BHUTAN STANDARD

Textiles – Silk and other Woven Fabrics – Determination of Percentages by Weight of Warp and Wefts Yarns

ICS 59.080.01

June, 2020

Price Group A

NATIONAL FOREWORD

This Bhutan Standard which is identical with IS 17208 Textiles – Silk and other Woven Fabrics – Determination of Percentages by Weight of Warp and Wefts Yarns issued by the Indian Standards Bureau (IS) was adopted by Bhutan Standards Bureau by Textile Technical committee (TC-06) and approved by the Bhutan Standards Bureau Board (BSB Board) on June, 2020.

The text of the IS Standard has been approved as suitable for publication as Bhutan Standard without deviation. Certain conventions are however, not identical to those used in Bhutan Standard.

Attention is particularly drawn to the following:

a) Where the words “IS Standard” appear referring to this standard, they should be read as “Bhutan Standard”.

b) Wherever page numbers are quoted, they are “IS (IS Standard)” page numbers.

भारतीय मानक
Indian Standard

IS 17208 : 2019

वस्त्रादि — रेशम तथा अन्य बुने हुए वस्त्र — ताने तथा बाने के धागों का भारानुसार प्रतिशत का निर्धारण

Textiles — Silk and Other Woven Fabrics — Determination of Percentage by Weight of Warp and Weft Yarns

ICS 59.080.01

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August 2019 **Price Group 2**

Silk and Silk Products Sectional Committee, TXD 28

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards after the draft finalized by Silk and Silk Products Sectional Committee had been approved by the Textile Division Council.

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 : 1960 'Rules for rounding off numerical values (*revised*)'. 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

TEXTILES — SILK AND OTHER WOVEN FABRICS — DETERMINATION OF PERCENTAGE BY WEIGHT OF WARP AND WEFT YARNS

1 SCOPE

This standard prescribes method for determination of percentage by weight of warp threads and weft threads in woven fabrics irrespective of their composition (that is, whether they are made of silk, cotton, man-made fibres etc.) and also gives the percentage by weight of extra threads used for ornamentation in buttas, body portion and / or border separately. Separate procedures have been prescribed for determination of:

a) Percentage by weight of warp and weft of woven fabrics without extra threads; and

b) Percentage by weight of warp and weft of woven fabrics with extra threads.

2 REFERENCES

The standards listed in Annex A contain 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 subject 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.

3 TERMINOLOGY

For the purpose of this standard, the following terms and definitions shall apply.

3.1 Conditioned Mass — The mass of a textile material conditioned in the standard atmosphere for testing.

3.2 Extra Thread — Refer to the threads other than warp and weft of base fabric including buttas, body portion and border portion.

4 PRINCIPLE

The material is conditioned to moisture equilibrium in standard atmospheric conditions. The warp and weft threads are unraveled and their mass is determined separately. The percentage by weight of warp and weft is calculated based on mass.

5 GENERAL INFORMATION

5.1 Selvedges

If the mass per unit length (or area) of the selvedge differs appreciably from the mass per unit length (or area) of the fabric, the percentage by weight of warp and weft shall be determined on a sample from which the selvedges have been removed along the outermost warp threads of the body and calculation(s) shall be based on the trimmed sample.

6 METHOD

6.1 Apparatus

6.1.1 *Horizontal, Flat Smooth Table*

6.1.2 *Graduated Steel Scale*

6.1.3 *Balance* — Capable of weighing to an accuracy of 0.000 1 g.

6.1.4 *Pair of Scissors*

6.2 Atmospheric Conditions for Conditioning and Testing

6.2.1 Prior to test, the test samples shall be conditioned to moisture equilibrium from dry side in the standard atmosphere of 65 ± 2 percent relative humidity and 27 ± 2°C temperature (*see* IS 6359). The test samples shall be deemed to have been conditioned satisfactorily for the purpose of this test after these have been exposed to standard atmosphere for 24 to 48 h.

NOTE — The time required for a fabric to reach moisture equilibrium depends mainly on the:

a) thickness of the fabric or mass per unit area,

b) closeness of the weave,

c) hygroscopicity of the textile material comprising the fabric, and

d) type of finish given to the fabric.

6.2.2 The test shall be carried out in a standard atmosphere (*see* **6.2.1**).

6.3 Procedure for Fabrics without Extra Threads

Take the conditioned test sample. Mark out two 10 × 10 cm^2 areas in different portion of the fabric and cut them out. Carefully unravel the warp and weft threads and place them separately. Weigh the two portions correct to 4 places of decimal, in grams. Repeat on the other specimen.

6.3.1 *Calculations*

Calculate the percentage by weight of warp and weft by the following formula:

Calculate the average weight of warp (Wp) and average weight of weft (We) threads.

The percentage by weight of warp thread is

$$\frac{Wp}{We + Wp} \times 100$$

and that of weft is $\frac{We}{We + Wp} \times 100$

6.4 Procedure for Fabrics with Extra Threads

Take the conditioned test sample. Mark out two specimens of two repeats of design in different portion of the fabric and cut them out. Remove extra warp and extra weft threads and weigh them separately. Note the respective weights as Ew and Ee. Carefully unravel the warp and weft threads and place them separately. Weigh the two portions correct to 4 places of decimal, in grams. Repeat on the other specimen.

6.4.1 *Calculations*

Calculate the percentage by weight of warp and weft by the following formula:

6.4.1.1 Calculated the average weight of warp threads (Wp), average weight of weft threads (We), average weight of extra warp threads (Ew) and average weight of extra weft threads (Ee).

6.4.1.2 The percentage by weight of warp thread is

$$\frac{Wp}{We + Wp + Ew + Ee} \times 100$$

and that of weft thread is $\frac{We}{We + Wp + Ew + Ee} \times 100$

6.4.1.3 The percentage by weight of extra warp is

$$\frac{Ew}{We + Wp + Ew + Ee} \times 100$$

and that of extra weft is $\frac{Ee}{We + Wp + Ew + Ee} \times 100$

NOTE — If border designs are involved then they shall be tested and reported separately.

7 REPORT

Report shall include the following:

a) Description of material tested.
b) Method followed,
c) Results:
   1) Percentage by weight of warp thread;
   2) Percentage by weight of weft thread;
   3) Percentage by weight of extra warp; and
   4) Percentage by weight of extra weft.

NOTE — The results of body portion and border portion are to be mentioned separately in the report.

ANNEX A

(*Clause* 2)

LIST OF REFERRED INDIAN STANDARDS

IS No.	*Title*
232 : 1985	Glossary of textile terms — Natural fibres (*second revision*)
667 : 1981	Methods for identification of textile fibres (*first revision*)
6359 : 1971	Method for conditioning of textiles

ANNEX B

(*Foreword*)

COMMITTEE COMPOSITION

Silk and Silk Products Sectional Committee, TXD 28

Organization	*Representative(s)*
Central Silk Board, Bengaluru	Director, CSTRI (***Chairman***)
Association of Corporations & Apex Societies of Handlooms, New Delhi	Shri Abdul Rehman
Central Silk Technological Research Institute, Bangalore	Director, Cstri
Chamundi Textiles (Silk Mills) Limited, Bengaluru	Shri A. L. Muthiah
Department of Handloom and Textiles, Andhra Pradesh	Nomination Awaited
Department of Handloom and Textiles, Assam	Nomination Awaited
Department of Handloom and Textiles, Jammu and Kashmir	Nomination Awaited
Department of Handloom and Textiles, Uttar Pradesh	Nomination Awaited
Department of Handloom and Textiles, West Bengal	Nomination Awaited
Directorate of Handlooms and Textiles Govt of Tamilnadu, Chennai	Thiru. C. Munianathan Dr K. Karnan (*Alternate*)
Himatsingka Seide Limited, Bangaluru	Shri Mohan Rao Shri S. A. Vishvanath (*Alternate*)
Indian Silk Export Promotion Council Mumbai	Shri Dinesh Sharma
Jaipuria Silk Mills, Bengaluru	Shri Vikram Jaipuria
Karnataka Handloom Development Corporation Limited, Bengaluru	Shri P. Chandrashekhar Shri P. Manjunath (*Alternate*)
Karnataka Silk Industries Corporation, Bengaluru	Shri Siddalinga Prasad S. G. Shri D. S. Sangam (*Alternate*)
Karnataka State Sericulture Development Institute, Bengaluru	Shri V. G. Halliyal Shri Ravindra Bhandiwad (*Alternate*)

Organization	*Representative(s)*
Khadi and Village Industries Commission, Mumbai	Shri D. Dhanpal Shri J. K. Gupta (*Alternate*)
National Handloom Development Corp Ltd, Lucknow	Shri Akthivel Perumalsamy Shri Jitendra Tolambiya (*Alternate*)
Office of the Development Commissioner for Handlooms, New Delhi	Principal, IIHT, Salem
Office of Director of Handlooms & Textiles Govt of Karnataka, Bengaluru	Jt Director (Textiles) Dy Director (Handlooms) (*Alternate*)
Office of the Textile Commissioner Mumbai	Shri Sourabh Kulkarni Shri U. K. Sharma (*Alternate*)
R A Silks, Janagaon, Telangana	Shri Ravinder Peddi Shri Sharath Peddi (*Alternate*)
Shri Ram Institute for Industrial Research, Delhi	Ms Neena Sehgal Dr R. K. Raina (*Alternate*)
Silk Mark Organization of India, New Delhi/Bengaluru	Shri Shiv Govind Shri Jawahar Raina (*Alternate*)
S R R Silks, Ramanagaram, Karnataka	Nomination Awaited
Textiles Committee, Mumbai	Shri Kartikay Dhanda Shri B. S. Sridhara (*Alternate*)
Tamilnadu Co-Operative Silk Producers Federation Ltd, Kancheepuram	Nomination Awaited
The Bombay Textile Research Association Mumbai	Ms Shital Palaskar
The Tamilnadu Handloom Weavers' Coop Society Ltd, Chennai	Shri G. Gunasekaran Shri Alok Babelay (*Alternate*)
BIS Directorate General	Shri A. K. Bera, Scientist 'F' and Head (TXD) [Representing Director General (*Ex-officio*)]

Member Secretary
Shri Dharmbeer
Scientist 'C' (TXD), 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.

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 latest issue of 'BIS Catalogue' and 'Standards: Monthly Additions'.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Agency for Promotion of Indigenous Craft, Thimphu	Ms. Karma Choden (Chairperson)
Norbooz Buray and Textile, Thimphu	Mr. Norbu Wangdi
Karma Yanchen Textile,Punakha	Ms. Karma Yangchen

Member Secretary
Mr. Tek Bahadur Chhetri
Standardization Division
Bhutan Standards Bureau

TEXTILE TECHNICAL COMMITTEE

(TC-06)

Organization	*Representative(s)*
Agency for Promotion of Indigenous Craft, Thimphu	Ms.Karma Choden (Chairperson)
Tarayana Foundation,	Ms.Dorji Zangmo
Department of Culture,MoHCA	Ms. Utsha Gurung
SABAH,Bhutan	Ms. Kezang Dolkar Dorji
Royal Textile Academy,Thimphu	Ms.Pema C. Wangchuk
Bhutan Association of Women Entreprenuers,Thimphu	Ms. Yangchen Lhamo
Bhutan Standards Bureau	Mr. Sonam Phuntsho, Director General (Ex-officio member)

Member Secretary
Mr. Tek Bahadur Chhetri
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