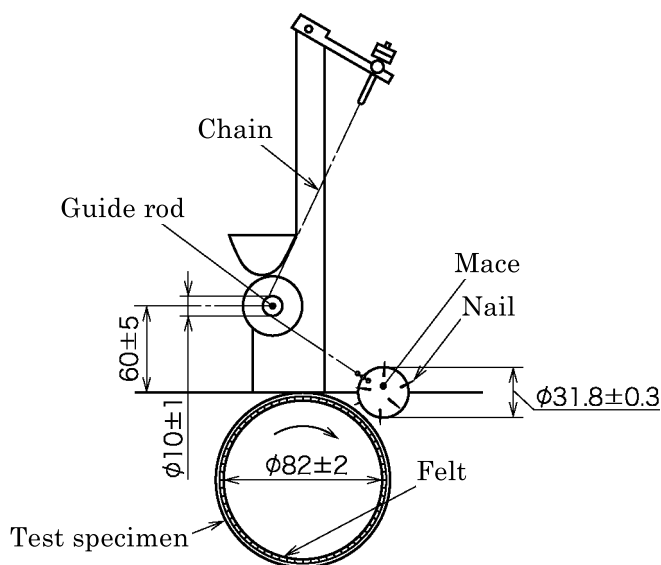


Figure 1 Main part of ICI type mace testing machine

- f) **Judgement plate** The judgement plate shall be a plate on which the test specimen, sewn in a cylinder in 7.1.2 a), can be fitted so that the seam falls on the central line on back surface, which is used by being inserted into the cabinet for judgement in 7.1.1 g), and which is made of a material that will not be deformed during the test. The dimensions of judgement plate shall be as given in Table 1.

Table 1 Dimensions of judgement plate

Unit: mm

Distinction of woven fabric and knitted fabric	Dimension of judgement plate (width × length × thickness)
Woven fabric	140 × 277 × 3
Knitted fabric	143 × 277 × 3

- g) **Cabinet for judgement** The cabinet for judgement shall be as shown in Figure 2. However, for the light source, one quartz halogen lamp of 12 V, 55 W or one halogen LED bulb of equivalent brightness shall be used. When the test specimen or the standard photograph is placed in the judgement window for test specimen and the insertion window for standard photograph, the light shall be irradiated uniformly by using reflecting mirrors.